(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
31 May 2018 (31.05.2018)

WIPO | PCT

(10) International Publication Number
WO 2018/098446 A1

(51) International Patent Classification:
A01N 43/90 (2006.01) *C07D 239/70* (2006.01)
A61K 31/519 (2006.01)

(21) International Application Number:
PCT/US2017/063323

(22) International Filing Date:
27 November 2017 (27.11.2017)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
62/426,619 28 November 2016 (28.11.2016) US

(71) Applicant: **PTC THERAPEUTICS, INC** [US/US]; 100 Corporate Court, Middlesex Bussiness Center, South Plainfield, NJ 07080 (US).

(72) Inventors: **BHATTACHARYYA, Anuradha**; 115 Inverness Drive, Edison, NJ 08820 (US). **DAKKA, Amal**; 3 Gleim Road, Whitehouse Station, NJ 08889 (US). **EFFENBERGER, Kerstin**; 406 Copperfield Lane, Metuchen, NJ 08840 (US). **GABBETA, Vijayalakshmi**; 2 Heinrick Way, Bridgewater, NJ 08807 (US). **LI, Wencheng**; 49 Larkspur Court, Bedminster, NJ 07921 (US). **NARYSHKIN, Nikolai**; 101 Windsong Circle, East Brunswick, NJ 08816 (US). **TROTTA, Christopher**; 198 Scobee Lane, Somerset, NJ 08873 (US). **WIEDINGER, Kari**; 127 Gales Drive, Apartment 14, New Providence, NJ 07974 (US).

(74) Agent: **CHEDDA, Jennifer, J.** et al.; Jones Day, 250 Vesey Street, New York, NY 10281-1047 (US).

(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH,

(54) Title: METHODS FOR MODULATING RNA SPLICING

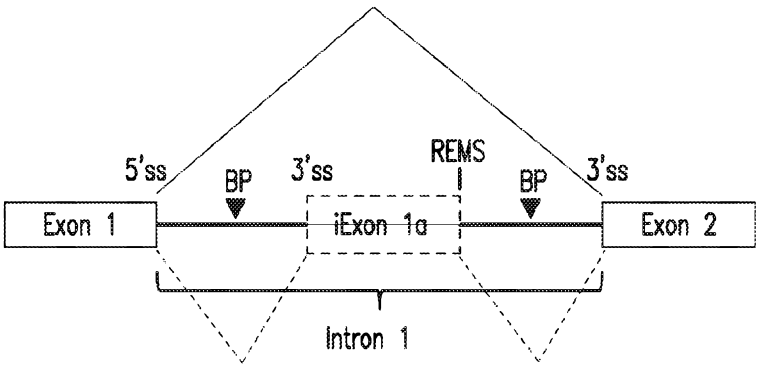


FIG. 1A

(57) Abstract: In one aspect, described herein is an intronic recognition element for splicing modifier (iREMS) that can be recognized by a compound provided herein. In another aspect, described herein are methods for modulating the amount of a product of a gene, wherein a precursor RNA transcript transcribed from the gene contains an intronic REMS, and the methods utilizing a compound described herein. More particularly, described herein are methods for modulating the amount of an RNA transcript or protein product encoded by a gene, wherein a precursor RNA transcript transcribed from the gene comprises an intronic REMS, and the methods utilizing a compound described herein. In another aspect, provided herein are artificial gene constructs comprising an intronic REMS, and uses of those artificial gene constructs to modulate protein production. In another aspect, provided herein are methods for altering endogenous genes to comprise an intronic REMS, and the use of a compound described herein to modulate protein produced from such altered endogenous genes.

WO 2018/098446 A1

[Continued on next page]

GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

— *with international search report (Art. 21(3))*
— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*
— *with sequence listing part of description (Rule 5.2(a))*

Methods for Modulating RNA Splicing

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims the benefit of provisional application No. 62/426,619, filed on November 28, 2016, which is incorporated by reference herein in its entirety.

REFERENCE TO SEQUENCE LISTING SUBMITTED ELECTRONICALLY

[0002] This application incorporates by reference a Sequence Listing submitted with this application as a text file entitled "10589-275-228_Sequence_Listing.txt" created on November 18, 2017 and having a size of 1,112 kilobytes.

INTRODUCTION

[0003] In one aspect, described herein is a recognition element for splicing modifier (REMS) present in an intron (i.e., an "intronic REMS" or iREMS) that can be recognized as a 5' splice site by the U1 snRNP and/or other components of the pre-mRNA splicing machinery in the presence of a small molecule splicing modifier, wherein gene expression is modulated by inducing alternative splicing of intronic exons (iExons) in the transcribed RNA. In another aspect, described herein are methods for modulating the amount of a product of a gene, wherein a precursor RNA transcript transcribed from the gene contains an intronic REMS, a branch point and a 3' splice site, and the methods utilize a small molecule compound described herein to induce alternative splicing of iExons. More particularly, described herein are methods for modulating the amount of an RNA transcript or protein product encoded by a gene via alternative splicing of iExons, wherein a precursor RNA transcript transcribed from the gene comprises an endogenous or non-endogenous intronic REMS, and the methods utilize a compound described herein to induce iExon alternative splicing. In another aspect, provided herein are artificial gene constructs comprising an intronic REMS (including an endogenous or non-endogenous intronic REMS), and uses of those artificial gene constructs to modulate protein production via iExon alternative splicing in the presence of a small molecule splicing modifier compound. In another aspect, provided herein are methods for altering genes to comprise an endogenous or non-endogenous intronic REMS, and the use of a small molecule compound described herein to induce alternative splicing of iExons, subsequently modulating the amount and type of protein produced from such altered endogenous or non-endogenous gene transcripts.

BACKGROUND

[0004] Diseases associated with expression of an aberrant gene product (*e.g.*, where the production of an aberrant RNA transcript or protein causes a disease) are often treated with a focus on affecting aberrant protein expression. However, targeting components of the splicing process responsible for production of aberrant RNA before the aberrant protein is expressed by using a small molecule may affect the underlying cause of a disease or disorder, and thus more efficiently prevent or ameliorate the disease or disorder caused by expression of the aberrant gene product. Accordingly, there is a need for methods of modulating the expression of aberrant RNA transcripts encoded by certain genes using small molecules to prevent or treat diseases associated with expression of aberrant RNA transcripts or associated proteins.

SUMMARY

[0005] In one aspect, provided herein is a recognition element for splicing modifier (otherwise referred to as "REMS") present in an intron (i.e., an "intronic REMS") capable of being recognized by the U1 snRNP and/or other components of the pre-mRNA splicing machinery in the presence of a small molecule splicing modifier, whereby elements of the splicing reaction are affected as further described herein. In a specific embodiment, the intronic REMS comprises the nucleotide sequence GAgurngn (SEQ ID NO: 2) at the RNA level, wherein r is A or G (*i.e.*, a purine nucleotide adenine or guanine) and n is any nucleotide. In another specific embodiment, the intronic REMS comprises the nucleotide sequence GAguragu (SEQ ID NO: 3866) at the RNA level, wherein r is adenine or guanine. In a specific embodiment, the intronic REMS comprises the nucleotide sequence NNGAgurngn (SEQ ID NO: 1) at the RNA level, wherein r is A or G (*i.e.*, a purine nucleotide adenine or guanine) and n or N is any nucleotide. In another specific embodiment, the intronic REMS comprises the nucleotide sequence NNGAguragu (SEQ ID NO: 3862) at the RNA level, wherein r is adenine or guanine and N is any nucleotide. In one or more of such specific embodiments provided herein, N is adenine or guanine.

[0006] In another aspect, in addition to the intronic REMS sequence, the RNA transcript comprises an upstream branch point and a functional upstream iExon 3' splice site. In certain embodiments including, but not limited to, iExons, an exon 5' splice site, a branch point and the functional iExon 3' splice site upstream from the intronic REMS are further linked to a

downstream branch point and 3' splice site of a downstream exon (see, for example, Figure 1A). In other embodiments including, but not limited to, extended exons, the branch point and the functional 3' splice site for an exon are downstream from the intronic REMS sequences (see, for example, Figures 1B and 1C). In a particular embodiment, an RNA sequence comprises two exons and an intron, wherein one exon is upstream of the intron and the other exon is downstream of the intron, and wherein the intron comprises in 5' to 3' order: a first 5' splice site, a first branch point, a first 3' splice site (also referred to as an iExon 3' splice site), an iREMS, a second branch point, and a second 3' splice site. In the presence of a compound described herein, the iREMS sequence functions as a 5' splice site, causing the NNGA (SEQ ID NO: 3863) nucleotides of the iREMS and the intronic nucleotides downstream of the first 3' splice site to be retained and spliced as an intronic exon to provide a non-wild-type mRNA. In other words, the nucleotides between the iREMS and the first 3' splice site are retained and form the intronic exon, which results in the expression of a non-wild-type mRNA sequence. In the presence of a compound described herein, the iREMS sequence functions as a 5' splice site, causing the NNGA (SEQ ID NO: 3863) nucleotides of the iREMS and the intronic nucleotides between the 3' iExon splice site to be retained and spliced as an intronic exon to provide a non-wild-type mRNA. In other aspects, in the presence of a compound described herein and a downstream branch point, the intronic REMS will undergo splicing with the 3' splice site of a downstream exon. In this aspect, the intronic REMS is located downstream of an exon such that there is no intervening upstream branch point and iExon 3' splice site between the exon and the REMS sequence. In the presence of a compound described herein, the exon 5' splice site does not undergo splicing with the downstream 3' splice site. Instead, functioning as a 5' splice site in the presence of a compound described herein, the iREMS sequence undergoes splicing with the downstream 3' splice site. In other embodiments, in the presence of a compound described herein, an upstream exon 5' splice site, an upstream branch point, and a functional iExon 3' splice site upstream from the intronic REMS, will undergo splicing. In certain embodiments, one or more sequence elements necessary to form an iExon splice junction may be present endogenously or non-endogenously. For example, one or more of the following sequence elements may be present naturally in an intron or an intron may be engineered to comprise one or more of the following sequences in 5' to 3' order: a first 5' splice site, a first branch point, a first 3' splice site, an iREMS, a second branch point, and a second 3' splice site. In certain

embodiments, one or more snRNPs and trans factor elements necessary for splicing may be present beyond endogenous levels as a result of the presence of a compound described herein at various splice inducing sequence combinations. Without being bound by any theory or mechanism, the small molecule compounds described herein, in conjunction with the iREMS sequence, initiate the assembly of a splicing-competent spliceosome around a weak or incompletely defined exon (i.e., a nascent iExon). Splicing modifier compounds most likely enable a functional U1 snRNP – REMS interaction and, at least, have been shown to increase the affinity of one or more snRNPs and trans factor elements necessary for splicing, including U1, U2, U4, U5 and U6, whereby the interaction between the U1 snRNP, as well as other components of the pre-mRNA splicing machinery, and the nucleotides NNGA (SEQ ID NO: 3863) of the REMS are enhanced. In fact, we have discovered that the interaction of the U1 snRNP, the iREMS and the small molecule splicing modifier compounds described herein serve to define nascent exons by increasing the binding affinity of the pre-mRNA splicing machinery to the iREMS sequence, stabilizing U1 binding with the iREMS sequence, activating a 3' splice site and a branch point upstream from the iREMS and recruiting U2 snRNP and other trans-acting splicing factors such as U2AF (U2AF65 and U2AF35) and SF3A (SF3A1, SF3A2 and SF3A3) to the upstream branch point and 3' splice site. The branch point and 3'splice site may or may not be fully occupied in the absence of the compound but have been shown to become occupied after the compound has enabled the formation of a functional U1 snRNP – REMS complex. We have elaborated on the interaction of these key splicing machinery elements, showing that, in the presence of small molecule splicing modifier compounds such as, but certainly not limited to, those described herein, the mechanism of intronic spliceosome assembly can be mediated by iREMS interaction with such compounds, such that the intronic REMS sequence functions as a U1 snRNP binding site, resulting in intronic nucleotides spliced in the mature RNA transcript as an intronic exon.

[0007] In Figure 1A, the intronic REMS is located in Intron 1 downstream from an Exon 1 5' splice site (*i.e.*, a 5' splice site at the 3' end of Exon 1), a first branch point (BP) sequence and a first 3' splice site sequence and upstream from a second branch point sequence and a second 3' splice site sequence of Exon 2 in an RNA transcript (i.e., the precursor mRNA). In the presence of a small molecule splicing modifier compound described herein the intronic REMS functions as a 5' splice site, whereby the nucleotides between the Exon 1 5' splice site

and the first 3' splice site are removed to form a splice junction between Exon 1 and a nascent intronic exon and the nucleotides between the intronic REMS and the second 3' splice site sequence are removed to form a splice junction between iExon 1a and Exon 2, and allowing Exon 2 and the portion of the intron comprising nucloeotides from the first 3' splice site up to and including NNGA (SEQ ID NO: 3863) of the intronic REMS to be joined, thus introducing an intron-derived iExon 1a, generating a non-wildtype mRNA. In certain embodiments of Figure 1A, one or more elements necessary to form a splice junction may be present endogenously or introduced, wherein the one or more elements are selected from the group consisting of the first branch point, the first 3' splice site, the intronic REMS, the second branch point and the second 3' splice site. While illustrated for Intron 1 here, this concept is generally applicable to any other intron in a pre-mRNA transcript.

[0008] In Figure 1B, the intronic REMS is located in an intron of an RNA transcript downstream from an Exon 1 5' splice site (*i.e.*, a 5' splice site at the 3' end of Exon 1) and upstream from an Intron 1 branch point sequence and a 3' splice site sequence of Exon 2 (*i.e.*, a 3' splice site at the 5' end of Exon 2). In the presence of a small molecule splicing modifier compound described herein, the nucleotides between the Exon 1 5' splice site and the intronic REMS are retained and those between the intronic REMS and the Intron 1 3' splice site sequence (except the NNGA (SEQ ID NO: 3863) nucleotides of the intronic REMS) are removed, allowing Exon 1 and the portion of the intron comprising nucloeotides from those adjacent to the Exon 1 5' splice site up to and including NNGA (SEQ ID NO: 3863) of the intronic REMS and the Exon 2 nucleotides to be joined. The scope of the invention described herein is merely illustrated in this configuration for Exon 1 but is generally applicable to any other nascent iExon in an intronic sequence. The elements necessary to induce splicing of an iExon may be present in any configuration capable of recognition by the splicing machinery as an "exon." Accordingly, in the presence of a splicing modifier compound, the spliceosome recognizes the elements as exonic boundaries for removal of intervening intronic nucleotides between those boundaries. The configuration in this instance results in an iExon spliced between at least one upstream exon and one downstream exon of the same pre-mRNA transcript.

[0009] In Figure 1C, the intronic REMS is located in Intron 2 downstream from an Exon 2 5' splice site (*i.e.*, a 5' splice site at the 3' end of Exon 2) and upstream from an Intron 2 branch point sequence and a 3' splice site sequence of Exon 3 (*i.e.*, a 3' splice site at the 5' end of Exon

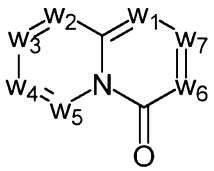
3) in an RNA transcript. In the presence of a small molecule splicing modifier compound described herein, the nucleotides between the intronic REMS and the Exon 3 3' splice site sequence are removed, allowing Exon 3 and the portion of the intron comprising nucloeotides from those adjacent to the Exon 2 5' splice site up to and including NNGA (SEQ ID NO: 3863) of the intronic REMS to be joined. In this example, the endogenous splicing reaction between Exon 1 and Exon 2 is unaffected by the presence of a compound described herein, resulting in the complete removal of Intron 1. While illustrated for Exon 2 here, this concept is generally applicable to any other internal nascent intronic exon, i.e., an exon that is located between at least one upstream exon and one downstream exon of the same pre-mRNA transcript.

[0010] As used herein, an "exon 5' splice site", a "5' splice site of an exon" or the like refers to a 5' splice site at the 3' end of the exon, while an "exon 3' splice site", a "3' splice site of an exon" or the like refers to a 3' splice site at the 5' end of the exon.

[0011] In the presence of a small molecule splicing modifier compound described herein, the iREMS nucleotides retained in the formation of an iExon are selected from the group consisting of ANGA (SEQ ID NO: 5), CNGA (SEQ ID NO: 11), GNGA (SEQ ID NO: 17), UNGA (SEQ ID NO: 23), NAGA (SEQ ID NO: 6), NCGA (SEQ ID NO: 12), NGGA (SEQ ID NO: 18), NUGA (SEQ ID NO: 24), AAGA (SEQ ID NO: 7), ACGA (SEQ ID NO: 13), AGGA (SEQ ID NO: 19), AUGA (SEQ ID NO: 25), CAGA (SEQ ID NO: 8), CCGA (SEQ ID NO: 14), CGGA (SEQ ID NO: 20), CUGA (SEQ ID NO: 26), GAGA (SEQ ID NO: 9), GCGA (SEQ ID NO: 15), GGGA (SEQ ID NO: 21), GUGA (SEQ ID NO: 27), UAGA (SEQ ID NO: 10), UCGA (SEQ ID NO: 16), UGGA (SEQ ID NO: 22) and UUGA (SEQ ID NO: 28). The formation of an iExon may result in an RNA transcript having a non-functional open reading frame due to the inclusion of a frameshift, premature stop codon or internal deletions within the open reading frame. In other embodiments, the inclusion of an iExon may result in the mature mRNA having a functional open reading frame, producing a novel protein which may or may not be functional. RNA transcripts having a non-functional open reading frame due to the inclusion of a frameshift, premature stop codon or internal deletions within the open reading frame can be substrates for nonsense-mediated decay and thus have low abundance. Any intronic REMS-mediated alternative splicing modified RNA transcripts may also have altered stability, altered intracellular transport, altered 3' end formation efficiency and altered translation efficiency.

[0012] Accordingly, in one aspect, provided herein are methods for modulating the amount of RNA transcripts produced from precursor RNA containing an endogenous or non-endogenous intronic REMS. In another aspect, provided herein are artificial gene constructs comprising an endogenous or non-endogenous intronic REMS, which may be used in the context of, *e.g.*, gene therapy or reporter assays. In another aspect, provided herein are methods for altering endogenous genes so that they contain an intronic REMS or an additional intronic REMS.

[0013] In another aspect, provided herein are methods for modulating the amount of one or more RNA transcripts (*e.g.*, mRNA transcripts) or proteins thereof expressed as the product of one or more genes, wherein precursor RNA transcripts transcribed by the one or more genes comprise an intronic REMS, the methods comprising contacting a cell with a compound of Formula (I)



(I)

or a form thereof, wherein w_1, w_2, w_3, w_4, w_5, w_6 and w_7 are as defined herein. In one embodiment, provided herein is a method for modulating the amount of an RNA transcript produced from precursor RNA containing an intronic recognition element for splicing modifier (REMS), the method comprising contacting a cell containing the precursor RNA with a compound of Formula (I) or a form thereof, wherein the intronic REMS comprises the sequence NNGAgurngn (SEQ ID NO: 1), wherein r is adenine or guanine and n or N is any nucleotide, wherein the precursor RNA is a gene in Table 1. In certain embodiments, the precursor RNA is a gene in Table 7. In another embodiment, provided herein is a method for modulating the amount of an RNA transcript produced from precursor RNA containing an intronic recognition element for splicing modifier (REMS), the method comprising contacting the precursor RNA with a compound of Formula (I) or a form thereof, wherein the intronic REMS comprises the sequence NNGAgurngn (SEQ ID NO: 1), wherein r is adenine or guanine and n or N is any nucleotide, wherein the precursor RNA is a gene in Table 1. In some embodiments, the intronic REMS comprises the sequence NNGAguragu (SEQ ID NO: 3862) at the RNA level, wherein r is adenine or guanine and N is any nucleotide. In certain embodiments, the intronic REMS

comprises a sequence selected from the group consisting of ANGAgurngn (SEQ ID NO: 29), CNGAgurngn (SEQ ID NO: 35), GNGAgurngn (SEQ ID NO: 41), UNGAgurngn (SEQ ID NO: 47), NAGAgurngn (SEQ ID NO: 30), NCGAgurngn (SEQ ID NO: 36), NGGAgurngn (SEQ ID NO: 42), NUGAgurngn (SEQ ID NO: 48), AAGAgurngn (SEQ ID NO: 31), ACGAgurngn (SEQ ID NO: 37), AGGAgurngn (SEQ ID NO: 43), AUGAgurngn (SEQ ID NO: 49), CAGAgurngn (SEQ ID NO: 32), CCGAgurngn (SEQ ID NO: 38), CGGAgurngn (SEQ ID NO: 44), CUGAgurngn (SEQ ID NO: 50), GAGAgurngn (SEQ ID NO: 33), GCGAgurngn (SEQ ID NO: 39), GGGAgurngn (SEQ ID NO: 45), GUGAgurngn (SEQ ID NO: 51), UAGAgurngn (SEQ ID NO: 34), UCGAgurngn (SEQ ID NO: 40), UGGAgurngn (SEQ ID NO: 46) and UUGAgurngn (SEQ ID NO: 52), wherein r is adenine or guanine and n or N is any nucleotide. In some embodiments, the intronic REMS comprises a sequence selected from the group consisting of ANGAguragu (SEQ ID NO: 437), CNGAguragu (SEQ ID NO: 443), GNGAguragu (SEQ ID NO: 449), UNGAguragu (SEQ ID NO: 455), NAGAguragu (SEQ ID NO: 438), NCGAguragu (SEQ ID NO: 444), NGGAguragu (SEQ ID NO: 450), NUGAguragu (SEQ ID NO: 456), AAGAguragu (SEQ ID NO: 439), ACGAguragu (SEQ ID NO: 445), AGGAguragu (SEQ ID NO: 451), AUGAguragu (SEQ ID NO: 457), CAGAguragu (SEQ ID NO: 440), CCGAguragu (SEQ ID NO: 446), CGGAguragu (SEQ ID NO: 452), CUGAguragu (SEQ ID NO: 458), GAGAguragu (SEQ ID NO: 441), GCGAguragu (SEQ ID NO: 447), GGGAguragu (SEQ ID NO: 453), GUGAguragu (SEQ ID NO: 459), UAGAguragu (SEQ ID NO: 442), UCGAguragu (SEQ ID NO: 448), UGGAguragu (SEQ ID NO: 454) and UUGAguragu (SEQ ID NO: 460) at the RNA level, wherein r is adenine or guanine, and N is any nucleotide. In one or more embodiments provided herein, N is adenine or guanine.

[0014] In a specific embodiment, the intronic REMS referred to in a method or artificial gene construct described herein comprises, at the RNA level, a sequence presented in the following table (wherein r is adenine or guanine, and n or N is any nucleotide):

[0015] Table 13. Intronic REMS RNA sequence (wherein r is adenine or guanine, and n or N is any nucleotide)

SEQ ID NO.	**Sequence**	**SEQ ID NO.**	**Sequence**	**SEQ ID NO.**	**Sequence**	**SEQ ID NO.**	**Sequence**
29	ANGAgurngn	35	CNGAgurngn	41	GNGAgurngn	47	UNGAgurngn
30	NAGAgurngn	36	NCGAgurngn	42	NGGAgurngn	48	NUGAgurngn
31	AAGAgurngn	37	ACGAgurngn	43	AGGAgurngn	49	AUGAgurngn
32	CAGAgurngn	38	CCGAgurngn	44	CGGAgurngn	50	CUGAgurngn
33	GAGAgurngn	39	GCGAgurngn	45	GGGAgurngn	51	GUGAgurngn
34	UAGAgurngn	40	UCGAgurngn	46	UGGAgurngn	52	UUGAgurngn

[0016] Table 13 (cont). Intronic REMS RNA sequence (wherein r is adenine or guanine, and n or N is any nucleotide)

SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence
53	ANGAguragn	77	ANGAgurcgn	101	ANGAgurggn	125	ANGAgurugn
54	NAGAguragn	78	NAGAgurcgn	102	NAGAgurggn	126	NAGAgurugn
55	AAGAguragn	79	AAGAgurcgn	103	AAGAgurggn	127	AAGAgurugn
56	CAGAguragn	80	CAGAgurcgn	104	CAGAgurggn	128	CAGAgurugn
57	GAGAguragn	81	GAGAgurcgn	105	GAGAgurggn	129	GAGAgurugn
58	UAGAguragn	82	UAGAgurcgn	106	UAGAgurggn	130	UAGAgurugn
59	CNGAguragn	83	CNGAgurcgn	107	CNGAgurggn	131	CNGAgurugn
60	NCGAguragn	84	NCGAgurcgn	108	NCGAgurggn	132	NCGAgurugn
61	ACGAguragn	85	ACGAgurcgn	109	ACGAgurggn	133	ACGAgurugn
62	CCGAguragn	86	CCGAgurcgn	110	CCGAgurggn	134	CCGAgurugn
63	GCGAguragn	87	GCGAgurcgn	111	GCGAgurggn	135	GCGAgurugn
64	UCGAguragn	88	UCGAgurcgn	112	UCGAgurggn	136	UCGAgurugn
65	GNGAguragn	89	GNGAgurcgn	113	GNGAgurggn	137	GNGAgurugn
66	NGGAguragn	90	NGGAgurcgn	114	NGGAgurggn	138	NGGAgurugn
67	AGGAguragn	91	AGGAgurcgn	115	AGGAgurggn	139	AGGAgurugn
68	CGGAguragn	92	CGGAgurcgn	116	CGGAgurggn	140	CGGAgurugn
69	GGGAguragn	93	GGGAgurcgn	117	GGGAgurggn	141	GGGAgurugn
70	UGGAguragn	94	UGGAgurcgn	118	UGGAgurggn	142	UGGAgurugn
71	UNGAguragn	95	UNGAgurcgn	119	UNGAgurggn	143	UNGAgurugn
72	NUGAguragn	96	NUGAgurcgn	120	NUGAgurggn	144	NUGAgurugn
73	AUGAguragn	97	AUGAgurcgn	121	AUGAgurggn	145	AUGAgurugn
74	CUGAguragn	98	CUGAgurcgn	122	CUGAgurggn	146	CUGAgurugn
75	GUGAguragn	99	GUGAgurcgn	123	GUGAgurggn	147	GUGAgurugn
76	UUGAguragn	100	UUGAgurcgn	124	UUGAgurggn	148	UUGAgurugn

[0017] Table 13 (cont). Intronic REMS RNA sequence (wherein r is adenine or guanine, and n or N is any nucleotide)

SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence
149	ANGAguraga	173	ANGAgurcga	197	ANGAgurgga	221	ANGAguruga
150	NAGAguraga	174	NAGAgurcga	198	NAGAgurgga	222	NAGAguruga
151	AAGAguraga	175	AAGAgurcga	199	AAGAgurgga	223	AAGAguruga
152	CAGAguraga	176	CAGAgurcga	200	CAGAgurgga	224	CAGAguruga
153	GAGAguraga	177	GAGAgurcga	201	GAGAgurgga	225	GAGAguruga
154	UAGAguraga	178	UAGAgurcga	202	UAGAgurgga	226	UAGAguruga
155	CNGAguraga	179	CNGAgurcga	203	CNGAgurgga	227	CNGAguruga
156	NCGAguraga	180	NCGAgurcga	204	NCGAgurgga	228	NCGAguruga
157	ACGAguraga	181	ACGAgurcga	205	ACGAgurgga	229	ACGAguruga
158	CCGAguraga	182	CCGAgurcga	206	CCGAgurgga	230	CCGAguruga
159	GCGAguraga	183	GCGAgurcga	207	GCGAgurgga	231	GCGAguruga
160	UCGAguraga	184	UCGAgurcga	208	UCGAgurgga	232	UCGAguruga
161	GNGAguraga	185	GNGAgurcga	209	GNGAgurgga	233	GNGAguruga
162	NGGAguraga	186	NGGAgurcga	210	NGGAgurgga	234	NGGAguruga
163	AGGAguraga	187	AGGAgurcga	211	AGGAgurgga	235	AGGAguruga
164	CGGAguraga	188	CGGAgurcga	212	CGGAgurgga	236	CGGAguruga
165	GGGAguraga	189	GGGAgurcga	213	GGGAgurgga	237	GGGAguruga
166	UGGAguraga	190	UGGAgurcga	214	UGGAgurgga	238	UGGAguruga
167	UNGAguraga	191	UNGAgurcga	215	UNGAgurgga	239	UNGAguruga
168	NUGAguraga	192	NUGAgurcga	216	NUGAgurgga	240	NUGAguruga
169	AUGAguraga	193	AUGAgurcga	217	AUGAgurgga	241	AUGAguruga
170	CUGAguraga	194	CUGAgurcga	218	CUGAgurgga	242	CUGAguruga
171	GUGAguraga	195	GUGAgurcga	219	GUGAgurgga	243	GUGAguruga
172	UUGAguraga	196	UUGAgurcga	220	UUGAgurgga	244	UUGAguruga

[0018] Table 13 (cont). Intronic REMS RNA sequence (wherein r is adenine or guanine, and n or N is any nucleotide)

SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence
245	ANGAguragc	269	ANGAgurcgc	293	ANGAgurggc	317	ANGAgurugc
246	NAGAguragc	270	NAGAgurcgc	294	NAGAgurggc	318	NAGAgurugc
247	AAGAguragc	271	AAGAgurcgc	295	AAGAgurggc	319	AAGAgurugc
248	CAGAguragc	272	CAGAgurcgc	296	CAGAgurggc	320	CAGAgurugc
249	GAGAguragc	273	GAGAgurcgc	297	GAGAgurggc	321	GAGAgurugc
250	UAGAguragc	274	UAGAgurcgc	298	UAGAgurggc	322	UAGAgurugc
251	CNGAguragc	275	CNGAgurcgc	299	CNGAgurggc	323	CNGAgurugc
252	NCGAguragc	276	NCGAgurcgc	300	NCGAgurggc	324	NCGAgurugc
253	ACGAguragc	277	ACGAgurcgc	301	ACGAgurggc	325	ACGAgurugc
254	CCGAguragc	278	CCGAgurcgc	302	CCGAgurggc	326	CCGAgurugc
255	GCGAguragc	279	GCGAgurcgc	303	GCGAgurggc	327	GCGAgurugc
256	UCGAguragc	280	UCGAgurcgc	304	UCGAgurggc	328	UCGAgurugc
257	GNGAguragc	281	GNGAgurcgc	305	GNGAgurggc	329	GNGAgurugc
258	NGGAguragc	282	NGGAgurcgc	306	NGGAgurggc	330	NGGAgurugc
259	AGGAguragc	283	AGGAgurcgc	307	AGGAgurggc	331	AGGAgurugc
260	CGGAguragc	284	CGGAgurcgc	308	CGGAgurggc	332	CGGAgurugc
261	GGGAguragc	285	GGGAgurcgc	309	GGGAgurggc	333	GGGAgurugc
262	UGGAguragc	286	UGGAgurcgc	310	UGGAgurggc	334	UGGAgurugc
263	UNGAguragc	287	UNGAgurcgc	311	UNGAgurggc	335	UNGAgurugc
264	NUGAguragc	288	NUGAgurcgc	312	NUGAgurggc	336	NUGAgurugc
265	AUGAguragc	289	AUGAgurcgc	313	AUGAgurggc	337	AUGAgurugc
266	CUGAguragc	290	CUGAgurcgc	314	CUGAgurggc	338	CUGAgurugc
267	GUGAguragc	291	GUGAgurcgc	315	GUGAgurggc	339	GUGAgurugc
268	UUGAguragc	292	UUGAgurcgc	316	UUGAgurggc	340	UUGAgurugc

[0019] Table 13 (cont). Intronic REMS RNA sequence (wherein r is adenine or guanine, and n or N is any nucleotide)

SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence
341	ANGAguragg	365	ANGAgurcgg	389	ANGAgurggg	413	ANGAgurugg
342	NAGAguragg	366	NAGAgurcgg	390	NAGAgurggg	414	NAGAgurugg
343	AAGAguragg	367	AAGAgurcgg	391	AAGAgurggg	415	AAGAgurugg
344	CAGAguragg	368	CAGAgurcgg	392	CAGAgurggg	416	CAGAgurugg
345	GAGAguragg	369	GAGAgurcgg	393	GAGAgurggg	417	GAGAgurugg
346	UAGAguragg	370	UAGAgurcgg	394	UAGAgurggg	418	UAGAgurugg
347	CNGAguragg	371	CNGAgurcgg	395	CNGAgurggg	419	CNGAgurugg
348	NCGAguragg	372	NCGAgurcgg	396	NCGAgurggg	420	NCGAgurugg
349	ACGAguragg	373	ACGAgurcgg	397	ACGAgurggg	421	ACGAgurugg
350	CCGAguragg	374	CCGAgurcgg	398	CCGAgurggg	422	CCGAgurugg
351	GCGAguragg	375	GCGAgurcgg	399	GCGAgurggg	423	GCGAgurugg
352	UCGAguragg	376	UCGAgurcgg	400	UCGAgurggg	424	UCGAgurugg
353	GNGAguragg	377	GNGAgurcgg	401	GNGAgurggg	425	GNGAgurugg
354	NGGAguragg	378	NGGAgurcgg	402	NGGAgurggg	426	NGGAgurugg
355	AGGAguragg	379	AGGAgurcgg	403	AGGAgurggg	427	AGGAgurugg
356	CGGAguragg	380	CGGAgurcgg	404	CGGAgurggg	428	CGGAgurugg
357	GGGAguragg	381	GGGAgurcgg	405	GGGAgurggg	429	GGGAgurugg
358	UGGAguragg	382	UGGAgurcgg	406	UGGAgurggg	430	UGGAgurugg
359	UNGAguragg	383	UNGAgurcgg	407	UNGAgurggg	431	UNGAgurugg
360	NUGAguragg	384	NUGAgurcgg	408	NUGAgurggg	432	NUGAgurugg
361	AUGAguragg	385	AUGAgurcgg	409	AUGAgurggg	433	AUGAgurugg
362	CUGAguragg	386	CUGAgurcgg	410	CUGAgurggg	434	CUGAgurugg
363	GUGAguragg	387	GUGAgurcgg	411	GUGAgurggg	435	GUGAgurugg
364	UUGAguragg	388	UUGAgurcgg	412	UUGAgurggg	436	UUGAgurugg

[0020] Table 13 (cont). Intronic REMS RNA sequence (wherein r is adenine or guanine, and n or N is any nucleotide)

SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence
437	ANGAguragu	461	ANGAgurcgu	485	ANGAgurggu	509	ANGAgurugu
438	NAGAguragu	462	NAGAgurcgu	486	NAGAgurggu	510	NAGAgurugu
439	AAGAguragu	463	AAGAgurcgu	487	AAGAgurggu	511	AAGAgurugu
440	CAGAguragu	464	CAGAgurcgu	488	CAGAgurggu	512	CAGAgurugu
441	GAGAguragu	465	GAGAgurcgu	489	GAGAgurggu	513	GAGAgurugu
442	UAGAguragu	466	UAGAgurcgu	490	UAGAgurggu	514	UAGAgurugu
443	CNGAguragu	467	CNGAgurcgu	491	CNGAgurggu	515	CNGAgurugu
444	NCGAguragu	468	NCGAgurcgu	492	NCGAgurggu	516	NCGAgurugu
445	ACGAguragu	469	ACGAgurcgu	493	ACGAgurggu	517	ACGAgurugu
446	CCGAguragu	470	CCGAgurcgu	494	CCGAgurggu	518	CCGAgurugu
447	GCGAguragu	471	GCGAgurcgu	495	GCGAgurggu	519	GCGAgurugu
448	UCGAguragu	472	UCGAgurcgu	496	UCGAgurggu	520	UCGAgurugu
449	GNGAguragu	473	GNGAgurcgu	497	GNGAgurggu	521	GNGAgurugu
450	NGGAguragu	474	NGGAgurcgu	498	NGGAgurggu	522	NGGAgurugu
451	AGGAguragu	475	AGGAgurcgu	499	AGGAgurggu	523	AGGAgurugu
452	CGGAguragu	476	CGGAgurcgu	500	CGGAgurggu	524	CGGAgurugu
453	GGGAguragu	477	GGGAgurcgu	501	GGGAgurggu	525	GGGAgurugu
454	UGGAguragu	478	UGGAgurcgu	502	UGGAgurggu	526	UGGAgurugu
455	UNGAguragu	479	UNGAgurcgu	503	UNGAgurggu	527	UNGAgurugu
456	NUGAguragu	480	NUGAgurcgu	504	NUGAgurggu	528	NUGAgurugu
457	AUGAguragu	481	AUGAgurcgu	505	AUGAgurggu	529	AUGAgurugu
458	CUGAguragu	482	CUGAgurcgu	506	CUGAgurggu	530	CUGAgurugu
459	GUGAguragu	483	GUGAgurcgu	507	GUGAgurggu	531	GUGAgurugu
460	UUGAguragu	484	UUGAgurcgu	508	UUGAgurggu	532	UUGAgurugu

[0021] Table 13 (cont). Intronic REMS RNA sequence (wherein r is adenine or guanine, and n or N is any nucleotide)

SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence
533	ANGAgurnga	557	ANGAgurngc	581	ANGAgurngg	605	ANGAgurngu
534	NAGAgurnga	558	NAGAgurngc	582	NAGAgurngg	606	NAGAgurngu
535	AAGAgurnga	559	AAGAgurngc	583	AAGAgurngg	607	AAGAgurngu
536	CAGAgurnga	560	CAGAgurngc	584	CAGAgurngg	608	CAGAgurngu
537	GAGAgurnga	561	GAGAgurngc	585	GAGAgurngg	609	GAGAgurngu
538	UAGAgurnga	562	UAGAgurngc	586	UAGAgurngg	610	UAGAgurngu
539	CNGAgurnga	563	CNGAgurngc	587	CNGAgurngg	611	CNGAgurngu
540	NCGAgurnga	564	NCGAgurngc	588	NCGAgurngg	612	NCGAgurngu
541	ACGAgurnga	565	ACGAgurngc	589	ACGAgurngg	613	ACGAgurngu
542	CCGAgurnga	566	CCGAgurngc	590	CCGAgurngg	614	CCGAgurngu
543	GCGAgurnga	567	GCGAgurngc	591	GCGAgurngg	615	GCGAgurngu
544	UCGAgurnga	568	UCGAgurngc	592	UCGAgurngg	616	UCGAgurngu
545	GNGAgurnga	569	GNGAgurngc	593	GNGAgurngg	617	GNGAgurngu
546	NGGAgurnga	570	NGGAgurngc	594	NGGAgurngg	618	NGGAgurngu
547	AGGAgurnga	571	AGGAgurngc	595	AGGAgurngg	619	AGGAgurngu
548	CGGAgurnga	572	CGGAgurngc	596	CGGAgurngg	620	CGGAgurngu
549	GGGAgurnga	573	GGGAgurngc	597	GGGAgurngg	621	GGGAgurngu
550	UGGAgurnga	574	UGGAgurngc	598	UGGAgurngg	622	UGGAgurngu
551	UNGAgurnga	575	UNGAgurngc	599	UNGAgurngg	623	UNGAgurngu
552	NUGAgurnga	576	NUGAgurngc	600	NUGAgurngg	624	NUGAgurngu
553	AUGAgurnga	577	AUGAgurngc	601	AUGAgurngg	625	AUGAgurngu
554	CUGAgurnga	578	CUGAgurngc	602	CUGAgurngg	626	CUGAgurngu
555	GUGAgurnga	579	GUGAgurngc	603	GUGAgurngg	627	GUGAgurngu
556	UUGAgurnga	580	UUGAgurngc	604	UUGAgurngg	628	UUGAgurngu

[0022] Table 13 (cont). Intronic REMS RNA sequence (wherein r is adenine or guanine, and n or N is any nucleotide)

SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence
629	ANGAguangn	653	ANGAguaagn	677	ANGAguacgn	701	ANGAguaggn
630	NAGAguangn	654	NAGAguaagn	678	NAGAguacgn	702	NAGAguaggn
631	AAGAguangn	655	AAGAguaagn	679	AAGAguacgn	703	AAGAguaggn
632	CAGAguangn	656	CAGAguaagn	680	CAGAguacgn	704	CAGAguaggn
633	GAGAguangn	657	GAGAguaagn	681	GAGAguacgn	705	GAGAguaggn
634	UAGAguangn	658	UAGAguaagn	682	UAGAguacgn	706	UAGAguaggn
635	CNGAguangn	659	CNGAguaagn	683	CNGAguacgn	707	CNGAguaggn
636	NCGAguangn	660	NCGAguaagn	684	NCGAguacgn	708	NCGAguaggn
637	ACGAguangn	661	ACGAguaagn	685	ACGAguacgn	709	ACGAguaggn
638	CCGAguangn	662	CCGAguaagn	686	CCGAguacgn	710	CCGAguaggn
639	GCGAguangn	663	GCGAguaagn	687	GCGAguacgn	711	GCGAguaggn
640	UCGAguangn	664	UCGAguaagn	688	UCGAguacgn	712	UCGAguaggn
641	GNGAguangn	665	GNGAguaagn	689	GNGAguacgn	713	GNGAguaggn
642	NGGAguangn	666	NGGAguaagn	690	NGGAguacgn	714	NGGAguaggn
643	AGGAguangn	667	AGGAguaagn	691	AGGAguacgn	715	AGGAguaggn
644	CGGAguangn	668	CGGAguaagn	692	CGGAguacgn	716	CGGAguaggn
645	GGGAguangn	669	GGGAguaagn	693	GGGAguacgn	717	GGGAguaggn
646	UGGAguangn	670	UGGAguaagn	694	UGGAguacgn	718	UGGAguaggn
647	UNGAguangn	671	UNGAguaagn	695	UNGAguacgn	719	UNGAguaggn
648	NUGAguangn	672	NUGAguaagn	696	NUGAguacgn	720	NUGAguaggn
649	AUGAguangn	673	AUGAguaagn	697	AUGAguacgn	721	AUGAguaggn
650	CUGAguangn	674	CUGAguaagn	698	CUGAguacgn	722	CUGAguaggn
651	GUGAguangn	675	GUGAguaagn	699	GUGAguacgn	723	GUGAguaggn
652	UUGAguangn	676	UUGAguaagn	700	UUGAguacgn	724	UUGAguaggn

[0023] Table 13 (cont). Intronic REMS RNA sequence (wherein r is adenine or guanine, and n or N is any nucleotide)

SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence
725	ANGAguaugn	749	ANGAguaaga	773	ANGAguacga	797	ANGAguagga
726	NAGAguaugn	750	NAGAguaaga	774	NAGAguacga	798	NAGAguagga
727	AAGAguaugn	751	AAGAguaaga	775	AAGAguacga	799	AAGAguagga
728	CAGAguaugn	752	CAGAguaaga	776	CAGAguacga	800	CAGAguagga
729	GAGAguaugn	753	GAGAguaaga	777	GAGAguacga	801	GAGAguagga
730	UAGAguaugn	754	UAGAguaaga	778	UAGAguacga	802	UAGAguagga
731	CNGAguaugn	755	CNGAguaaga	779	CNGAguacga	803	CNGAguagga
732	NCGAguaugn	756	NCGAguaaga	780	NCGAguacga	804	NCGAguagga
733	ACGAguaugn	757	ACGAguaaga	781	ACGAguacga	805	ACGAguagga
734	CCGAguaugn	758	CCGAguaaga	782	CCGAguacga	806	CCGAguagga
735	GCGAguaugn	759	GCGAguaaga	783	GCGAguacga	807	GCGAguagga
736	UCGAguaugn	760	UCGAguaaga	784	UCGAguacga	808	UCGAguagga
737	GNGAguaugn	761	GNGAguaaga	785	GNGAguacga	809	GNGAguagga
738	NGGAguaugn	762	NGGAguaaga	786	NGGAguacga	810	NGGAguagga
739	AGGAguaugn	763	AGGAguaaga	787	AGGAguacga	811	AGGAguagga
740	CGGAguaugn	764	CGGAguaaga	788	CGGAguacga	812	CGGAguagga
741	GGGAguaugn	765	GGGAguaaga	789	GGGAguacga	813	GGGAguagga
742	UGGAguaugn	766	UGGAguaaga	790	UGGAguacga	814	UGGAguagga
743	UNGAguaugn	767	UNGAguaaga	791	UNGAguacga	815	UNGAguagga
744	NUGAguaugn	768	NUGAguaaga	792	NUGAguacga	816	NUGAguagga
745	AUGAguaugn	769	AUGAguaaga	793	AUGAguacga	817	AUGAguagga
746	CUGAguaugn	770	CUGAguaaga	794	CUGAguacga	818	CUGAguagga
747	GUGAguaugn	771	GUGAguaaga	795	GUGAguacga	819	GUGAguagga
748	UUGAguaugn	772	UUGAguaaga	796	UUGAguacga	820	UUGAguagga

[0024] Table 13 (cont). Intronic REMS RNA sequence (wherein r is adenine or guanine, and n or N is any nucleotide)

SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence
821	ANGAguauga	845	ANGAguaagc	869	ANGAguacgc	893	ANGAguaggc
822	NAGAguauga	846	NAGAguaagc	870	NAGAguacgc	894	NAGAguaggc
823	AAGAguauga	847	AAGAguaagc	871	AAGAguacgc	895	AAGAguaggc
824	CAGAguauga	848	CAGAguaagc	872	CAGAguacgc	896	CAGAguaggc
825	GAGAguauga	849	GAGAguaagc	873	GAGAguacgc	897	GAGAguaggc
826	UAGAguauga	850	UAGAguaagc	874	UAGAguacgc	898	UAGAguaggc
827	CNGAguauga	851	CNGAguaagc	875	CNGAguacgc	899	CNGAguaggc
828	NCGAguauga	852	NCGAguaagc	876	NCGAguacgc	900	NCGAguaggc
829	ACGAguauga	853	ACGAguaagc	877	ACGAguacgc	901	ACGAguaggc
830	CCGAguauga	854	CCGAguaagc	878	CCGAguacgc	902	CCGAguaggc
831	GCGAguauga	855	GCGAguaagc	879	GCGAguacgc	903	GCGAguaggc
832	UCGAguauga	856	UCGAguaagc	880	UCGAguacgc	904	UCGAguaggc
833	GNGAguauga	857	GNGAguaagc	881	GNGAguacgc	905	GNGAguaggc
834	NGGAguauga	858	NGGAguaagc	882	NGGAguacgc	906	NGGAguaggc
835	AGGAguauga	859	AGGAguaagc	883	AGGAguacgc	907	AGGAguaggc
836	CGGAguauga	860	CGGAguaagc	884	CGGAguacgc	908	CGGAguaggc
837	GGGAguauga	861	GGGAguaagc	885	GGGAguacgc	909	GGGAguaggc
838	UGGAguauga	862	UGGAguaagc	886	UGGAguacgc	910	UGGAguaggc
839	UNGAguauga	863	UNGAguaagc	887	UNGAguacgc	911	UNGAguaggc
840	NUGAguauga	864	NUGAguaagc	888	NUGAguacgc	912	NUGAguaggc
841	AUGAguauga	865	AUGAguaagc	889	AUGAguacgc	913	AUGAguaggc
842	CUGAguauga	866	CUGAguaagc	890	CUGAguacgc	914	CUGAguaggc
843	GUGAguauga	867	GUGAguaagc	891	GUGAguacgc	915	GUGAguaggc
844	UUGAguauga	868	UUGAguaagc	892	UUGAguacgc	916	UUGAguaggc

[0025] Table 13 (cont). Intronic REMS RNA sequence (wherein r is adenine or guanine, and n or N is any nucleotide)

SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence
917	ANGAguaugc	941	ANGAguaagg	965	ANGAguacgg	989	ANGAguaggg
918	NAGAguaugc	942	NAGAguaagg	966	NAGAguacgg	990	NAGAguaggg
919	AAGAguaugc	943	AAGAguaagg	967	AAGAguacgg	991	AAGAguaggg
920	CAGAguaugc	944	CAGAguaagg	968	CAGAguacgg	992	CAGAguaggg
921	GAGAguaugc	945	GAGAguaagg	969	GAGAguacgg	993	GAGAguaggg
922	UAGAguaugc	946	UAGAguaagg	970	UAGAguacgg	994	UAGAguaggg
923	CNGAguaugc	947	CNGAguaagg	971	CNGAguacgg	995	CNGAguaggg
924	NCGAguaugc	948	NCGAguaagg	972	NCGAguacgg	996	NCGAguaggg
925	ACGAguaugc	949	ACGAguaagg	973	ACGAguacgg	997	ACGAguaggg
926	CCGAguaugc	950	CCGAguaagg	974	CCGAguacgg	998	CCGAguaggg
927	GCGAguaugc	951	GCGAguaagg	975	GCGAguacgg	999	GCGAguaggg
928	UCGAguaugc	952	UCGAguaagg	976	UCGAguacgg	1000	UCGAguaggg
929	GNGAguaugc	953	GNGAguaagg	977	GNGAguacgg	1001	GNGAguaggg
930	NGGAguaugc	954	NGGAguaagg	978	NGGAguacgg	1002	NGGAguaggg
931	AGGAguaugc	955	AGGAguaagg	979	AGGAguacgg	1003	AGGAguaggg
932	CGGAguaugc	956	CGGAguaagg	980	CGGAguacgg	1004	CGGAguaggg
933	GGGAguaugc	957	GGGAguaagg	981	GGGAguacgg	1005	GGGAguaggg
934	UGGAguaugc	958	UGGAguaagg	982	UGGAguacgg	1006	UGGAguaggg
935	UNGAguaugc	959	UNGAguaagg	983	UNGAguacgg	1007	UNGAguaggg
936	NUGAguaugc	960	NUGAguaagg	984	NUGAguacgg	1008	NUGAguaggg
937	AUGAguaugc	961	AUGAguaagg	985	AUGAguacgg	1009	AUGAguaggg
938	CUGAguaugc	962	CUGAguaagg	986	CUGAguacgg	1010	CUGAguaggg
939	GUGAguaugc	963	GUGAguaagg	987	GUGAguacgg	1011	GUGAguaggg
940	UUGAguaugc	964	UUGAguaagg	988	UUGAguacgg	1012	UUGAguaggg

[0026] Table 13 (cont). Intronic REMS RNA sequence (wherein r is adenine or guanine, and n or N is any nucleotide)

SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence
1013	ANGAguaugg	1037	ANGAguaagu	1061	ANGAguacgu	1085	ANGAguaggu
1014	NAGAguaugg	1038	NAGAguaagu	1062	NAGAguacgu	1086	NAGAguaggu
1015	AAGAguaugg	1039	AAGAguaagu	1063	AAGAguacgu	1087	AAGAguaggu
1016	CAGAguaugg	1040	CAGAguaagu	1064	CAGAguacgu	1088	CAGAguaggu
1017	GAGAguaugg	1041	GAGAguaagu	1065	GAGAguacgu	1089	GAGAguaggu
1018	UAGAguaugg	1042	UAGAguaagu	1066	UAGAguacgu	1090	UAGAguaggu
1019	CNGAguaugg	1043	CNGAguaagu	1067	CNGAguacgu	1091	CNGAguaggu
1020	NCGAguaugg	1044	NCGAguaagu	1068	NCGAguacgu	1092	NCGAguaggu
1021	ACGAguaugg	1045	ACGAguaagu	1069	ACGAguacgu	1093	ACGAguaggu
1022	CCGAguaugg	1046	CCGAguaagu	1070	CCGAguacgu	1094	CCGAguaggu
1023	GCGAguaugg	1047	GCGAguaagu	1071	GCGAguacgu	1095	GCGAguaggu
1024	UCGAguaugg	1048	UCGAguaagu	1072	UCGAguacgu	1096	UCGAguaggu
1025	GNGAguaugg	1049	GNGAguaagu	1073	GNGAguacgu	1097	GNGAguaggu
1026	NGGAguaugg	1050	NGGAguaagu	1074	NGGAguacgu	1098	NGGAguaggu
1027	AGGAguaugg	1051	AGGAguaagu	1075	AGGAguacgu	1099	AGGAguaggu
1028	CGGAguaugg	1052	CGGAguaagu	1076	CGGAguacgu	1100	CGGAguaggu
1029	GGGAguaugg	1053	GGGAguaagu	1077	GGGAguacgu	1101	GGGAguaggu
1030	UGGAguaugg	1054	UGGAguaagu	1078	UGGAguacgu	1102	UGGAguaggu
1031	UNGAguaugg	1055	UNGAguaagu	1079	UNGAguacgu	1103	UNGAguaggu
1032	NUGAguaugg	1056	NUGAguaagu	1080	NUGAguacgu	1104	NUGAguaggu
1033	AUGAguaugg	1057	AUGAguaagu	1081	AUGAguacgu	1105	AUGAguaggu
1034	CUGAguaugg	1058	CUGAguaagu	1082	CUGAguacgu	1106	CUGAguaggu
1035	GUGAguaugg	1059	GUGAguaagu	1083	GUGAguacgu	1107	GUGAguaggu
1036	UUGAguaugg	1060	UUGAguaagu	1084	UUGAguacgu	1108	UUGAguaggu

[0027] Table 13 (cont). Intronic REMS RNA sequence (wherein r is adenine or guanine, and n or N is any nucleotide)

SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence
1109	ANGAguaugu	1133	ANGAguanga	1157	ANGAguangc	1181	ANGAguangg
1110	NAGAguaugu	1134	NAGAguanga	1158	NAGAguangc	1182	NAGAguangg
1111	AAGAguaugu	1135	AAGAguanga	1159	AAGAguangc	1183	AAGAguangg
1112	CAGAguaugu	1136	CAGAguanga	1160	CAGAguangc	1184	CAGAguangg
1113	GAGAguaugu	1137	GAGAguanga	1161	GAGAguangc	1185	GAGAguangg
1114	UAGAguaugu	1138	UAGAguanga	1162	UAGAguangc	1186	UAGAguangg
1115	CNGAguaugu	1139	CNGAguanga	1163	CNGAguangc	1187	CNGAguangg
1116	NCGAguaugu	1140	NCGAguanga	1164	NCGAguangc	1188	NCGAguangg
1117	ACGAguaugu	1141	ACGAguanga	1165	ACGAguangc	1189	ACGAguangg
1118	CCGAguaugu	1142	CCGAguanga	1166	CCGAguangc	1190	CCGAguangg
1119	GCGAguaugu	1143	GCGAguanga	1167	GCGAguangc	1191	GCGAguangg
1120	UCGAguaugu	1144	UCGAguanga	1168	UCGAguangc	1192	UCGAguangg
1121	GNGAguaugu	1145	GNGAguanga	1169	GNGAguangc	1193	GNGAguangg
1122	NGGAguaugu	1146	NGGAguanga	1170	NGGAguangc	1194	NGGAguangg
1123	AGGAguaugu	1147	AGGAguanga	1171	AGGAguangc	1195	AGGAguangg
1124	CGGAguaugu	1148	CGGAguanga	1172	CGGAguangc	1196	CGGAguangg
1125	GGGAguaugu	1149	GGGAguanga	1173	GGGAguangc	1197	GGGAguangg
1126	UGGAguaugu	1150	UGGAguanga	1174	UGGAguangc	1198	UGGAguangg
1127	UNGAguaugu	1151	UNGAguanga	1175	UNGAguangc	1199	UNGAguangg
1128	NUGAguaugu	1152	NUGAguanga	1176	NUGAguangc	1200	NUGAguangg
1129	AUGAguaugu	1153	AUGAguanga	1177	AUGAguangc	1201	AUGAguangg
1130	CUGAguaugu	1154	CUGAguanga	1178	CUGAguangc	1202	CUGAguangg
1131	GUGAguaugu	1155	GUGAguanga	1179	GUGAguangc	1203	GUGAguangg
1132	UUGAguaugu	1156	UUGAguanga	1180	UUGAguangc	1204	UUGAguangg

[0028] Table 13 (cont). Intronic REMS RNA sequence (wherein r is adenine or guanine, and n or N is any nucleotide)

SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence
1205	ANGAguangu	1229	ANGAgugngn	1253	ANGAgugagn	1277	ANGAgugcgn
1206	NAGAguangu	1230	NAGAgugngn	1254	NAGAgugagn	1278	NAGAgugcgn
1207	AAGAguangu	1231	AAGAgugngn	1255	AAGAgugagn	1279	AAGAgugcgn
1208	CAGAguangu	1232	CAGAgugngn	1256	CAGAgugagn	1280	CAGAgugcgn
1209	GAGAguangu	1233	GAGAgugngn	1257	GAGAgugagn	1281	GAGAgugcgn
1210	UAGAguangu	1234	UAGAgugngn	1258	UAGAgugagn	1282	UAGAgugcgn
1211	CNGAguangu	1235	CNGAgugngn	1259	CNGAgugagn	1283	CNGAgugcgn
1212	NCGAguangu	1236	NCGAgugngn	1260	NCGAgugagn	1284	NCGAgugcgn
1213	ACGAguangu	1237	ACGAgugngn	1261	ACGAgugagn	1285	ACGAgugcgn
1214	CCGAguangu	1238	CCGAgugngn	1262	CCGAgugagn	1286	CCGAgugcgn
1215	GCGAguangu	1239	GCGAgugngn	1263	GCGAgugagn	1287	GCGAgugcgn
1216	UCGAguangu	1240	UCGAgugngn	1264	UCGAgugagn	1288	UCGAgugcgn
1217	GNGAguangu	1241	GNGAgugngn	1265	GNGAgugagn	1289	GNGAgugcgn
1218	NGGAguangu	1242	NGGAgugngn	1266	NGGAgugagn	1290	NGGAgugcgn
1219	AGGAguangu	1243	AGGAgugngn	1267	AGGAgugagn	1291	AGGAgugcgn
1220	CGGAguangu	1244	CGGAgugngn	1268	CGGAgugagn	1292	CGGAgugcgn
1221	GGGAguangu	1245	GGGAgugngn	1269	GGGAgugagn	1293	GGGAgugcgn
1222	UGGAguangu	1246	UGGAgugngn	1270	UGGAgugagn	1294	UGGAgugcgn
1223	UNGAguangu	1247	UNGAgugngn	1271	UNGAgugagn	1295	UNGAgugcgn
1224	NUGAguangu	1248	NUGAgugngn	1272	NUGAgugagn	1296	NUGAgugcgn
1225	AUGAguangu	1249	AUGAgugngn	1273	AUGAgugagn	1297	AUGAgugcgn
1226	CUGAguangu	1250	CUGAgugngn	1274	CUGAgugagn	1298	CUGAgugcgn
1227	GUGAguangu	1251	GUGAgugngn	1275	GUGAgugagn	1299	GUGAgugcgn
1228	UUGAguangu	1252	UUGAgugngn	1276	UUGAgugagn	1300	UUGAgugcgn

[0029] Table 13 (cont). Intronic REMS RNA sequence (wherein r is adenine or guanine, and n or N is any nucleotide)

SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence
1301	ANGAgugggn	1325	ANGAgugugn	1349	ANGAgugaga	1373	ANGAgugcga
1302	NAGAgugggn	1326	NAGAgugugn	1350	NAGAgugaga	1374	NAGAgugcga
1303	AAGAgugggn	1327	AAGAgugugn	1351	AAGAgugaga	1375	AAGAgugcga
1304	CAGAgugggn	1328	CAGAgugugn	1352	CAGAgugaga	1376	CAGAgugcga
1305	GAGAgugggn	1329	GAGAgugugn	1353	GAGAgugaga	1377	GAGAgugcga
1306	UAGAgugggn	1330	UAGAgugugn	1354	UAGAgugaga	1378	UAGAgugcga
1307	CNGAgugggn	1331	CNGAgugugn	1355	CNGAgugaga	1379	CNGAgugcga
1308	NCGAgugggn	1332	NCGAgugugn	1356	NCGAgugaga	1380	NCGAgugcga
1309	ACGAgugggn	1333	ACGAgugugn	1357	ACGAgugaga	1381	ACGAgugcga
1310	CCGAgugggn	1334	CCGAgugugn	1358	CCGAgugaga	1382	CCGAgugcga
1311	GCGAgugggn	1335	GCGAgugugn	1359	GCGAgugaga	1383	GCGAgugcga
1312	UCGAgugggn	1336	UCGAgugugn	1360	UCGAgugaga	1384	UCGAgugcga
1313	GNGAgugggn	1337	GNGAgugugn	1361	GNGAgugaga	1385	GNGAgugcga
1314	NGGAgugggn	1338	NGGAgugugn	1362	NGGAgugaga	1386	NGGAgugcga
1315	AGGAgugggn	1339	AGGAgugugn	1363	AGGAgugaga	1387	AGGAgugcga
1316	CGGAgugggn	1340	CGGAgugugn	1364	CGGAgugaga	1388	CGGAgugcga
1317	GGGAgugggn	1341	GGGAgugugn	1365	GGGAgugaga	1389	GGGAgugcga
1318	UGGAgugggn	1342	UGGAgugugn	1366	UGGAgugaga	1390	UGGAgugcga
1319	UNGAgugggn	1343	UNGAgugugn	1367	UNGAgugaga	1391	UNGAgugcga
1320	NUGAgugggn	1344	NUGAgugugn	1368	NUGAgugaga	1392	NUGAgugcga
1321	AUGAgugggn	1345	AUGAgugugn	1369	AUGAgugaga	1393	AUGAgugcga
1322	CUGAgugggn	1346	CUGAgugugn	1370	CUGAgugaga	1394	CUGAgugcga
1323	GUGAgugggn	1347	GUGAgugugn	1371	GUGAgugaga	1395	GUGAgugcga
1324	UUGAgugggn	1348	UUGAgugugn	1372	UUGAgugaga	1396	UUGAgugcga

[0030] Table 13 (cont). Intronic REMS RNA sequence (wherein r is adenine or guanine, and n or N is any nucleotide)

SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence
1397	ANGAguggga	1421	ANGAguguga	1445	ANGAgugagc	1469	ANGAgugcgc
1398	NAGAguggga	1422	NAGAguguga	1446	NAGAgugagc	1470	NAGAgugcgc
1399	AAGAguggga	1423	AAGAguguga	1447	AAGAgugagc	1471	AAGAgugcgc
1400	CAGAguggga	1424	CAGAguguga	1448	CAGAgugagc	1472	CAGAgugcgc
1401	GAGAguggga	1425	GAGAguguga	1449	GAGAgugagc	1473	GAGAgugcgc
1402	UAGAguggga	1426	UAGAguguga	1450	UAGAgugagc	1474	UAGAgugcgc
1403	CNGAguggga	1427	CNGAguguga	1451	CNGAgugagc	1475	CNGAgugcgc
1404	NCGAguggga	1428	NCGAguguga	1452	NCGAgugagc	1476	NCGAgugcgc
1405	ACGAguggga	1429	ACGAguguga	1453	ACGAgugagc	1477	ACGAgugcgc
1406	CCGAguggga	1430	CCGAguguga	1454	CCGAgugagc	1478	CCGAgugcgc
1407	GCGAguggga	1431	GCGAguguga	1455	GCGAgugagc	1479	GCGAgugcgc
1408	UCGAguggga	1432	UCGAguguga	1456	UCGAgugagc	1480	UCGAgugcgc
1409	GNGAguggga	1433	GNGAguguga	1457	GNGAgugagc	1481	GNGAgugcgc
1410	NGGAguggga	1434	NGGAguguga	1458	NGGAgugagc	1482	NGGAgugcgc
1411	AGGAguggga	1435	AGGAguguga	1459	AGGAgugagc	1483	AGGAgugcgc
1412	CGGAguggga	1436	CGGAguguga	1460	CGGAgugagc	1484	CGGAgugcgc
1413	GGGAguggga	1437	GGGAguguga	1461	GGGAgugagc	1485	GGGAgugcgc
1414	UGGAguggga	1438	UGGAguguga	1462	UGGAgugagc	1486	UGGAgugcgc
1415	UNGAguggga	1439	UNGAguguga	1463	UNGAgugagc	1487	UNGAgugcgc
1416	NUGAguggga	1440	NUGAguguga	1464	NUGAgugagc	1488	NUGAgugcgc
1417	AUGAguggga	1441	AUGAguguga	1465	AUGAgugagc	1489	AUGAgugcgc
1418	CUGAguggga	1442	CUGAguguga	1466	CUGAgugagc	1490	CUGAgugcgc
1419	GUGAguggga	1443	GUGAguguga	1467	GUGAgugagc	1491	GUGAgugcgc
1420	UUGAguggga	1444	UUGAguguga	1468	UUGAgugagc	1492	UUGAgugcgc

[0031] Table 13 (cont). Intronic REMS RNA sequence (wherein r is adenine or guanine, and n or N is any nucleotide)

SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence
1493	ANGAgugggc	1517	ANGAgugugc	1541	ANGAgugagg	1565	ANGAgugcgg
1494	NAGAgugggc	1518	NAGAgugugc	1542	NAGAgugagg	1566	NAGAgugcgg
1495	AAGAgugggc	1519	AAGAgugugc	1543	AAGAgugagg	1567	AAGAgugcgg
1496	CAGAgugggc	1520	CAGAgugugc	1544	CAGAgugagg	1568	CAGAgugcgg
1497	GAGAgugggc	1521	GAGAgugugc	1545	GAGAgugagg	1569	GAGAgugcgg
1498	UAGAgugggc	1522	UAGAgugugc	1546	UAGAgugagg	1570	UAGAgugcgg
1499	CNGAgugggc	1523	CNGAgugugc	1547	CNGAgugagg	1571	CNGAgugcgg
1500	NCGAgugggc	1524	NCGAgugugc	1548	NCGAgugagg	1572	NCGAgugcgg
1501	ACGAgugggc	1525	ACGAgugugc	1549	ACGAgugagg	1573	ACGAgugcgg
1502	CCGAgugggc	1526	CCGAgugugc	1550	CCGAgugagg	1574	CCGAgugcgg
1503	GCGAgugggc	1527	GCGAgugugc	1551	GCGAgugagg	1575	GCGAgugcgg
1504	UCGAgugggc	1528	UCGAgugugc	1552	UCGAgugagg	1576	UCGAgugcgg
1505	GNGAgugggc	1529	GNGAgugugc	1553	GNGAgugagg	1577	GNGAgugcgg
1506	NGGAgugggc	1530	NGGAgugugc	1554	NGGAgugagg	1578	NGGAgugcgg
1507	AGGAgugggc	1531	AGGAgugugc	1555	AGGAgugagg	1579	AGGAgugcgg
1508	CGGAgugggc	1532	CGGAgugugc	1556	CGGAgugagg	1580	CGGAgugcgg
1509	GGGAgugggc	1533	GGGAgugugc	1557	GGGAgugagg	1581	GGGAgugcgg
1510	UGGAgugggc	1534	UGGAgugugc	1558	UGGAgugagg	1582	UGGAgugcgg
1511	UNGAgugggc	1535	UNGAgugugc	1559	UNGAgugagg	1583	UNGAgugcgg
1512	NUGAgugggc	1536	NUGAgugugc	1560	NUGAgugagg	1584	NUGAgugcgg
1513	AUGAgugggc	1537	AUGAgugugc	1561	AUGAgugagg	1585	AUGAgugcgg
1514	CUGAgugggc	1538	CUGAgugugc	1562	CUGAgugagg	1586	CUGAgugcgg
1515	GUGAgugggc	1539	GUGAgugugc	1563	GUGAgugagg	1587	GUGAgugcgg
1516	UUGAgugggc	1540	UUGAgugugc	1564	UUGAgugagg	1588	UUGAgugcgg

[0032] Table 13 (cont). Intronic REMS RNA sequence (wherein r is adenine or guanine, and n or N is any nucleotide)

SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence
1589	ANGAgugggg	1613	ANGAgugugg	1637	ANGAgugagu	1661	ANGAgugcgu
1590	NAGAgugggg	1614	NAGAgugugg	1638	NAGAgugagu	1662	NAGAgugcgu
1591	AAGAgugggg	1615	AAGAgugugg	1639	AAGAgugagu	1663	AAGAgugcgu
1592	CAGAgugggg	1616	CAGAgugugg	1640	CAGAgugagu	1664	CAGAgugcgu
1593	GAGAgugggg	1617	GAGAgugugg	1641	GAGAgugagu	1665	GAGAgugcgu
1594	UAGAgugggg	1618	UAGAgugugg	1642	UAGAgugagu	1666	UAGAgugcgu
1595	CNGAgugggg	1619	CNGAgugugg	1643	CNGAgugagu	1667	CNGAgugcgu
1596	NCGAgugggg	1620	NCGAgugugg	1644	NCGAgugagu	1668	NCGAgugcgu
1597	ACGAgugggg	1621	ACGAgugugg	1645	ACGAgugagu	1669	ACGAgugcgu
1598	CCGAgugggg	1622	CCGAgugugg	1646	CCGAgugagu	1670	CCGAgugcgu
1599	GCGAgugggg	1623	GCGAgugugg	1647	GCGAgugagu	1671	GCGAgugcgu
1600	UCGAgugggg	1624	UCGAgugugg	1648	UCGAgugagu	1672	UCGAgugcgu
1601	GNGAgugggg	1625	GNGAgugugg	1649	GNGAgugagu	1673	GNGAgugcgu
1602	NGGAgugggg	1626	NGGAgugugg	1650	NGGAgugagu	1674	NGGAgugcgu
1603	AGGAgugggg	1627	AGGAgugugg	1651	AGGAgugagu	1675	AGGAgugcgu
1604	CGGAgugggg	1628	CGGAgugugg	1652	CGGAgugagu	1676	CGGAgugcgu
1605	GGGAgugggg	1629	GGGAgugugg	1653	GGGAgugagu	1677	GGGAgugcgu
1606	UGGAgugggg	1630	UGGAgugugg	1654	UGGAgugagu	1678	UGGAgugcgu
1607	UNGAgugggg	1631	UNGAgugugg	1655	UNGAgugagu	1679	UNGAgugcgu
1608	NUGAgugggg	1632	NUGAgugugg	1656	NUGAgugagu	1680	NUGAgugcgu
1609	AUGAgugggg	1633	AUGAgugugg	1657	AUGAgugagu	1681	AUGAgugcgu
1610	CUGAgugggg	1634	CUGAgugugg	1658	CUGAgugagu	1682	CUGAgugcgu
1611	GUGAgugggg	1635	GUGAgugugg	1659	GUGAgugagu	1683	GUGAgugcgu
1612	UUGAgugggg	1636	UUGAgugugg	1660	UUGAgugagu	1684	UUGAgugcgu

[0033] Table 13 (cont). Intronic REMS RNA sequence (wherein r is adenine or guanine, and n or N is any nucleotide)

SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence
1685	ANGAgugggu	1709	ANGAgugugu	1733	ANGAgugnga	1757	ANGAgugngc
1686	NAGAgugggu	1710	NAGAgugugu	1734	NAGAgugnga	1758	NAGAgugngc
1687	AAGAgugggu	1711	AAGAgugugu	1735	AAGAgugnga	1759	AAGAgugngc
1688	CAGAgugggu	1712	CAGAgugugu	1736	CAGAgugnga	1760	CAGAgugngc
1689	GAGAgugggu	1713	GAGAgugugu	1737	GAGAgugnga	1761	GAGAgugngc
1690	UAGAgugggu	1714	UAGAgugugu	1738	UAGAgugnga	1762	UAGAgugngc
1691	CNGAgugggu	1715	CNGAgugugu	1739	CNGAgugnga	1763	CNGAgugngc
1692	NCGAgugggu	1716	NCGAgugugu	1740	NCGAgugnga	1764	NCGAgugngc
1693	ACGAgugggu	1717	ACGAgugugu	1741	ACGAgugnga	1765	ACGAgugngc
1694	CCGAgugggu	1718	CCGAgugugu	1742	CCGAgugnga	1766	CCGAgugngc
1695	GCGAgugggu	1719	GCGAgugugu	1743	GCGAgugnga	1767	GCGAgugngc
1696	UCGAgugggu	1720	UCGAgugugu	1744	UCGAgugnga	1768	UCGAgugngc
1697	GNGAgugggu	1721	GNGAgugugu	1745	GNGAgugnga	1769	GNGAgugngc
1698	NGGAgugggu	1722	NGGAgugugu	1746	NGGAgugnga	1770	NGGAgugngc
1699	AGGAgugggu	1723	AGGAgugugu	1747	AGGAgugnga	1771	AGGAgugngc
1700	CGGAgugggu	1724	CGGAgugugu	1748	CGGAgugnga	1772	CGGAgugngc
1701	GGGAgugggu	1725	GGGAgugugu	1749	GGGAgugnga	1773	GGGAgugngc
1702	UGGAgugggu	1726	UGGAgugugu	1750	UGGAgugnga	1774	UGGAgugngc
1703	UNGAgugggu	1727	UNGAgugugu	1751	UNGAgugnga	1775	UNGAgugngc
1704	NUGAgugggu	1728	NUGAgugugu	1752	NUGAgugnga	1776	NUGAgugngc
1705	AUGAgugggu	1729	AUGAgugugu	1753	AUGAgugnga	1777	AUGAgugngc
1706	CUGAgugggu	1730	CUGAgugugu	1754	CUGAgugnga	1778	CUGAgugngc
1707	GUGAgugggu	1731	GUGAgugugu	1755	GUGAgugnga	1779	GUGAgugngc
1708	UUGAgugggu	1732	UUGAgugugu	1756	UUGAgugnga	1780	UUGAgugngc

[0034] Table 13 (cont). Intronic REMS RNA sequence (wherein r is adenine or guanine, and n or N is any nucleotide)

SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence
1781	ANGAgugngg	1793	GNGAgugngg	1805	ANGAgugngu	1817	GNGAgugngu
1782	NAGAgugngg	1794	NGGAgugngg	1806	NAGAgugngu	1818	NGGAgugngu
1783	AAGAgugngg	1795	AGGAgugngg	1807	AAGAgugngu	1819	AGGAgugngu
1784	CAGAgugngg	1796	CGGAgugngg	1808	CAGAgugngu	1820	CGGAgugngu
1785	GAGAgugngg	1797	GGGAgugngg	1809	GAGAgugngu	1821	GGGAgugngu
1786	UAGAgugngg	1798	UGGAgugngg	1810	UAGAgugngu	1822	UGGAgugngu
1787	CNGAgugngg	1799	UNGAgugngg	1811	CNGAgugngu	1823	UNGAgugngu
1788	NCGAgugngg	1800	NUGAgugngg	1812	NCGAgugngu	1824	NUGAgugngu
1789	ACGAgugngg	1801	AUGAgugngg	1813	ACGAgugngu	1825	AUGAgugngu
1790	CCGAgugngg	1802	CUGAgugngg	1814	CCGAgugngu	1826	CUGAgugngu
1791	GCGAgugngg	1803	GUGAgugngg	1815	GCGAgugngu	1827	GUGAgugngu
1792	UCGAgugngg	1804	UUGAgugngg	1816	UCGAgugngu	1828	UUGAgugngu

[0035] In one embodiment, provided herein are methods for modulating the amount of one, two, three or more RNA transcripts of a gene, by way of nonlimiting example, disclosed in Table 1, *infra*, the method comprising contacting a cell with a compound of Formula (I) or a form thereof. In another embodiment, provided herein are methods for modulating the amount of one, two, three or more RNA transcripts of a gene, disclosed in Table 16 or Tables 2-7, *infra*, wherein the precursor transcript transcribed from the gene comprises an intronic REMS, the method comprising contacting a cell with a compound of Formula (I) or a form thereof. In another embodiment, provided herein are methods for modulating the amount of one, two, three or more RNA transcripts of a gene, disclosed in International Patent Application No. PCT/US2014/071252 (International Publication No. WO 2015/105657), wherein the precursor transcript transcribed from the gene comprises an intronic REMS, the method comprising contacting a cell with a compound of Formula (I) or a form thereof. In another embodiment, provided herein are methods for modulating the amount of one, two, three or more RNA transcripts of a gene, disclosed in International Patent Application No. PCT/US2016/034864 (International Publication No. WO 2016/196386), wherein the precursor transcript transcribed from the gene comprises an intronic REMS, the method comprising contacting a cell with a compound of Formula (I) or a form thereof.

[0036] In another embodiment, provided herein are methods for modulating the amount of one, two, three or more RNA transcripts of a gene, disclosed in Table 1, *infra*, wherein the precursor transcript transcribed from the gene comprises an intronic REMS, the method comprising contacting a cell with a compound of Formula (I) or a form thereof. In another embodiment, provided herein are methods for modulating the amount of one, two, three or more RNA transcripts of a gene disclosed in Table 7, *infra*, comprising contacting a cell with a compound of Formula (I) or a form thereof. *See* the example section for additional information regarding the genes in Table 7. In certain embodiments, the cell is contacted with the compound of Formula (I) or a form thereof in a cell culture. In other embodiments, the cell is contacted with the compound of Formula (I) or a form thereof in a subject (*e.g.*, a non-human animal subject or a human subject). In certain embodiments, a compound of Formula (I) is a compound of Formula (II), Formula (III), Formula (IV), Formula (V), Formula (VI), Formula (VII), Formula (VIII), Formula (IX), Formula (X), Formula (XI), Formula (XII), Formula (XIII), or Formula (XIV) described *infra*. In some embodiments, a compound of Formula (I) is a compound selected from a compound described herein.

[0037] In another aspect, provided herein are methods for modulating the amount of one, two, three or more RNA transcripts of a gene, wherein the precursor RNA transcript transcribed from the gene comprises an intronic REMS, the methods comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. In one embodiment, provided herein are methods for modulating the amount of one, two, three or more RNA transcripts of a gene, by way of nonlimiting example, disclosed in Table 1, *infra*, the methods comprising administering to a human or non-human subject thereof a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent.

[0038] In another embodiment, provided herein are methods for modulating the amount of one, two, three or more RNA transcripts of a gene, disclosed in Tables 2-7, *infra*, wherein the precursor RNA transcript transcribed from the gene comprises an intronic REMS, the methods comprising administering to a human or non-human subject thereof a compound of Formula (I)

or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent.

[0039] In another embodiment, provided herein are methods for modulating the amount of one, two, three or more RNA transcripts of a gene, disclosed in International Patent Application No. PCT/US2014/071252 (International Publication No. WO 2015/105657), wherein the precursor RNA transcript transcribed from the gene comprises an intronic REMS, the methods comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. In another embodiment, provided herein are methods for modulating the amount of one, two, three or more RNA transcripts of a gene, disclosed in International Patent Application No. PCT/US2016/034864 (International Publication No. WO 2016/196386), wherein the precursor transcript transcribed from the gene comprises an intronic REMS, the method comprising contacting a cell with a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. In another embodiment, provided herein are methods for modulating the amount of one, two, three or more RNA transcripts of a gene, disclosed in Table 1, *infra*, wherein the precursor RNA transcript transcribed from the gene comprises an intronic REMS, the methods comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent.

[0040] In another embodiment, provided herein are methods for modulating the amount of one, two, three or more RNA transcripts of a gene disclosed in Table 7, *infra*, comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. *See* the example section for additional information regarding the genes in Table 7. In certain embodiments, a compound of Formula (I) is a compound of Formula (II), Formula (III), Formula (IV), Formula (V), Formula (VI), Formula (VII), Formula (VIII), Formula (IX), Formula (X), Formula (XI), Formula (XII), Formula (XIII), or Formula (XIV) described *infra*. In some embodiments, a compound of Formula (I) is a compound selected from a compound described herein.

[0041] In another embodiment, provided herein is a method for modulating the amount of an RNA transcript comprising a RNA nucleotide sequence, wherein the RNA nucleotide sequence comprises two exons and an intron, wherein one exon is upstream of the intron and the other exon is downstream of the intron, wherein the RNA nucleotide sequence of the intron comprises in 5' to 3' order: a first 5' splice site, a first branch point, a first 3' splice site, an iREMS, a second branch point and a second 3' splice site, wherein the iREMS comprises an RNA sequence GAgurngn (SEQ ID NO: 2), and wherein r is adenine or guanine and n is any nucleotide, the method comprising contacting the RNA transcript with a compound described herein (for example, a compound of Formula (I) or a form thereof or another splicing inducer).

[0042] In another embodiment, provided herein is a method for modulating the amount of an RNA transcript comprising a RNA nucleotide sequence, wherein the RNA nucleotide sequence comprises two exons and an intron, wherein one exon is upstream of the intron and the other exon is downstream of the intron, wherein the RNA nucleotide sequence of the intron comprises in 5' to 3' order: a first branch point, a first 3' splice site, and an iREMS, wherein the iREMS comprises an RNA sequence GAgurngn (SEQ ID NO: 2), and wherein r is adenine or guanine and n is any nucleotide, the method comprising contacting the RNA transcript with a compound described herein (for example, a compound of Formula (I) or a form thereof or another splicing inducer).

[0043] In another embodiment, provided herein is a method for modulating the amount of an RNA transcript comprising a RNA nucleotide sequence, wherein the RNA nucleotide sequence comprises two exons and an intron, and wherein the RNA nucleotide sequence comprises exonic and intronic elements illustrated in Figure 1A, the method comprising contacting the RNA transcript with a compound described herein (for example, a compound of Formula (I) or a form thereof or another splicing inducer).

[0044] In another embodiment, provided herein is a method for modulating the amount of an RNA transcript comprising a RNA nucleotide sequence, wherein the RNA nucleotide sequence comprises two exons and an intron, and wherein the RNA nucleotide sequence comprises exonic and intronic elements illustrated in Figure 1B, the method comprising contacting the RNA transcript with a compound described herein (for example, a compound of Formula (I) or a form thereof or another splicing inducer).

[0045] In another embodiment, provided herein is a method for modulating the amount of an RNA transcript comprising a RNA nucleotide sequence, wherein the RNA nucleotide sequence comprises three exons and two introns, and wherein the RNA nucleotide sequence comprises exonic and intronic elements illustrated in Figure 1C, the method comprising contacting the RNA transcript with a compound described herein (for example, a compound of Formula (I) or a form thereof or another splicing inducer).

[0046] In a specific embodiment, the RNA transcript is the RNA transcript of a gene described in a table in this disclosure.

[0047] In another embodiment, provided herein is a method for modulating the amount of the product of a gene (such as an RNA transcript or a protein) in a subject, wherein the gene comprises a DNA nucleotide sequence encoding two exons and an intron, wherein the nucleotide sequence encoding one exon is upstream of the nucleotide sequence encoding the intron and the nucleotide sequence encoding the other exon is downstream of the nucleotide sequence encoding the intron, wherein the DNA nucleotide sequence encoding the intron comprises in 5' to 3' order: a nucleotide sequence encoding a first 5' splice site, a nucleotide sequence encoding a first branch point, a nucleotide sequence encoding a first 3' splice site, a nucleotide sequence encoding an iREMS, a nucleotide sequence encoding a second branch point and a nucleotide sequence encoding a second 3' splice site, wherein the iREMS comprises a DNA sequence GAgtrngn (SEQ ID NO: 4), and wherein r is adenine or guanine and n is any nucleotide, the method comprising administering a compound described herein (for example, a compound of Formula (I) or a form thereof or another splicing inducer) to the subject.

[0048] In another embodiment, provided herein is a method for modulating the amount of the product of a gene (such as an RNA transcript or protein) in a subject, wherein the gene comprises a DNA nucleotide sequence encoding two exons and an intron, wherein the nucleotide sequence encoding one exon is upstream of the nucleotide sequence encoding the intron and the nucleotide sequence encoding the other exon is downstream of the nucleotide sequence encoding the intron, wherein the DNA nucleotide sequence of the intron comprises in 5' to 3' order: a nucleotide sequence encoding a first branch point, a nucleotide sequence encoding a first 3' splice site, and a nucleotide sequence encoding an iREMS, wherein the iREMS comprises a DNA sequence GAgtrngn (SEQ ID NO: 4), and wherein r is adenine or guanine and n is any nucleotide, the

method comprising administering a compound described herein (for example, a compound of Formula (I) or a form thereof or another splicing inducer) to the subject.

[0049] In another embodiment, provided herein is a method for modulating the amount of the product of a gene (such as an RNA transcript or protein) in a subject, wherein the gene comprises a DNA nucleotide sequence encoding two exons and an intron, and wherein the DNA nucleotide sequence comprises exonic and intronic elements illustrated in Figure 1A, the method comprising administering a compound described herein (for example, a compound of Formula (I) or a form thereof or another splicing inducer) to the subject.

[0050] In another embodiment, provided herein is a method for modulating the amount of the product of a gene (such as an RNA transcript or protein) in a subject, wherein the gene comprises a DNA nucleotide sequence encoding two exons and an intron, and wherein the DNA nucleotide sequence comprises exonic and intronic elements illustrated in Figure 1B, the method comprising administering a compound described herein (for example, a compound of Formula (I) or a form thereof or another splicing inducer) to the subject.

[0051] In another embodiment, provided herein is a method for modulating the amount of the product of a gene (such as an RNA transcript or protein) in a subject, wherein the gene comprises a DNA nucleotide sequence encoding two exons and an intron, and wherein the DNA nucleotide sequence comprises exonic and intronic elements illustrated in Figure 1C, the method comprising administering a compound described herein (for example, a compound of Formula (I) or a form thereof or another splicing inducer) to the subject.

[0052] In a specific embodiment, the gene is a gene described in a table in this disclosure.

[0053] In another aspect, provided herein are methods for preventing and/or treating a disease associated with the aberrant expression of a product of a gene (e.g., an mRNA transcript or protein), wherein the precursor RNA transcript transcribed from the gene comprises an intronic REMS, the methods comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. In one embodiment, provided herein are methods for preventing and/or treating a disease associated with aberrant expression of a product of a gene (*e.g.*, an mRNA, RNA transcript or protein), by way of nonlimiting example, disclosed in Table 1, *infra*, the methods comprising administering to a human or non-human subject a compound of Formula (I) or a

form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. In another embodiment, provided herein are methods for preventing and/or treating a disease associated with aberrant expression of a product of a gene (*e.g.*, an mRNA, RNA transcript or protein), disclosed in Tables 2-7, *infra*, wherein the precursor RNA transcript transcribed from the gene comprises an intronic REMS, the methods comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. In another embodiment, provided herein are methods for preventing and/or treating a disease associated with aberrant expression of a product of a gene (*e.g.*, an mRNA, RNA transcript or protein), by way of nonlimiting example, disclosed in International Patent Application No. PCT/US2014/071252 (International Publication No. WO 2015/105657), wherein the precursor RNA transcript transcribed from the gene comprises an intronic REMS, the methods comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. In another embodiment, provided herein are methods for preventing and/or treating a disease associated with aberrant expression of a product of a gene (*e.g.*, an mRNA, RNA transcript or protein), by way of nonlimiting example, disclosed in International Patent Application No. PCT/US2016/034864 (International Publication No. WO 2016/196386), wherein the precursor RNA transcript transcribed from the gene comprises an intronic REMS, the methods comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. In another embodiment, provided herein are methods for preventing and/or treating a disease associated with aberrant expression of a product of a gene (*e.g.*, an mRNA, RNA transcript or protein), disclosed in Table 1, *infra*, wherein the precursor RNA transcript transcribed from the gene comprises an intronic REMS, the methods comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. In another embodiment, provided herein are methods for preventing and/or treating a disease associated

with aberrant expression of a product of a gene disclosed in Table 7, *infra*, (*e.g.*, an mRNA, RNA transcript or protein), comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. *See* the example section for additional information regarding the genes in Table 7. In certain embodiments, a compound of Formula (I) is a compound of Formula (II), Formula (III), Formula (IV), Formula (V), Formula (VI), Formula (VII), Formula (VIII), Formula (IX), Formula (X), Formula (XI), Formula (XII), Formula (XIII), or Formula (XIV) described *infra*. In some embodiments, a compound of Formula (I) is a compound selected from a compound described herein.

[0054] In another aspect, provided herein are methods for preventing and/or treating a disease in which a change in the level of expression of one, two, three or more RNA isoforms encoded by a gene is beneficial to the prevention and/or treatment of the disease, wherein the precursor RNA transcript transcribed from the gene comprises an intronic REMS, the methods comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. In one embodiment, provided herein are methods for preventing and/or treating a disease in which the alteration (*e.g.*, increase or decrease) in the expression one, two, three or more RNA isoforms encoded by a gene, by way of nonlimiting example, disclosed in Table 1, *infra*, is beneficial to the prevention and/or treatment of the disease, the methods comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent.

[0055] In another embodiment, provided herein are methods for preventing and/or treating a disease in which the alteration (*e.g.*, increase or decrease) in the expression one, two, three or more RNA isoforms encoded by a gene, disclosed in Tables 2-7, *infra*, is beneficial to the prevention and/or treatment of the disease, wherein the precursor RNA transcript transcribed from the gene comprises an intronic REMS, the methods comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical

composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent.

[0056] In another embodiment, provided herein are methods for preventing and/or treating a disease in which the alteration (*e.g.*, increase or decrease) in the expression one, two, three or more RNA isoforms encoded by a gene, disclosed in International Patent Application No. PCT/US2014/071252 (International Publication No. WO 2015/105657), is beneficial to the prevention and/or treatment of the disease, wherein the precursor RNA transcript transcribed from the gene comprises an intronic REMS, the methods comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. In another embodiment, provided herein are methods for preventing and/or treating a disease in which the alteration (*e.g.*, increase or decrease) in the expression one, two, three or more RNA isoforms encoded by a gene, disclosed in International Patent Application No. PCT/US2016/034864 (International Publication No. WO 2016/196386), is beneficial to the prevention and/or treatment of the disease, wherein the precursor RNA transcript transcribed from the gene comprises an intronic REMS, the methods comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. In another embodiment, provided herein are methods for preventing and/or treating a disease in which the alteration (*e.g.*, increase or decrease) in the expression one, two, three or more RNA isoforms encoded by a gene, disclosed in Table 1, *infra*, is beneficial to the prevention and/or treatment of the disease, wherein the precursor RNA transcript transcribed from the gene comprises an intronic REMS, the methods comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. In another embodiment, provided herein are methods for preventing and/or treating a disease in which the alteration (*e.g.*, increase or decrease) in the expression one, two, three or more RNA isoforms encoded by a gene disclosed in Table 1, *infra*, is beneficial to the prevention and/or treatment of the disease, the methods comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a

compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. In a specific embodiment, one, two, three or more RNA isoforms encoded by a gene disclosed in Table 7, *infra*, are decreased following administration of a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. *See* the example section for additional information regarding the genes in Table 7. In certain embodiments, a compound of Formula (I) is a compound of Formula (II), Formula (III), Formula (IV), Formula (V), Formula (VI), Formula (VII), Formula (VIII), Formula (IX), Formula (X), Formula (XI), Formula (XII), Formula (XIII), or Formula (XIV) described *infra*. In some embodiments, a compound of Formula (I) is a compound selected from a compound described herein.

[0057] In another aspect, provided herein are methods for preventing and/or treating a disease in which a change in the level of expression of one, two, three or more protein isoforms encoded by a gene is beneficial to the prevention and/or treatment of the disease, wherein the precursor RNA transcript transcribed from the gene comprises an intronic REMS, the methods comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. In one embodiment, provided herein are methods for preventing and/or treating a disease in which the alteration (*e.g.*, increase or decrease) in the expression one, two, three or more protein isoforms encoded by a gene, by way of nonlimiting example, disclosed in Table 1, *infra*, is beneficial to the prevention and/or treatment of the disease, the methods comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent.

[0058] In another embodiment, provided herein are methods for preventing and/or treating a disease in which the alteration (*e.g.*, increase or decrease) in the expression one, two, three or more protein isoforms encoded by a gene, disclosed in Tables 2-7, *infra*, is beneficial to the prevention and/or treatment of the disease, wherein the precursor RNA transcript transcribed from the gene comprises an intronic REMS, the methods comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically

acceptable carrier, excipient or diluent. In another embodiment, provided herein are methods for preventing and/or treating a disease in which the alteration (*e.g.*, increase or decrease) in the expression one, two, three or more protein isoforms encoded by a gene, disclosed in International Patent Application No. PCT/US2014/071252 (International Publication No. WO 2015/105657), is beneficial to the prevention and/or treatment of the disease, wherein the precursor RNA transcript transcribed from the gene comprises an intronic REMS, the methods comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. In another embodiment, provided herein are methods for preventing and/or treating a disease in which the alteration (*e.g.*, increase or decrease) in the expression one, two, three or more protein isoforms encoded by a gene, disclosed in International Patent Application No. PCT/US2016/034864 (International Publication No. WO 2016/196386), is beneficial to the prevention and/or treatment of the disease, wherein the precursor RNA transcript transcribed from the gene comprises an intronic REMS, the methods comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. In another embodiment, provided herein are methods for preventing and/or treating a disease in which the alteration (*e.g.*, increase or decrease) in the expression one, two, three or more protein isoforms encoded by a gene, disclosed in Table 1, *infra*, is beneficial to the prevention and/or treatment of the disease, wherein the precursor RNA transcript transcribed from the gene comprises an intronic REMS, the methods comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent.

[0059] In another embodiment, provided herein are methods for preventing and/or treating a disease in which the alteration (*e.g.*, increase or decrease) in the expression one, two, three or more protein isoforms encoded by a gene, disclosed in Table 1, *infra*, is beneficial to the prevention and/or treatment of the disease, the methods comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically

acceptable carrier, excipient or diluent. In a specific embodiment, one, two, three or more RNA isoforms encoded by a gene, disclosed in Table 7, *infra*, are decreased following administration of a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. *See* the example section for additional information regarding the genes in Table 7. In certain embodiments, a compound of Formula (I) is a compound of Formula (II), Formula (III), Formula (IV), Formula (V), Formula (VI), Formula (VII), Formula (VIII), Formula (IX), Formula (X), Formula (XI), Formula (XII), Formula (XIII), or Formula (XIV) described *infra*. In some embodiments, a compound of Formula (I) is a compound selected from a compound described herein.

[0060] In another embodiment, provided herein is a method for either preventing, treating or preventing and treating a disease in a subject in which the alteration (*e.g.*, increase or decrease) in the expression one, two, three or more protein isoforms encoded by a gene is beneficial to the prevention and/or treatment of the disease, wherein the gene comprises a DNA nucleotide sequence encoding two exons and an intron, wherein the nucleotide sequence encoding one exon is upstream of the nucleotide sequence encoding the intron and the nucleotide sequence encoding the other exon is downstream of the nucleotide sequence encoding the intron, wherein the DNA nucleotide sequence encoding the intron comprises in 5' to 3' order: a nucleotide sequence encoding a first 5' splice site, a nucleotide sequence encoding a first branch point, a nucleotide sequence encoding a first 3' splice site, a nucleotide sequence encoding an iREMS, a nucleotide sequence encoding a second branch point and a nucleotide sequence encoding a second 3' splice site, wherein the iREMS comprises a DNA sequence GAgtrngn (SEQ ID NO: 4), and wherein r is adenine or guanine and n is any nucleotide, the method comprising administering a compound described herein (for example, a compound of Formula (I) or a form thereof or another splicing inducer) to the subject.

[0061] In another embodiment, provided herein is a method for either preventing, treating or preventing and treating a disease in a subject in which the alteration (*e.g.*, increase or decrease) in the expression one, two, three or more protein isoforms encoded by a gene is beneficial to the prevention and/or treatment of the disease, wherein the gene comprises a DNA nucleotide sequence encoding two exons and an intron, wherein the nucleotide sequence encoding one exon is upstream of the nucleotide sequence encoding the intron and the nucleotide sequence encoding the other exon is downstream of the nucleotide sequence encoding the intron, wherein the DNA

nucleotide sequence of the intron comprises in 5' to 3' order: a nucleotide sequence encoding a first branch point, a nucleotide sequence encoding a first 3' splice site, and a nucleotide sequence encoding an iREMS, wherein the iREMS comprises a DNA sequence GAgtrngn (SEQ ID NO: 4), and wherein r is adenine or guanine and n is any nucleotide, the method comprising administering a compound described herein (for example, a compound of Formula (I) or a form thereof or another splicing inducer) to the subject.

[0062] In another embodiment, provided herein is a method for either preventing, treating or preventing and treating a disease in a subject in which the alteration (*e.g.*, increase or decrease) in the expression one, two, three or more protein isoforms encoded by a gene is beneficial to the prevention and/or treatment of the disease, wherein the gene comprises a DNA nucleotide sequence encoding two exons and an intron, and wherein the DNA nucleotide sequence comprises exonic and intronic elements illustrated in Figure 1A, the method comprising administering a compound described herein (for example, a compound of Formula (I) or a form thereof or another splicing inducer) to the subject.

[0063] In another embodiment, provided herein is a method for either preventing, treating or preventing and treating a disease in a subject in which the alteration (*e.g.*, increase or decrease) in the expression one, two, three or more protein isoforms encoded by a gene is beneficial to the prevention and/or treatment of the disease, wherein the gene comprises a DNA nucleotide sequence encoding two exons and an intron, and wherein the DNA nucleotide sequence comprises exonic and intronic elements illustrated in Figure 1B, the method comprising administering a compound described herein (for example, a compound of Formula (I) or a form thereof or another splicing inducer) to the subject.

[0064] In another embodiment, provided herein is a method for either preventing, treating or preventing and treating a disease in a subject in which the alteration (*e.g.*, increase or decrease) in the expression one, two, three or more protein isoforms encoded by a gene is beneficial to the prevention and/or treatment of the disease, wherein the gene comprises a DNA nucleotide sequence encoding two exons and an intron, and wherein the DNA nucleotide sequence comprises exonic and intronic elements illustrated in Figure 1C, the method comprising administering a compound described herein (for example, a compound of Formula (I) or a form thereof or another splicing inducer) to the subject.

[0065] In a specific embodiment, the gene is a gene described in a table in this disclosure.

[0066] In another aspect, provided herein are artificial gene constructs. In one embodiment, provided herein is an artificial gene construct comprising endogenous DNA is modified to introduce a non-endogenous nucleotide sequence encoding an intron comprising a 3' splice site(s) and a branch point(s) and an intronic REMS. In another embodiment, provided herein is an artificial gene construct comprising DNA encoding exons and one, two or more introns, wherein a nucleotide sequence encoding an intronic REMS, functioning as a 5' splice site in the presence of a compound described herein, which may be upstream of an endogenous nucleotide sequence encoding a branch point and an endogenous nucleotide sequence encoding a 3' splice site, is modified to introduce a nucleotide sequence encoding a non-endogenous branch point and a non-endogenous 3' splice site further upstream from the endogenous intronic REMS. In another embodiment, provided herein is an artificial gene construct comprising DNA encoding exons and one, two or more introns, wherein a nucleotide sequence encoding an intronic REMS 5' splice site, which may be downstream of an endogenous nucleotide sequence encoding a branch point and an endogenous nucleotide sequence encoding a 3' splice site, is modified to introduce a nucleotide sequence encoding a non-endogenous branch point and a non-endogenous 3' splice site further downstream from the endogenous intronic REMS. In another embodiment, provided herein is an artificial gene construct comprising DNA encoding an intronic REMS, comprising nucleotides encoding an intronic REMS having one or more 5' splice site(s), 3' splice site(s) and branch point(s). In certain embodiments, the artificial gene construct encodes a frameshift or premature stop codon or internal insertions or deletions within the open reading frame. In other embodiments, the artificial gene construct encodes a mature mRNA having a functional open reading frame, producing a novel protein which may or may not be functional. In some embodiments, the artificial gene construct encodes a detectable reporter protein. RNA transcripts having a non-functional open reading frame due to the inclusion of a frameshift, premature stop codon or internal insertions or deletions within the open reading frame can be substrates for nonsense-mediated decay and thus have low abundance. Any intronic REMS-mediated alternative splicing modified RNA transcripts may also have altered stability, altered intracellular transport, altered 3' end formation efficiency and altered translation efficiency.

[0067] In a specific embodiment, the nucleotide sequence of the intronic REMS introduced into the nucleotide sequence of the artificial gene construct comprises the sequence NNGAgtrngn (SEQ ID NO: 3), wherein r is adenine or guanine and n or N is any nucleotide. In

a specific embodiment, in the context of DNA, the nucleotide sequence encoding the intronic REMS comprises a sequence selected from the group consisting of ANGAgtrngn (SEQ ID NO: 1829), CNGAgtrngn (SEQ ID NO: 1835), GNGAgtrngn (SEQ ID NO: 1841), TNGAgtrngn (SEQ ID NO: 1847), NAGAgtrngn (SEQ ID NO: 1830), NCGAgtrngn (SEQ ID NO: 1836), NGGAgtrngn (SEQ ID NO: 1842), NTGAgtrngn (SEQ ID NO: 1848), AAGAgtrngn (SEQ ID NO: 1831), ACGAgtrngn (SEQ ID NO: 1837), AGGAgtrngn (SEQ ID NO: 1843), ATGAgtrngn (SEQ ID NO: 1849), CAGAgtrngn (SEQ ID NO: 1832), CCGAgtrngn (SEQ ID NO: 1838), CGGAgtrngn (SEQ ID NO: 1844), CTGAgtrngn (SEQ ID NO: 1850), GAGAgtrngn (SEQ ID NO: 1833), GCGAgtrngn (SEQ ID NO: 1839), GGGAgtrngn (SEQ ID NO: 1845), GTGAgtrngn (SEQ ID NO: 1851), TAGAgtrngn (SEQ ID NO: 1834), TCGAgtrngn (SEQ ID NO: 1840), TGGAgtrngn (SEQ ID NO: 1846) and TTGAgtrngn (SEQ ID NO: 1852), wherein r is adenine or guanine and n or N is any nucleotide.

[0068] In a further specific embodiment, in the context of DNA, the nucleotide sequence encoding the intronic REMS comprises a sequence selected from the group consisting of ANGAgtragt (SEQ ID NO: 2237), CNGAgtragt (SEQ ID NO: 2243), GNGAgtragt (SEQ ID NO: 2249), TNGAgtragt (SEQ ID NO: 2255), NAGAgtragt (SEQ ID NO: 2238), NCGAgtragt (SEQ ID NO: 2244), NGGAgtragt (SEQ ID NO: 2250), NTGAgtragt (SEQ ID NO: 2256), AAGAgtragt (SEQ ID NO: 2239), ACGAgtragt (SEQ ID NO: 2245), AGGAgtragt (SEQ ID NO: 2251), ATGAgtragt (SEQ ID NO: 2257), CAGAgtragt (SEQ ID NO: 2240), CCGAgtragt (SEQ ID NO: 2246), CGGAgtragt (SEQ ID NO: 2252), CTGAgtragt (SEQ ID NO: 2258), GAGAgtragt (SEQ ID NO: 2241), GCGAgtragt (SEQ ID NO: 2247), GGGAgtragt (SEQ ID NO: 2253), GTGAgtragt (SEQ ID NO: 2259), TAGAgtragt (SEQ ID NO: 2242), TCGAgtragt (SEQ ID NO: 2248), TGGAgtragt (SEQ ID NO: 2254) and TTGAgtragt (SEQ ID NO: 2260), wherein r is adenine or guanine and N is any nucleotide. In one or more embodiments provided herein, N is adenine or guanine. In various specific embodiments, the nucleotide sequence encoding the intronic REMS

is a nucleotide sequence encoding a non-endogenous intronic REMS, i.e., a precursor RNA transcript comprising the non-endogenous intronic REMS not naturally found in the DNA sequence of the artificial construct.

[0069] In a specific embodiment, the intronic REMS referred to in a method or artificial gene construct described herein comprises, at the DNA level, a sequence presented in the following table (wherein r is adenine or guanine, and n or N is any nucleotide):

[0070] Table 14. Intronic REMS DNA sequence (wherein r is adenine or guanine, and n or N is any nucleotide)

SEQ ID NO.	**Sequence**	**SEQ ID NO.**	**Sequence**	**SEQ ID NO.**	**Sequence**	**SEQ ID NO.**	**Sequence**
1829	ANGAgtrngn	1835	CNGAgtrngn	1841	GNGAgtrngn	1847	TNGAgtrngn
1830	NAGAgtrngn	1836	NCGAgtrngn	1842	NGGAgtrngn	1848	NTGAgtrngn
1831	AAGAgtrngn	1837	ACGAgtrngn	1843	AGGAgtrngn	1849	ATGAgtrngn
1832	CAGAgtrngn	1838	CCGAgtrngn	1844	CGGAgtrngn	1850	CTGAgtrngn
1833	GAGAgtrngn	1839	GCGAgtrngn	1845	GGGAgtrngn	1851	GTGAgtrngn
1834	TAGAgtrngn	1840	TCGAgtrngn	1846	TGGAgtrngn	1852	TTGAgtrngn

[0071] Table 14 (cont). Intronic REMS DNA sequence (wherein r is adenine or guanine, and n or N is any nucleotide)

SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence
1853	ANGAgtragn	1877	ANGAgtrcgn	1901	ANGAgtrggn	1925	ANGAgtrtgn
1854	NAGAgtragn	1878	NAGAgtrcgn	1902	NAGAgtrggn	1926	NAGAgtrtgn
1855	AAGAgtragn	1879	AAGAgtrcgn	1903	AAGAgtrggn	1927	AAGAgtrtgn
1856	CAGAgtragn	1880	CAGAgtrcgn	1904	CAGAgtrggn	1928	CAGAgtrtgn
1857	GAGAgtragn	1881	GAGAgtrcgn	1905	GAGAgtrggn	1929	GAGAgtrtgn
1858	TAGAgtragn	1882	TAGAgtrcgn	1906	TAGAgtrggn	1930	TAGAgtrtgn
1859	CNGAgtragn	1883	CNGAgtrcgn	1907	CNGAgtrggn	1931	CNGAgtrtgn
1860	NCGAgtragn	1884	NCGAgtrcgn	1908	NCGAgtrggn	1932	NCGAgtrtgn
1861	ACGAgtragn	1885	ACGAgtrcgn	1909	ACGAgtrggn	1933	ACGAgtrtgn
1862	CCGAgtragn	1886	CCGAgtrcgn	1910	CCGAgtrggn	1934	CCGAgtrtgn
1863	GCGAgtragn	1887	GCGAgtrcgn	1911	GCGAgtrggn	1935	GCGAgtrtgn
1864	TCGAgtragn	1888	TCGAgtrcgn	1912	TCGAgtrggn	1936	TCGAgtrtgn
1865	GNGAgtragn	1889	GNGAgtrcgn	1913	GNGAgtrggn	1937	GNGAgtrtgn
1866	NGGAgtragn	1890	NGGAgtrcgn	1914	NGGAgtrggn	1938	NGGAgtrtgn
1867	AGGAgtragn	1891	AGGAgtrcgn	1915	AGGAgtrggn	1939	AGGAgtrtgn
1868	CGGAgtragn	1892	CGGAgtrcgn	1916	CGGAgtrggn	1940	CGGAgtrtgn
1869	GGGAgtragn	1893	GGGAgtrcgn	1917	GGGAgtrggn	1941	GGGAgtrtgn
1870	TGGAgtragn	1894	TGGAgtrcgn	1918	TGGAgtrggn	1942	TGGAgtrtgn
1871	TNGAgtragn	1895	TNGAgtrcgn	1919	TNGAgtrggn	1943	TNGAgtrtgn
1872	NTGAgtragn	1896	NTGAgtrcgn	1920	NTGAgtrggn	1944	NTGAgtrtgn
1873	ATGAgtragn	1897	ATGAgtrcgn	1921	ATGAgtrggn	1945	ATGAgtrtgn
1874	CTGAgtragn	1898	CTGAgtrcgn	1922	CTGAgtrggn	1946	CTGAgtrtgn
1875	GTGAgtragn	1899	GTGAgtrcgn	1923	GTGAgtrggn	1947	GTGAgtrtgn
1876	TTGAgtragn	1900	TTGAgtrcgn	1924	TTGAgtrggn	1948	TTGAgtrtgn

[0072] Table 14 (cont). Intronic REMS DNA sequence (wherein r is adenine or guanine, and n or N is any nucleotide)

SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence
1949	ANGAgtraga	1973	ANGAgtrcga	1997	ANGAgtrgga	2021	ANGAgtrtga
1950	NAGAgtraga	1974	NAGAgtrcga	1998	NAGAgtrgga	2022	NAGAgtrtga
1951	AAGAgtraga	1975	AAGAgtrcga	1999	AAGAgtrgga	2023	AAGAgtrtga
1952	CAGAgtraga	1976	CAGAgtrcga	2000	CAGAgtrgga	2024	CAGAgtrtga
1953	GAGAgtraga	1977	GAGAgtrcga	2001	GAGAgtrgga	2025	GAGAgtrtga
1954	TAGAgtraga	1978	TAGAgtrcga	2002	TAGAgtrgga	2026	TAGAgtrtga
1955	CNGAgtraga	1979	CNGAgtrcga	2003	CNGAgtrgga	2027	CNGAgtrtga
1956	NCGAgtraga	1980	NCGAgtrcga	2004	NCGAgtrgga	2028	NCGAgtrtga
1957	ACGAgtraga	1981	ACGAgtrcga	2005	ACGAgtrgga	2029	ACGAgtrtga
1958	CCGAgtraga	1982	CCGAgtrcga	2006	CCGAgtrgga	2030	CCGAgtrtga
1959	GCGAgtraga	1983	GCGAgtrcga	2007	GCGAgtrgga	2031	GCGAgtrtga
1960	TCGAgtraga	1984	TCGAgtrcga	2008	TCGAgtrgga	2032	TCGAgtrtga
1961	GNGAgtraga	1985	GNGAgtrcga	2009	GNGAgtrgga	2033	GNGAgtrtga
1962	NGGAgtraga	1986	NGGAgtrcga	2010	NGGAgtrgga	2034	NGGAgtrtga
1963	AGGAgtraga	1987	AGGAgtrcga	2011	AGGAgtrgga	2035	AGGAgtrtga
1964	CGGAgtraga	1988	CGGAgtrcga	2012	CGGAgtrgga	2036	CGGAgtrtga
1965	GGGAgtraga	1989	GGGAgtrcga	2013	GGGAgtrgga	2037	GGGAgtrtga
1966	TGGAgtraga	1990	TGGAgtrcga	2014	TGGAgtrgga	2038	TGGAgtrtga
1967	TNGAgtraga	1991	TNGAgtrcga	2015	TNGAgtrgga	2039	TNGAgtrtga
1968	NTGAgtraga	1992	NTGAgtrcga	2016	NTGAgtrgga	2040	NTGAgtrtga
1969	ATGAgtraga	1993	ATGAgtrcga	2017	ATGAgtrgga	2041	ATGAgtrtga
1970	CTGAgtraga	1994	CTGAgtrcga	2018	CTGAgtrgga	2042	CTGAgtrtga
1971	GTGAgtraga	1995	GTGAgtrcga	2019	GTGAgtrgga	2043	GTGAgtrtga
1972	TTGAgtraga	1996	TTGAgtrcga	2020	TTGAgtrgga	2044	TTGAgtrtga

[0073] Table 14 (cont). Intronic REMS DNA sequence (wherein r is adenine or guanine, and n or N is any nucleotide)

SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence
2045	ANGAgtragc	2069	ANGAgtrcgc	2093	ANGAgtrggc	2117	ANGAgtrtgc
2046	NAGAgtragc	2070	NAGAgtrcgc	2094	NAGAgtrggc	2118	NAGAgtrtgc
2047	AAGAgtragc	2071	AAGAgtrcgc	2095	AAGAgtrggc	2119	AAGAgtrtgc
2048	CAGAgtragc	2072	CAGAgtrcgc	2096	CAGAgtrggc	2120	CAGAgtrtgc
2049	GAGAgtragc	2073	GAGAgtrcgc	2097	GAGAgtrggc	2121	GAGAgtrtgc
2050	TAGAgtragc	2074	TAGAgtrcgc	2098	TAGAgtrggc	2122	TAGAgtrtgc
2051	CNGAgtragc	2075	CNGAgtrcgc	2099	CNGAgtrggc	2123	CNGAgtrtgc
2052	NCGAgtragc	2076	NCGAgtrcgc	2100	NCGAgtrggc	2124	NCGAgtrtgc
2053	ACGAgtragc	2077	ACGAgtrcgc	2101	ACGAgtrggc	2125	ACGAgtrtgc
2054	CCGAgtragc	2078	CCGAgtrcgc	2102	CCGAgtrggc	2126	CCGAgtrtgc
2055	GCGAgtragc	2079	GCGAgtrcgc	2103	GCGAgtrggc	2127	GCGAgtrtgc
2056	TCGAgtragc	2080	TCGAgtrcgc	2104	TCGAgtrggc	2128	TCGAgtrtgc
2057	GNGAgtragc	2081	GNGAgtrcgc	2105	GNGAgtrggc	2129	GNGAgtrtgc
2058	NGGAgtragc	2082	NGGAgtrcgc	2106	NGGAgtrggc	2130	NGGAgtrtgc
2059	AGGAgtragc	2083	AGGAgtrcgc	2107	AGGAgtrggc	2131	AGGAgtrtgc
2060	CGGAgtragc	2084	CGGAgtrcgc	2108	CGGAgtrggc	2132	CGGAgtrtgc
2061	GGGAgtragc	2085	GGGAgtrcgc	2109	GGGAgtrggc	2133	GGGAgtrtgc
2062	TGGAgtragc	2086	TGGAgtrcgc	2110	TGGAgtrggc	2134	TGGAgtrtgc
2063	TNGAgtragc	2087	TNGAgtrcgc	2111	TNGAgtrggc	2135	TNGAgtrtgc
2064	NTGAgtragc	2088	NTGAgtrcgc	2112	NTGAgtrggc	2136	NTGAgtrtgc
2065	ATGAgtragc	2089	ATGAgtrcgc	2113	ATGAgtrggc	2137	ATGAgtrtgc
2066	CTGAgtragc	2090	CTGAgtrcgc	2114	CTGAgtrggc	2138	CTGAgtrtgc
2067	GTGAgtragc	2091	GTGAgtrcgc	2115	GTGAgtrggc	2139	GTGAgtrtgc
2068	TTGAgtragc	2092	TTGAgtrcgc	2116	TTGAgtrggc	2140	TTGAgtrtgc

[0074] Table 14 (cont). Intronic REMS DNA sequence (wherein r is adenine or guanine, and n or N is any nucleotide)

SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence
2141	ANGAgtragg	2165	ANGAgtrcgg	2189	ANGAgtrggg	2213	ANGAgtrtgg
2142	NAGAgtragg	2166	NAGAgtrcgg	2190	NAGAgtrggg	2214	NAGAgtrtgg
2143	AAGAgtragg	2167	AAGAgtrcgg	2191	AAGAgtrggg	2215	AAGAgtrtgg
2144	CAGAgtragg	2168	CAGAgtrcgg	2192	CAGAgtrggg	2216	CAGAgtrtgg
2145	GAGAgtragg	2169	GAGAgtrcgg	2193	GAGAgtrggg	2217	GAGAgtrtgg
2146	TAGAgtragg	2170	TAGAgtrcgg	2194	TAGAgtrggg	2218	TAGAgtrtgg
2147	CNGAgtragg	2171	CNGAgtrcgg	2195	CNGAgtrggg	2219	CNGAgtrtgg
2148	NCGAgtragg	2172	NCGAgtrcgg	2196	NCGAgtrggg	2220	NCGAgtrtgg
2149	ACGAgtragg	2173	ACGAgtrcgg	2197	ACGAgtrggg	2221	ACGAgtrtgg
2150	CCGAgtragg	2174	CCGAgtrcgg	2198	CCGAgtrggg	2222	CCGAgtrtgg
2151	GCGAgtragg	2175	GCGAgtrcgg	2199	GCGAgtrggg	2223	GCGAgtrtgg
2152	TCGAgtragg	2176	TCGAgtrcgg	2200	TCGAgtrggg	2224	TCGAgtrtgg
2153	GNGAgtragg	2177	GNGAgtrcgg	2201	GNGAgtrggg	2225	GNGAgtrtgg
2154	NGGAgtragg	2178	NGGAgtrcgg	2202	NGGAgtrggg	2226	NGGAgtrtgg
2155	AGGAgtragg	2179	AGGAgtrcgg	2203	AGGAgtrggg	2227	AGGAgtrtgg
2156	CGGAgtragg	2180	CGGAgtrcgg	2204	CGGAgtrggg	2228	CGGAgtrtgg
2157	GGGAgtragg	2181	GGGAgtrcgg	2205	GGGAgtrggg	2229	GGGAgtrtgg
2158	TGGAgtragg	2182	TGGAgtrcgg	2206	TGGAgtrggg	2230	TGGAgtrtgg
2159	TNGAgtragg	2183	TNGAgtrcgg	2207	TNGAgtrggg	2231	TNGAgtrtgg
2160	NTGAgtragg	2184	NTGAgtrcgg	2208	NTGAgtrggg	2232	NTGAgtrtgg
2161	ATGAgtragg	2185	ATGAgtrcgg	2209	ATGAgtrggg	2233	ATGAgtrtgg
2162	CTGAgtragg	2186	CTGAgtrcgg	2210	CTGAgtrggg	2234	CTGAgtrtgg
2163	GTGAgtragg	2187	GTGAgtrcgg	2211	GTGAgtrggg	2235	GTGAgtrtgg
2164	TTGAgtragg	2188	TTGAgtrcgg	2212	TTGAgtrggg	2236	TTGAgtrtgg

[0075] Table 14 (cont). Intronic REMS DNA sequence (wherein r is adenine or guanine, and n or N is any nucleotide)

SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence
2237	ANGAgtragt	2261	ANGAgtrcgt	2285	ANGAgtrggt	2309	ANGAgtrtgt
2238	NAGAgtragt	2262	NAGAgtrcgt	2286	NAGAgtrggt	2310	NAGAgtrtgt
2239	AAGAgtragt	2263	AAGAgtrcgt	2287	AAGAgtrggt	2311	AAGAgtrtgt
2240	CAGAgtragt	2264	CAGAgtrcgt	2288	CAGAgtrggt	2312	CAGAgtrtgt
2241	GAGAgtragt	2265	GAGAgtrcgt	2289	GAGAgtrggt	2313	GAGAgtrtgt
2242	TAGAgtragt	2266	TAGAgtrcgt	2290	TAGAgtrggt	2314	TAGAgtrtgt
2243	CNGAgtragt	2267	CNGAgtrcgt	2291	CNGAgtrggt	2315	CNGAgtrtgt
2244	NCGAgtragt	2268	NCGAgtrcgt	2292	NCGAgtrggt	2316	NCGAgtrtgt
2245	ACGAgtragt	2269	ACGAgtrcgt	2293	ACGAgtrggt	2317	ACGAgtrtgt
2246	CCGAgtragt	2270	CCGAgtrcgt	2294	CCGAgtrggt	2318	CCGAgtrtgt
2247	GCGAgtragt	2271	GCGAgtrcgt	2295	GCGAgtrggt	2319	GCGAgtrtgt
2248	TCGAgtragt	2272	TCGAgtrcgt	2296	TCGAgtrggt	2320	TCGAgtrtgt
2249	GNGAgtragt	2273	GNGAgtrcgt	2297	GNGAgtrggt	2321	GNGAgtrtgt
2250	NGGAgtragt	2274	NGGAgtrcgt	2298	NGGAgtrggt	2322	NGGAgtrtgt
2251	AGGAgtragt	2275	AGGAgtrcgt	2299	AGGAgtrggt	2323	AGGAgtrtgt
2252	CGGAgtragt	2276	CGGAgtrcgt	2300	CGGAgtrggt	2324	CGGAgtrtgt
2253	GGGAgtragt	2277	GGGAgtrcgt	2301	GGGAgtrggt	2325	GGGAgtrtgt
2254	TGGAgtragt	2278	TGGAgtrcgt	2302	TGGAgtrggt	2326	TGGAgtrtgt
2255	TNGAgtragt	2279	TNGAgtrcgt	2303	TNGAgtrggt	2327	TNGAgtrtgt
2256	NTGAgtragt	2280	NTGAgtrcgt	2304	NTGAgtrggt	2328	NTGAgtrtgt
2257	ATGAgtragt	2281	ATGAgtrcgt	2305	ATGAgtrggt	2329	ATGAgtrtgt
2258	CTGAgtragt	2282	CTGAgtrcgt	2306	CTGAgtrggt	2330	CTGAgtrtgt
2259	GTGAgtragt	2283	GTGAgtrcgt	2307	GTGAgtrggt	2331	GTGAgtrtgt
2260	TTGAgtragt	2284	TTGAgtrcgt	2308	TTGAgtrggt	2332	TTGAgtrtgt

[0076] Table 14 (cont). Intronic REMS DNA sequence (wherein r is adenine or guanine, and n or N is any nucleotide)

SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence
2333	ANGAgtrnga	2357	ANGAgtrngc	2381	ANGAgtrngg	2405	ANGAgtrngt
2334	NAGAgtrnga	2358	NAGAgtrngc	2382	NAGAgtrngg	2406	NAGAgtrngt
2335	AAGAgtrnga	2359	AAGAgtrngc	2383	AAGAgtrngg	2407	AAGAgtrngt
2336	CAGAgtrnga	2360	CAGAgtrngc	2384	CAGAgtrngg	2408	CAGAgtrngt
2337	GAGAgtrnga	2361	GAGAgtrngc	2385	GAGAgtrngg	2409	GAGAgtrngt
2338	TAGAgtrnga	2362	TAGAgtrngc	2386	TAGAgtrngg	2410	TAGAgtrngt
2339	CNGAgtrnga	2363	CNGAgtrngc	2387	CNGAgtrngg	2411	CNGAgtrngt
2340	NCGAgtrnga	2364	NCGAgtrngc	2388	NCGAgtrngg	2412	NCGAgtrngt
2341	ACGAgtrnga	2365	ACGAgtrngc	2389	ACGAgtrngg	2413	ACGAgtrngt
2342	CCGAgtrnga	2366	CCGAgtrngc	2390	CCGAgtrngg	2414	CCGAgtrngt
2343	GCGAgtrnga	2367	GCGAgtrngc	2391	GCGAgtrngg	2415	GCGAgtrngt
2344	TCGAgtrnga	2368	TCGAgtrngc	2392	TCGAgtrngg	2416	TCGAgtrngt
2345	GNGAgtrnga	2369	GNGAgtrngc	2393	GNGAgtrngg	2417	GNGAgtrngt
2346	NGGAgtrnga	2370	NGGAgtrngc	2394	NGGAgtrngg	2418	NGGAgtrngt
2347	AGGAgtrnga	2371	AGGAgtrngc	2395	AGGAgtrngg	2419	AGGAgtrngt
2348	CGGAgtrnga	2372	CGGAgtrngc	2396	CGGAgtrngg	2420	CGGAgtrngt
2349	GGGAgtrnga	2373	GGGAgtrngc	2397	GGGAgtrngg	2421	GGGAgtrngt
2350	TGGAgtrnga	2374	TGGAgtrngc	2398	TGGAgtrngg	2422	TGGAgtrngt
2351	TNGAgtrnga	2375	TNGAgtrngc	2399	TNGAgtrngg	2423	TNGAgtrngt
2352	NTGAgtrnga	2376	NTGAgtrngc	2400	NTGAgtrngg	2424	NTGAgtrngt
2353	ATGAgtrnga	2377	ATGAgtrngc	2401	ATGAgtrngg	2425	ATGAgtrngt
2354	CTGAgtrnga	2378	CTGAgtrngc	2402	CTGAgtrngg	2426	CTGAgtrngt
2355	GTGAgtrnga	2379	GTGAgtrngc	2403	GTGAgtrngg	2427	GTGAgtrngt
2356	TTGAgtrnga	2380	TTGAgtrngc	2404	TTGAgtrngg	2428	TTGAgtrngt

[0077] Table 14 (cont). Intronic REMS DNA sequence (wherein r is adenine or guanine, and n or N is any nucleotide)

SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence
2429	ANGAgtangn	2453	ANGAgtaagn	2477	ANGAgtacgn	2501	ANGAgtaggn
2430	NAGAgtangn	2454	NAGAgtaagn	2478	NAGAgtacgn	2502	NAGAgtaggn
2431	AAGAgtangn	2455	AAGAgtaagn	2479	AAGAgtacgn	2503	AAGAgtaggn
2432	CAGAgtangn	2456	CAGAgtaagn	2480	CAGAgtacgn	2504	CAGAgtaggn
2433	GAGAgtangn	2457	GAGAgtaagn	2481	GAGAgtacgn	2505	GAGAgtaggn
2434	TAGAgtangn	2458	TAGAgtaagn	2482	TAGAgtacgn	2506	TAGAgtaggn
2435	CNGAgtangn	2459	CNGAgtaagn	2483	CNGAgtacgn	2507	CNGAgtaggn
2436	NCGAgtangn	2460	NCGAgtaagn	2484	NCGAgtacgn	2508	NCGAgtaggn
2437	ACGAgtangn	2461	ACGAgtaagn	2485	ACGAgtacgn	2509	ACGAgtaggn
2438	CCGAgtangn	2462	CCGAgtaagn	2486	CCGAgtacgn	2510	CCGAgtaggn
2439	GCGAgtangn	2463	GCGAgtaagn	2487	GCGAgtacgn	2511	GCGAgtaggn
2440	TCGAgtangn	2464	TCGAgtaagn	2488	TCGAgtacgn	2512	TCGAgtaggn
2441	GNGAgtangn	2465	GNGAgtaagn	2489	GNGAgtacgn	2513	GNGAgtaggn
2442	NGGAgtangn	2466	NGGAgtaagn	2490	NGGAgtacgn	2514	NGGAgtaggn
2443	AGGAgtangn	2467	AGGAgtaagn	2491	AGGAgtacgn	2515	AGGAgtaggn
2444	CGGAgtangn	2468	CGGAgtaagn	2492	CGGAgtacgn	2516	CGGAgtaggn
2445	GGGAgtangn	2469	GGGAgtaagn	2493	GGGAgtacgn	2517	GGGAgtaggn
2446	TGGAgtangn	2470	TGGAgtaagn	2494	TGGAgtacgn	2518	TGGAgtaggn
2447	TNGAgtangn	2471	TNGAgtaagn	2495	TNGAgtacgn	2519	TNGAgtaggn
2448	NTGAgtangn	2472	NTGAgtaagn	2496	NTGAgtacgn	2520	NTGAgtaggn
2449	ATGAgtangn	2473	ATGAgtaagn	2497	ATGAgtacgn	2521	ATGAgtaggn
2450	CTGAgtangn	2474	CTGAgtaagn	2498	CTGAgtacgn	2522	CTGAgtaggn
2451	GTGAgtangn	2475	GTGAgtaagn	2499	GTGAgtacgn	2523	GTGAgtaggn
2452	TTGAgtangn	2476	TTGAgtaagn	2500	TTGAgtacgn	2524	TTGAgtaggn

[0078] Table 14 (cont). Intronic REMS DNA sequence (wherein r is adenine or guanine, and n or N is any nucleotide)

SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence
2525	ANGAgtatgn	2549	ANGAgtaaga	2573	ANGAgtacga	2597	ANGAgtagga
2526	NAGAgtatgn	2550	NAGAgtaaga	2574	NAGAgtacga	2598	NAGAgtagga
2527	AAGAgtatgn	2551	AAGAgtaaga	2575	AAGAgtacga	2599	AAGAgtagga
2528	CAGAgtatgn	2552	CAGAgtaaga	2576	CAGAgtacga	2600	CAGAgtagga
2529	GAGAgtatgn	2553	GAGAgtaaga	2577	GAGAgtacga	2601	GAGAgtagga
2530	TAGAgtatgn	2554	TAGAgtaaga	2578	TAGAgtacga	2602	TAGAgtagga
2531	CNGAgtatgn	2555	CNGAgtaaga	2579	CNGAgtacga	2603	CNGAgtagga
2532	NCGAgtatgn	2556	NCGAgtaaga	2580	NCGAgtacga	2604	NCGAgtagga
2533	ACGAgtatgn	2557	ACGAgtaaga	2581	ACGAgtacga	2605	ACGAgtagga
2534	CCGAgtatgn	2558	CCGAgtaaga	2582	CCGAgtacga	2606	CCGAgtagga
2535	GCGAgtatgn	2559	GCGAgtaaga	2583	GCGAgtacga	2607	GCGAgtagga
2536	TCGAgtatgn	2560	TCGAgtaaga	2584	TCGAgtacga	2608	TCGAgtagga
2537	GNGAgtatgn	2561	GNGAgtaaga	2585	GNGAgtacga	2609	GNGAgtagga
2538	NGGAgtatgn	2562	NGGAgtaaga	2586	NGGAgtacga	2610	NGGAgtagga
2539	AGGAgtatgn	2563	AGGAgtaaga	2587	AGGAgtacga	2611	AGGAgtagga
2540	CGGAgtatgn	2564	CGGAgtaaga	2588	CGGAgtacga	2612	CGGAgtagga
2541	GGGAgtatgn	2565	GGGAgtaaga	2589	GGGAgtacga	2613	GGGAgtagga
2542	TGGAgtatgn	2566	TGGAgtaaga	2590	TGGAgtacga	2614	TGGAgtagga
2543	TNGAgtatgn	2567	TNGAgtaaga	2591	TNGAgtacga	2615	TNGAgtagga
2544	NTGAgtatgn	2568	NTGAgtaaga	2592	NTGAgtacga	2616	NTGAgtagga
2545	ATGAgtatgn	2569	ATGAgtaaga	2593	ATGAgtacga	2617	ATGAgtagga
2546	CTGAgtatgn	2570	CTGAgtaaga	2594	CTGAgtacga	2618	CTGAgtagga
2547	GTGAgtatgn	2571	GTGAgtaaga	2595	GTGAgtacga	2619	GTGAgtagga
2548	TTGAgtatgn	2572	TTGAgtaaga	2596	TTGAgtacga	2620	TTGAgtagga

[0079] Table 14 (cont). Intronic REMS DNA sequence (wherein r is adenine or guanine, and n or N is any nucleotide)

SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence
2621	ANGAgtatga	2645	ANGAgtaagc	2669	ANGAgtacgc	2693	ANGAgtaggc
2622	NAGAgtatga	2646	NAGAgtaagc	2670	NAGAgtacgc	2694	NAGAgtaggc
2623	AAGAgtatga	2647	AAGAgtaagc	2671	AAGAgtacgc	2695	AAGAgtaggc
2624	CAGAgtatga	2648	CAGAgtaagc	2672	CAGAgtacgc	2696	CAGAgtaggc
2625	GAGAgtatga	2649	GAGAgtaagc	2673	GAGAgtacgc	2697	GAGAgtaggc
2626	TAGAgtatga	2650	TAGAgtaagc	2674	TAGAgtacgc	2698	TAGAgtaggc
2627	CNGAgtatga	2651	CNGAgtaagc	2675	CNGAgtacgc	2699	CNGAgtaggc
2628	NCGAgtatga	2652	NCGAgtaagc	2676	NCGAgtacgc	2700	NCGAgtaggc
2629	ACGAgtatga	2653	ACGAgtaagc	2677	ACGAgtacgc	2701	ACGAgtaggc
2630	CCGAgtatga	2654	CCGAgtaagc	2678	CCGAgtacgc	2702	CCGAgtaggc
2631	GCGAgtatga	2655	GCGAgtaagc	2679	GCGAgtacgc	2703	GCGAgtaggc
2632	TCGAgtatga	2656	TCGAgtaagc	2680	TCGAgtacgc	2704	TCGAgtaggc
2633	GNGAgtatga	2657	GNGAgtaagc	2681	GNGAgtacgc	2705	GNGAgtaggc
2634	NGGAgtatga	2658	NGGAgtaagc	2682	NGGAgtacgc	2706	NGGAgtaggc
2635	AGGAgtatga	2659	AGGAgtaagc	2683	AGGAgtacgc	2707	AGGAgtaggc
2636	CGGAgtatga	2660	CGGAgtaagc	2684	CGGAgtacgc	2708	CGGAgtaggc
2637	GGGAgtatga	2661	GGGAgtaagc	2685	GGGAgtacgc	2709	GGGAgtaggc
2638	TGGAgtatga	2662	TGGAgtaagc	2686	TGGAgtacgc	2710	TGGAgtaggc
2639	TNGAgtatga	2663	TNGAgtaagc	2687	TNGAgtacgc	2711	TNGAgtaggc
2640	NTGAgtatga	2664	NTGAgtaagc	2688	NTGAgtacgc	2712	NTGAgtaggc
2641	ATGAgtatga	2665	ATGAgtaagc	2689	ATGAgtacgc	2713	ATGAgtaggc
2642	CTGAgtatga	2666	CTGAgtaagc	2690	CTGAgtacgc	2714	CTGAgtaggc
2643	GTGAgtatga	2667	GTGAgtaagc	2691	GTGAgtacgc	2715	GTGAgtaggc
2644	TTGAgtatga	2668	TTGAgtaagc	2692	TTGAgtacgc	2716	TTGAgtaggc

[0080] Table 14 (cont). Intronic REMS DNA sequence (wherein r is adenine or guanine, and n or N is any nucleotide)

SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence
2717	ANGAgtatgc	2741	ANGAgtaagg	2765	ANGAgtacgg	2789	ANGAgtaggg
2718	NAGAgtatgc	2742	NAGAgtaagg	2766	NAGAgtacgg	2790	NAGAgtaggg
2719	AAGAgtatgc	2743	AAGAgtaagg	2767	AAGAgtacgg	2791	AAGAgtaggg
2720	CAGAgtatgc	2744	CAGAgtaagg	2768	CAGAgtacgg	2792	CAGAgtaggg
2721	GAGAgtatgc	2745	GAGAgtaagg	2769	GAGAgtacgg	2793	GAGAgtaggg
2722	TAGAgtatgc	2746	TAGAgtaagg	2770	TAGAgtacgg	2794	TAGAgtaggg
2723	CNGAgtatgc	2747	CNGAgtaagg	2771	CNGAgtacgg	2795	CNGAgtaggg
2724	NCGAgtatgc	2748	NCGAgtaagg	2772	NCGAgtacgg	2796	NCGAgtaggg
2725	ACGAgtatgc	2749	ACGAgtaagg	2773	ACGAgtacgg	2797	ACGAgtaggg
2726	CCGAgtatgc	2750	CCGAgtaagg	2774	CCGAgtacgg	2798	CCGAgtaggg
2727	GCGAgtatgc	2751	GCGAgtaagg	2775	GCGAgtacgg	2799	GCGAgtaggg
2728	TCGAgtatgc	2752	TCGAgtaagg	2776	TCGAgtacgg	2800	TCGAgtaggg
2729	GNGAgtatgc	2753	GNGAgtaagg	2777	GNGAgtacgg	2801	GNGAgtaggg
2730	NGGAgtatgc	2754	NGGAgtaagg	2778	NGGAgtacgg	2802	NGGAgtaggg
2731	AGGAgtatgc	2755	AGGAgtaagg	2779	AGGAgtacgg	2803	AGGAgtaggg
2732	CGGAgtatgc	2756	CGGAgtaagg	2780	CGGAgtacgg	2804	CGGAgtaggg
2733	GGGAgtatgc	2757	GGGAgtaagg	2781	GGGAgtacgg	2805	GGGAgtaggg
2734	TGGAgtatgc	2758	TGGAgtaagg	2782	TGGAgtacgg	2806	TGGAgtaggg
2735	TNGAgtatgc	2759	TNGAgtaagg	2783	TNGAgtacgg	2807	TNGAgtaggg
2736	NTGAgtatgc	2760	NTGAgtaagg	2784	NTGAgtacgg	2808	NTGAgtaggg
2737	ATGAgtatgc	2761	ATGAgtaagg	2785	ATGAgtacgg	2809	ATGAgtaggg
2738	CTGAgtatgc	2762	CTGAgtaagg	2786	CTGAgtacgg	2810	CTGAgtaggg
2739	GTGAgtatgc	2763	GTGAgtaagg	2787	GTGAgtacgg	2811	GTGAgtaggg
2740	TTGAgtatgc	2764	TTGAgtaagg	2788	TTGAgtacgg	2812	TTGAgtaggg

[0081] Table 14 (cont). Intronic REMS DNA sequence (wherein r is adenine or guanine, and n or N is any nucleotide)

SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence
2813	ANGAgtatgg	2837	ANGAgtaagt	2861	ANGAgtacgt	2885	ANGAgtaggt
2814	NAGAgtatgg	2838	NAGAgtaagt	2862	NAGAgtacgt	2886	NAGAgtaggt
2815	AAGAgtatgg	2839	AAGAgtaagt	2863	AAGAgtacgt	2887	AAGAgtaggt
2816	CAGAgtatgg	2840	CAGAgtaagt	2864	CAGAgtacgt	2888	CAGAgtaggt
2817	GAGAgtatgg	2841	GAGAgtaagt	2865	GAGAgtacgt	2889	GAGAgtaggt
2818	TAGAgtatgg	2842	TAGAgtaagt	2866	TAGAgtacgt	2890	TAGAgtaggt
2819	CNGAgtatgg	2843	CNGAgtaagt	2867	CNGAgtacgt	2891	CNGAgtaggt
2820	NCGAgtatgg	2844	NCGAgtaagt	2868	NCGAgtacgt	2892	NCGAgtaggt
2821	ACGAgtatgg	2845	ACGAgtaagt	2869	ACGAgtacgt	2893	ACGAgtaggt
2822	CCGAgtatgg	2846	CCGAgtaagt	2870	CCGAgtacgt	2894	CCGAgtaggt
2823	GCGAgtatgg	2847	GCGAgtaagt	2871	GCGAgtacgt	2895	GCGAgtaggt
2824	TCGAgtatgg	2848	TCGAgtaagt	2872	TCGAgtacgt	2896	TCGAgtaggt
2825	GNGAgtatgg	2849	GNGAgtaagt	2873	GNGAgtacgt	2897	GNGAgtaggt
2826	NGGAgtatgg	2850	NGGAgtaagt	2874	NGGAgtacgt	2898	NGGAgtaggt
2827	AGGAgtatgg	2851	AGGAgtaagt	2875	AGGAgtacgt	2899	AGGAgtaggt
2828	CGGAgtatgg	2852	CGGAgtaagt	2876	CGGAgtacgt	2900	CGGAgtaggt
2829	GGGAgtatgg	2853	GGGAgtaagt	2877	GGGAgtacgt	2901	GGGAgtaggt
2830	TGGAgtatgg	2854	TGGAgtaagt	2878	TGGAgtacgt	2902	TGGAgtaggt
2831	TNGAgtatgg	2855	TNGAgtaagt	2879	TNGAgtacgt	2903	TNGAgtaggt
2832	NTGAgtatgg	2856	NTGAgtaagt	2880	NTGAgtacgt	2904	NTGAgtaggt
2833	ATGAgtatgg	2857	ATGAgtaagt	2881	ATGAgtacgt	2905	ATGAgtaggt
2834	CTGAgtatgg	2858	CTGAgtaagt	2882	CTGAgtacgt	2906	CTGAgtaggt
2835	GTGAgtatgg	2859	GTGAgtaagt	2883	GTGAgtacgt	2907	GTGAgtaggt
2836	TTGAgtatgg	2860	TTGAgtaagt	2884	TTGAgtacgt	2908	TTGAgtaggt

[0082] Table 14 (cont). Intronic REMS DNA sequence (wherein r is adenine or guanine, and n or N is any nucleotide)

SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence
2909	ANGAgtatgt	2933	ANGAgtanga	2957	ANGAgtangc	2981	ANGAgtangg
2910	NAGAgtatgt	2934	NAGAgtanga	2958	NAGAgtangc	2982	NAGAgtangg
2911	AAGAgtatgt	2935	AAGAgtanga	2959	AAGAgtangc	2983	AAGAgtangg
2912	CAGAgtatgt	2936	CAGAgtanga	2960	CAGAgtangc	2984	CAGAgtangg
2913	GAGAgtatgt	2937	GAGAgtanga	2961	GAGAgtangc	2985	GAGAgtangg
2914	TAGAgtatgt	2938	TAGAgtanga	2962	TAGAgtangc	2986	TAGAgtangg
2915	CNGAgtatgt	2939	CNGAgtanga	2963	CNGAgtangc	2987	CNGAgtangg
2916	NCGAgtatgt	2940	NCGAgtanga	2964	NCGAgtangc	2988	NCGAgtangg
2917	ACGAgtatgt	2941	ACGAgtanga	2965	ACGAgtangc	2989	ACGAgtangg
2918	CCGAgtatgt	2942	CCGAgtanga	2966	CCGAgtangc	2990	CCGAgtangg
2919	GCGAgtatgt	2943	GCGAgtanga	2967	GCGAgtangc	2991	GCGAgtangg
2920	TCGAgtatgt	2944	TCGAgtanga	2968	TCGAgtangc	2992	TCGAgtangg
2921	GNGAgtatgt	2945	GNGAgtanga	2969	GNGAgtangc	2993	GNGAgtangg
2922	NGGAgtatgt	2946	NGGAgtanga	2970	NGGAgtangc	2994	NGGAgtangg
2923	AGGAgtatgt	2947	AGGAgtanga	2971	AGGAgtangc	2995	AGGAgtangg
2924	CGGAgtatgt	2948	CGGAgtanga	2972	CGGAgtangc	2996	CGGAgtangg
2925	GGGAgtatgt	2949	GGGAgtanga	2973	GGGAgtangc	2997	GGGAgtangg
2926	TGGAgtatgt	2950	TGGAgtanga	2974	TGGAgtangc	2998	TGGAgtangg
2927	TNGAgtatgt	2951	TNGAgtanga	2975	TNGAgtangc	2999	TNGAgtangg
2928	NTGAgtatgt	2952	NTGAgtanga	2976	NTGAgtangc	3000	NTGAgtangg
2929	ATGAgtatgt	2953	ATGAgtanga	2977	ATGAgtangc	3001	ATGAgtangg
2930	CTGAgtatgt	2954	CTGAgtanga	2978	CTGAgtangc	3002	CTGAgtangg
2931	GTGAgtatgt	2955	GTGAgtanga	2979	GTGAgtangc	3003	GTGAgtangg
2932	TTGAgtatgt	2956	TTGAgtanga	2980	TTGAgtangc	3004	TTGAgtangg

[0083] Table 14 (cont). Intronic REMS DNA sequence (wherein r is adenine or guanine, and n or N is any nucleotide)

SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence
3005	ANGAgtangt	3029	ANGAgtgngn	3053	ANGAgtgagn	3077	ANGAgtgcgn
3006	NAGAgtangt	3030	NAGAgtgngn	3054	NAGAgtgagn	3078	NAGAgtgcgn
3007	AAGAgtangt	3031	AAGAgtgngn	3055	AAGAgtgagn	3079	AAGAgtgcgn
3008	CAGAgtangt	3032	CAGAgtgngn	3056	CAGAgtgagn	3080	CAGAgtgcgn
3009	GAGAgtangt	3033	GAGAgtgngn	3057	GAGAgtgagn	3081	GAGAgtgcgn
3010	TAGAgtangt	3034	TAGAgtgngn	3058	TAGAgtgagn	3082	TAGAgtgcgn
3011	CNGAgtangt	3035	CNGAgtgngn	3059	CNGAgtgagn	3083	CNGAgtgcgn
3012	NCGAgtangt	3036	NCGAgtgngn	3060	NCGAgtgagn	3084	NCGAgtgcgn
3013	ACGAgtangt	3037	ACGAgtgngn	3061	ACGAgtgagn	3085	ACGAgtgcgn
3014	CCGAgtangt	3038	CCGAgtgngn	3062	CCGAgtgagn	3086	CCGAgtgcgn
3015	GCGAgtangt	3039	GCGAgtgngn	3063	GCGAgtgagn	3087	GCGAgtgcgn
3016	TCGAgtangt	3040	TCGAgtgngn	3064	TCGAgtgagn	3088	TCGAgtgcgn
3017	GNGAgtangt	3041	GNGAgtgngn	3065	GNGAgtgagn	3089	GNGAgtgcgn
3018	NGGAgtangt	3042	NGGAgtgngn	3066	NGGAgtgagn	3090	NGGAgtgcgn
3019	AGGAgtangt	3043	AGGAgtgngn	3067	AGGAgtgagn	3091	AGGAgtgcgn
3020	CGGAgtangt	3044	CGGAgtgngn	3068	CGGAgtgagn	3092	CGGAgtgcgn
3021	GGGAgtangt	3045	GGGAgtgngn	3069	GGGAgtgagn	3093	GGGAgtgcgn
3022	TGGAgtangt	3046	TGGAgtgngn	3070	TGGAgtgagn	3094	TGGAgtgcgn
3023	TNGAgtangt	3047	TNGAgtgngn	3071	TNGAgtgagn	3095	TNGAgtgcgn
3024	NTGAgtangt	3048	NTGAgtgngn	3072	NTGAgtgagn	3096	NTGAgtgcgn
3025	ATGAgtangt	3049	ATGAgtgngn	3073	ATGAgtgagn	3097	ATGAgtgcgn
3026	CTGAgtangt	3050	CTGAgtgngn	3074	CTGAgtgagn	3098	CTGAgtgcgn
3027	GTGAgtangt	3051	GTGAgtgngn	3075	GTGAgtgagn	3099	GTGAgtgcgn
3028	TTGAgtangt	3052	TTGAgtgngn	3076	TTGAgtgagn	3100	TTGAgtgcgn

[0084] Table 14 (cont). Intronic REMS DNA sequence (wherein r is adenine or guanine, and n or N is any nucleotide)

SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence
3101	ANGAgtgggn	3125	ANGAgtgtgn	3149	ANGAgtgaga	3173	ANGAgtgcga
3102	NAGAgtgggn	3126	NAGAgtgtgn	3150	NAGAgtgaga	3174	NAGAgtgcga
3103	AAGAgtgggn	3127	AAGAgtgtgn	3151	AAGAgtgaga	3175	AAGAgtgcga
3104	CAGAgtgggn	3128	CAGAgtgtgn	3152	CAGAgtgaga	3176	CAGAgtgcga
3105	GAGAgtgggn	3129	GAGAgtgtgn	3153	GAGAgtgaga	3177	GAGAgtgcga
3106	TAGAgtgggn	3130	TAGAgtgtgn	3154	TAGAgtgaga	3178	TAGAgtgcga
3107	CNGAgtgggn	3131	CNGAgtgtgn	3155	CNGAgtgaga	3179	CNGAgtgcga
3108	NCGAgtgggn	3132	NCGAgtgtgn	3156	NCGAgtgaga	3180	NCGAgtgcga
3109	ACGAgtgggn	3133	ACGAgtgtgn	3157	ACGAgtgaga	3181	ACGAgtgcga
3110	CCGAgtgggn	3134	CCGAgtgtgn	3158	CCGAgtgaga	3182	CCGAgtgcga
3111	GCGAgtgggn	3135	GCGAgtgtgn	3159	GCGAgtgaga	3183	GCGAgtgcga
3112	TCGAgtgggn	3136	TCGAgtgtgn	3160	TCGAgtgaga	3184	TCGAgtgcga
3113	GNGAgtgggn	3137	GNGAgtgtgn	3161	GNGAgtgaga	3185	GNGAgtgcga
3114	NGGAgtgggn	3138	NGGAgtgtgn	3162	NGGAgtgaga	3186	NGGAgtgcga
3115	AGGAgtgggn	3139	AGGAgtgtgn	3163	AGGAgtgaga	3187	AGGAgtgcga
3116	CGGAgtgggn	3140	CGGAgtgtgn	3164	CGGAgtgaga	3188	CGGAgtgcga
3117	GGGAgtgggn	3141	GGGAgtgtgn	3165	GGGAgtgaga	3189	GGGAgtgcga
3118	TGGAgtgggn	3142	TGGAgtgtgn	3166	TGGAgtgaga	3190	TGGAgtgcga
3119	TNGAgtgggn	3143	TNGAgtgtgn	3167	TNGAgtgaga	3191	TNGAgtgcga
3120	NTGAgtgggn	3144	NTGAgtgtgn	3168	NTGAgtgaga	3192	NTGAgtgcga
3121	ATGAgtgggn	3145	ATGAgtgtgn	3169	ATGAgtgaga	3193	ATGAgtgcga
3122	CTGAgtgggn	3146	CTGAgtgtgn	3170	CTGAgtgaga	3194	CTGAgtgcga
3123	GTGAgtgggn	3147	GTGAgtgtgn	3171	GTGAgtgaga	3195	GTGAgtgcga
3124	TTGAgtgggn	3148	TTGAgtgtgn	3172	TTGAgtgaga	3196	TTGAgtgcga

[0085] Table 14 (cont). Intronic REMS DNA sequence (wherein r is adenine or guanine, and n or N is any nucleotide)

SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence
3197	ANGAgtggga	3221	ANGAgtgtga	3245	ANGAgtgagc	3269	ANGAgtgcgc
3198	NAGAgtggga	3222	NAGAgtgtga	3246	NAGAgtgagc	3270	NAGAgtgcgc
3199	AAGAgtggga	3223	AAGAgtgtga	3247	AAGAgtgagc	3271	AAGAgtgcgc
3200	CAGAgtggga	3224	CAGAgtgtga	3248	CAGAgtgagc	3272	CAGAgtgcgc
3201	GAGAgtggga	3225	GAGAgtgtga	3249	GAGAgtgagc	3273	GAGAgtgcgc
3202	TAGAgtggga	3226	TAGAgtgtga	3250	TAGAgtgagc	3274	TAGAgtgcgc
3203	CNGAgtggga	3227	CNGAgtgtga	3251	CNGAgtgagc	3275	CNGAgtgcgc
3204	NCGAgtggga	3228	NCGAgtgtga	3252	NCGAgtgagc	3276	NCGAgtgcgc
3205	ACGAgtggga	3229	ACGAgtgtga	3253	ACGAgtgagc	3277	ACGAgtgcgc
3206	CCGAgtggga	3230	CCGAgtgtga	3254	CCGAgtgagc	3278	CCGAgtgcgc
3207	GCGAgtggga	3231	GCGAgtgtga	3255	GCGAgtgagc	3279	GCGAgtgcgc
3208	TCGAgtggga	3232	TCGAgtgtga	3256	TCGAgtgagc	3280	TCGAgtgcgc
3209	GNGAgtggga	3233	GNGAgtgtga	3257	GNGAgtgagc	3281	GNGAgtgcgc
3210	NGGAgtggga	3234	NGGAgtgtga	3258	NGGAgtgagc	3282	NGGAgtgcgc
3211	AGGAgtggga	3235	AGGAgtgtga	3259	AGGAgtgagc	3283	AGGAgtgcgc
3212	CGGAgtggga	3236	CGGAgtgtga	3260	CGGAgtgagc	3284	CGGAgtgcgc
3213	GGGAgtggga	3237	GGGAgtgtga	3261	GGGAgtgagc	3285	GGGAgtgcgc
3214	TGGAgtggga	3238	TGGAgtgtga	3262	TGGAgtgagc	3286	TGGAgtgcgc
3215	TNGAgtggga	3239	TNGAgtgtga	3263	TNGAgtgagc	3287	TNGAgtgcgc
3216	NTGAgtggga	3240	NTGAgtgtga	3264	NTGAgtgagc	3288	NTGAgtgcgc
3217	ATGAgtggga	3241	ATGAgtgtga	3265	ATGAgtgagc	3289	ATGAgtgcgc
3218	CTGAgtggga	3242	CTGAgtgtga	3266	CTGAgtgagc	3290	CTGAgtgcgc
3219	GTGAgtggga	3243	GTGAgtgtga	3267	GTGAgtgagc	3291	GTGAgtgcgc
3220	TTGAgtggga	3244	TTGAgtgtga	3268	TTGAgtgagc	3292	TTGAgtgcgc

[0086] Table 14 (cont). Intronic REMS DNA sequence (wherein r is adenine or guanine, and n or N is any nucleotide)

SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence
3293	ANGAgtgggc	3317	ANGAgtgtgc	3341	ANGAgtgagg	3365	ANGAgtgcgg
3294	NAGAgtgggc	3318	NAGAgtgtgc	3342	NAGAgtgagg	3366	NAGAgtgcgg
3295	AAGAgtgggc	3319	AAGAgtgtgc	3343	AAGAgtgagg	3367	AAGAgtgcgg
3296	CAGAgtgggc	3320	CAGAgtgtgc	3344	CAGAgtgagg	3368	CAGAgtgcgg
3297	GAGAgtgggc	3321	GAGAgtgtgc	3345	GAGAgtgagg	3369	GAGAgtgcgg
3298	TAGAgtgggc	3322	TAGAgtgtgc	3346	TAGAgtgagg	3370	TAGAgtgcgg
3299	CNGAgtgggc	3323	CNGAgtgtgc	3347	CNGAgtgagg	3371	CNGAgtgcgg
3300	NCGAgtgggc	3324	NCGAgtgtgc	3348	NCGAgtgagg	3372	NCGAgtgcgg
3301	ACGAgtgggc	3325	ACGAgtgtgc	3349	ACGAgtgagg	3373	ACGAgtgcgg
3302	CCGAgtgggc	3326	CCGAgtgtgc	3350	CCGAgtgagg	3374	CCGAgtgcgg
3303	GCGAgtgggc	3327	GCGAgtgtgc	3351	GCGAgtgagg	3375	GCGAgtgcgg
3304	TCGAgtgggc	3328	TCGAgtgtgc	3352	TCGAgtgagg	3376	TCGAgtgcgg
3305	GNGAgtgggc	3329	GNGAgtgtgc	3353	GNGAgtgagg	3377	GNGAgtgcgg
3306	NGGAgtgggc	3330	NGGAgtgtgc	3354	NGGAgtgagg	3378	NGGAgtgcgg
3307	AGGAgtgggc	3331	AGGAgtgtgc	3355	AGGAgtgagg	3379	AGGAgtgcgg
3308	CGGAgtgggc	3332	CGGAgtgtgc	3356	CGGAgtgagg	3380	CGGAgtgcgg
3309	GGGAgtgggc	3333	GGGAgtgtgc	3357	GGGAgtgagg	3381	GGGAgtgcgg
3310	TGGAgtgggc	3334	TGGAgtgtgc	3358	TGGAgtgagg	3382	TGGAgtgcgg
3311	TNGAgtgggc	3335	TNGAgtgtgc	3359	TNGAgtgagg	3383	TNGAgtgcgg
3312	NTGAgtgggc	3336	NTGAgtgtgc	3360	NTGAgtgagg	3384	NTGAgtgcgg
3313	ATGAgtgggc	3337	ATGAgtgtgc	3361	ATGAgtgagg	3385	ATGAgtgcgg
3314	CTGAgtgggc	3338	CTGAgtgtgc	3362	CTGAgtgagg	3386	CTGAgtgcgg
3315	GTGAgtgggc	3339	GTGAgtgtgc	3363	GTGAgtgagg	3387	GTGAgtgcgg
3316	TTGAgtgggc	3340	TTGAgtgtgc	3364	TTGAgtgagg	3388	TTGAgtgcgg

[0087] Table 14 (cont). Intronic REMS DNA sequence (wherein r is adenine or guanine, and n or N is any nucleotide)

SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence
3389	ANGAgtgggg	3413	ANGAgtgtgg	3437	ANGAgtgagt	3461	ANGAgtgcgt
3390	NAGAgtgggg	3414	NAGAgtgtgg	3438	NAGAgtgagt	3462	NAGAgtgcgt
3391	AAGAgtgggg	3415	AAGAgtgtgg	3439	AAGAgtgagt	3463	AAGAgtgcgt
3392	CAGAgtgggg	3416	CAGAgtgtgg	3440	CAGAgtgagt	3464	CAGAgtgcgt
3393	GAGAgtgggg	3417	GAGAgtgtgg	3441	GAGAgtgagt	3465	GAGAgtgcgt
3394	TAGAgtgggg	3418	TAGAgtgtgg	3442	TAGAgtgagt	3466	TAGAgtgcgt
3395	CNGAgtgggg	3419	CNGAgtgtgg	3443	CNGAgtgagt	3467	CNGAgtgcgt
3396	NCGAgtgggg	3420	NCGAgtgtgg	3444	NCGAgtgagt	3468	NCGAgtgcgt
3397	ACGAgtgggg	3421	ACGAgtgtgg	3445	ACGAgtgagt	3469	ACGAgtgcgt
3398	CCGAgtgggg	3422	CCGAgtgtgg	3446	CCGAgtgagt	3470	CCGAgtgcgt
3399	GCGAgtgggg	3423	GCGAgtgtgg	3447	GCGAgtgagt	3471	GCGAgtgcgt
3400	TCGAgtgggg	3424	TCGAgtgtgg	3448	TCGAgtgagt	3472	TCGAgtgcgt
3401	GNGAgtgggg	3425	GNGAgtgtgg	3449	GNGAgtgagt	3473	GNGAgtgcgt
3402	NGGAgtgggg	3426	NGGAgtgtgg	3450	NGGAgtgagt	3474	NGGAgtgcgt
3403	AGGAgtgggg	3427	AGGAgtgtgg	3451	AGGAgtgagt	3475	AGGAgtgcgt
3404	CGGAgtgggg	3428	CGGAgtgtgg	3452	CGGAgtgagt	3476	CGGAgtgcgt
3405	GGGAgtgggg	3429	GGGAgtgtgg	3453	GGGAgtgagt	3477	GGGAgtgcgt
3406	TGGAgtgggg	3430	TGGAgtgtgg	3454	TGGAgtgagt	3478	TGGAgtgcgt
3407	TNGAgtgggg	3431	TNGAgtgtgg	3455	TNGAgtgagt	3479	TNGAgtgcgt
3408	NTGAgtgggg	3432	NTGAgtgtgg	3456	NTGAgtgagt	3480	NTGAgtgcgt
3409	ATGAgtgggg	3433	ATGAgtgtgg	3457	ATGAgtgagt	3481	ATGAgtgcgt
3410	CTGAgtgggg	3434	CTGAgtgtgg	3458	CTGAgtgagt	3482	CTGAgtgcgt
3411	GTGAgtgggg	3435	GTGAgtgtgg	3459	GTGAgtgagt	3483	GTGAgtgcgt
3412	TTGAgtgggg	3436	TTGAgtgtgg	3460	TTGAgtgagt	3484	TTGAgtgcgt

[0088] Table 14 (cont). Intronic REMS DNA sequence (wherein r is adenine or guanine, and n or N is any nucleotide)

SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence
3485	ANGAgtgggt	3509	ANGAgtgtgt	3533	ANGAgtgnga	3557	ANGAgtgngc
3486	NAGAgtgggt	3510	NAGAgtgtgt	3534	NAGAgtgnga	3558	NAGAgtgngc
3487	AAGAgtgggt	3511	AAGAgtgtgt	3535	AAGAgtgnga	3559	AAGAgtgngc
3488	CAGAgtgggt	3512	CAGAgtgtgt	3536	CAGAgtgnga	3560	CAGAgtgngc
3489	GAGAgtgggt	3513	GAGAgtgtgt	3537	GAGAgtgnga	3561	GAGAgtgngc
3490	TAGAgtgggt	3514	TAGAgtgtgt	3538	TAGAgtgnga	3562	TAGAgtgngc
3491	CNGAgtgggt	3515	CNGAgtgtgt	3539	CNGAgtgnga	3563	CNGAgtgngc
3492	NCGAgtgggt	3516	NCGAgtgtgt	3540	NCGAgtgnga	3564	NCGAgtgngc
3493	ACGAgtgggt	3517	ACGAgtgtgt	3541	ACGAgtgnga	3565	ACGAgtgngc
3494	CCGAgtgggt	3518	CCGAgtgtgt	3542	CCGAgtgnga	3566	CCGAgtgngc
3495	GCGAgtgggt	3519	GCGAgtgtgt	3543	GCGAgtgnga	3567	GCGAgtgngc
3496	TCGAgtgggt	3520	TCGAgtgtgt	3544	TCGAgtgnga	3568	TCGAgtgngc
3497	GNGAgtgggt	3521	GNGAgtgtgt	3545	GNGAgtgnga	3569	GNGAgtgngc
3498	NGGAgtgggt	3522	NGGAgtgtgt	3546	NGGAgtgnga	3570	NGGAgtgngc
3499	AGGAgtgggt	3523	AGGAgtgtgt	3547	AGGAgtgnga	3571	AGGAgtgngc
3500	CGGAgtgggt	3524	CGGAgtgtgt	3548	CGGAgtgnga	3572	CGGAgtgngc
3501	GGGAgtgggt	3525	GGGAgtgtgt	3549	GGGAgtgnga	3573	GGGAgtgngc
3502	TGGAgtgggt	3526	TGGAgtgtgt	3550	TGGAgtgnga	3574	TGGAgtgngc
3503	TNGAgtgggt	3527	TNGAgtgtgt	3551	TNGAgtgnga	3575	TNGAgtgngc
3504	NTGAgtgggt	3528	NTGAgtgtgt	3552	NTGAgtgnga	3576	NTGAgtgngc
3505	ATGAgtgggt	3529	ATGAgtgtgt	3553	ATGAgtgnga	3577	ATGAgtgngc
3506	CTGAgtgggt	3530	CTGAgtgtgt	3554	CTGAgtgnga	3578	CTGAgtgngc
3507	GTGAgtgggt	3531	GTGAgtgtgt	3555	GTGAgtgnga	3579	GTGAgtgngc
3508	TTGAgtgggt	3532	TTGAgtgtgt	3556	TTGAgtgnga	3580	TTGAgtgngc

[0089] Table 14 (cont). Intronic REMS DNA sequence (wherein r is adenine or guanine, and n or N is any nucleotide)

SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence	SEQ ID NO.	Sequence
3581	ANGAgtgngg	3593	GNGAgtgngg	3605	ANGAgtgngt	3617	GNGAgtgngt
3582	NAGAgtgngg	3594	NGGAgtgngg	3606	NAGAgtgngt	3618	NGGAgtgngt
3583	AAGAgtgngg	3595	AGGAgtgngg	3607	AAGAgtgngt	3619	AGGAgtgngt
3584	CAGAgtgngg	3596	CGGAgtgngg	3608	CAGAgtgngt	3620	CGGAgtgngt
3585	GAGAgtgngg	3597	GGGAgtgngg	3609	GAGAgtgngt	3621	GGGAgtgngt
3586	TAGAgtgngg	3598	TGGAgtgngg	3610	TAGAgtgngt	3622	TGGAgtgngt
3587	CNGAgtgngg	3599	TNGAgtgngg	3611	CNGAgtgngt	3623	TNGAgtgngt
3588	NCGAgtgngg	3600	NTGAgtgngg	3612	NCGAgtgngt	3624	NTGAgtgngt
3589	ACGAgtgngg	3601	ATGAgtgngg	3613	ACGAgtgngt	3625	ATGAgtgngt
3590	CCGAgtgngg	3602	CTGAgtgngg	3614	CCGAgtgngt	3626	CTGAgtgngt
3591	GCGAgtgngg	3603	GTGAgtgngg	3615	GCGAgtgngt	3627	GTGAgtgngt
3592	TCGAgtgngg	3604	TTGAgtgngg	3616	TCGAgtgngt	3628	TTGAgtgngt

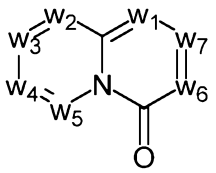
[0090] In certain embodiments, provided herein is a vector comprising the artificial gene construct described herein. In some embodiments, provided herein is a cell comprising an artificial gene construct described herein or a vector comprising an artificial gene construct described herein.

[0091] In another aspect, provided herein is a method of modulating the amount and type of a protein produced by a cell containing an artificial gene construct described herein. In one embodiment, provided herein is a method of modulating the amount and type of a protein produced by a cell containing an artificial gene construct described herein, the method comprising contacting the cell with a compound of Formula (I) or a form thereof. In certain embodiments, the artificial gene construct encodes a therapeutic protein. In certain embodiments, the artificial gene construct encodes a non-functional protein. In some embodiments producing a therapeutic protein, the artificial gene construct may also encode a detectable reporter protein. In some embodiments producing a non-functional protein, the artificial gene construct may also encode a detectable reporter protein.

[0092] In another aspect, provided herein is a method of modulating the amount of a protein produced by a subject, wherein the subject is or was administered an artificial gene construct described herein. In one embodiment, provided herein is method of regulating the amount of a protein produced by a subject, the method comprising: (a) administering an artificial gene

construct or a vector comprising the artificial gene construct described herein to the subject; and (b) administering a compound of Formula (I) or a form thereof to the subject. In another embodiment, provided herein is a method of regulating the amount of a protein produced by a subject, the method comprising administering a compound of Formula (I) or a form thereof to a subject carrying a gene containing a nucleotide sequence encoding an intronic REMS. In another embodiment, provided herein is a method of regulating the amount of a protein produced by a subject, the method comprising administering a compound of Formula (I) to the subject, wherein the subject was previously administered an artificial gene construct described herein. In certain embodiments, the artificial gene construct may encode a therapeutic or a non-functional protein. In some embodiments, the artificial gene construct encodes a detectable reporter protein. In certain embodiments, the subject is a non-human. In specific embodiments, the subject is a human.

[0093] In another aspect, provided herein is a method for modulating the amount of an RNA transcript produced from precursor RNA containing an endogenous or non-endogenous intronic recognition element for splicing modifier (REMS), the method comprising contacting the precursor RNA with a compound of Formula (I) or a form thereof, wherein the endogenous or non-endogenous intronic REMS comprises the sequence GAgurngn (SEQ ID NO: 2), wherein r is adenine or guanine and n is any nucleotide, and wherein Formula (I) is



(I),

wherein:

w_1 and w_5 are independently C-R_a or N;

w_2 is C-R_b or N;

w_3, w_4 and w_7 are independently C-R_1, C-R_2, C-R_a or N;

w_6 is C-R_1, C-R_2, C-R_c or N;

wherein one of w_3, w_4, w_6 and w_7 is C-R_1 and one other of w_3, w_4, w_6 and w_7 is C-R_2, provided that,

when w_3 is C-R_1, then w_6 is C-R_2 and w_4 and w_7 are independently C-R_a or N; or,

when w_3 is C-R_2, then w_6 is C-R_1 and w_4 and w_7 are independently C-R_a or N; or, when w_4 is C-R_1, then w_7 is C-R_2 and w_3 is C-R_a or N and w_6 is C-R_c or N; or, when w_4 is C-R_2, then w_7 is C-R_1 and w_3 is C-R_a or N and w_6 is C-R_c or N; and, wherein any one, two or three of w_1, w_2, w_3, w_4, w_5, w_6 and w_7 may optionally be N;

R_1 is C_{1-8}alkyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino, C_{1-8}alkoxy-C_{1-8}alkyl-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, amino-C_{1-8}alkyl, C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, amino-C_{1-8}alkyl-amino, (amino-C_{1-8}alkyl)$_2$-amino, (amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, amino-C_{1-8}alkoxy, C_{1-8}alkyl-amino-C_{1-8}alkoxy, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkoxy, amino-C_{2-8}alkenyl, C_{1-8}alkyl-amino-C_{2-8}alkenyl, (C_{1-8}alkyl)$_2$-amino-C_{2-8}alkenyl, amino-C_{2-8}alkynyl, C_{1-8}alkyl-amino-C_{2-8}alkynyl, (C_{1-8}alkyl)$_2$-amino-C_{2-8}alkynyl, halo-C_{1-8}alkyl-amino, (halo-C_{1-8}alkyl)$_2$-amino, (halo-C_{1-8}alkyl)(C_{1-8}alkyl)amino, hydroxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkoxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkoxy, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl-amino, [(hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, [(hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, heterocyclyl, heterocyclyl-C_{1-8}alkyl, heterocyclyl-C_{1-8}alkoxy, heterocyclyl-amino,

(heterocyclyl)(C_{1-8}alkyl)amino, heterocyclyl-amino-C_{1-8}alkyl, heterocyclyl-C_{1-8}alkyl-amino, (heterocyclyl-C_{1-8}alkyl)$_2$-amino, (heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heterocyclyl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (heterocyclyl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heterocyclyl-oxy, heterocyclyl-carbonyl, heterocyclyl-carbonyl-oxy, C_{3-14}cycloalkyl, aryl-C_{1-8}alkyl-amino, (aryl-C_{1-8}alkyl)$_2$-amino, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, aryl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (aryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heteroaryl, heteroaryl-C_{1-8}alkyl, heteroaryl-C_{1-8}alkoxy, heteroaryl-amino, heteroaryl-C_{1-8}alkyl-amino, (heteroaryl-C_{1-8}alkyl)$_2$-amino, (heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heteroaryl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (heteroaryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl or (heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl;

wherein, each instance of heterocyclyl, C_{3-14}cycloalkyl, aryl and heteroaryl is optionally substituted with one, two or three R_3 substituents and optionally, with one additional R_4 substituent; or,

wherein, each instance of heterocyclyl, C_{3-14}cycloalkyl, aryl and heteroaryl is optionally substituted with one, two, three or four R_3 substituents;

R_2 is aryl, aryl-amino, aryl-amino-carbonyl, heterocyclyl, heteroaryl or heteroaryl-amino; wherein, each instance of aryl, heterocyclyl and heteroaryl is optionally substituted with one, two or three R_6 substituents and optionally, with one additional R_7 substituent;

R_a is, in each instance, independently selected from hydrogen, halogen, C_{1-8}alkyl or deuterium;

R_b is hydrogen, halogen, C_{1-8}alkyl, C_{1-8}alkoxy or deuterium;

R_c is hydrogen, halogen, C_{1-8}alkyl or deuterium;

R_3 is, in each instance, independently selected from cyano, halogen, hydroxy, oxo, C_{1-8}alkyl, halo-C_{1-8}alkyl, C_{1-8}alkyl-carbonyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl, C_{1-8}alkoxy-carbonyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino, amino-C_{1-8}alkyl, C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, amino-C_{1-8}alkyl-amino, C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino,

[(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl]$_2$-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, C_{1-8}alkoxy-C_{1-8}alkyl-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, C_{1-8}alkyl-carbonyl-amino, C_{1-8}alkoxy-carbonyl-amino, hydroxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkoxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino or (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino;

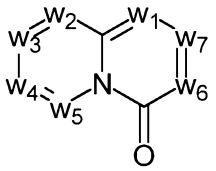
R_4 is C_{3-14}cycloalkyl, C_{3-14}cycloalkyl-C_{1-8}alkyl, C_{3-14}cycloalkyl-amino, aryl-C_{1-8}alkyl, aryl-C_{1-8}alkoxy-carbonyl, aryl-sulfonyloxy-C_{1-8}alkyl, heterocyclyl or heterocyclyl-C_{1-8}alkyl; wherein, each instance of C_{3-14}cycloalkyl, aryl and heterocyclyl is optionally substituted with one, two or three R_5 substituents;

R_5 is, in each instance, independently selected from halogen, hydroxy, cyano, nitro, C_{1-8}alkyl, halo-C_{1-8}alkyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino or C_{1-8}alkyl-thio;

R_6 is, in each instance, independently selected from halogen, hydroxy, cyano, nitro, C_{1-8}alkyl, C_{2-8}alkenyl, halo-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino or C_{1-8}alkyl-thio; and,

R_7 is C_{3-14}cycloalkyl, C_{3-14}cycloalkyl-oxy, aryl, heterocyclyl or heteroaryl.

[0094] In another aspect, provided herein is a method for modulating the amount of an RNA transcript produced from precursor RNA containing an endogenous or non-endogenous intronic recognition element for splicing modifier (REMS), the method comprising contacting the precursor RNA with a compound of Formula (I) or a form thereof, wherein the endogenous or non-endogenous intronic REMS comprises the sequence NNGAgurngn (SEQ ID NO: 1), wherein r is adenine or guanine and n or N is any nucleotide, and wherein Formula (I) is



(I),

wherein:

w_1 and w_5 are independently C-R_a or N;

w_2 is C-R_b or N;

w_3, w_4 and w_7 are independently C-R_1, C-R_2, C-R_a or N;

w_6 is C-R_1, C-R_2, C-R_c or N;

wherein one of w_3, w_4, w_6 and w_7 is C-R_1 and one other of w_3, w_4, w_6 and w_7 is C-R_2, provided that,

when w_3 is C-R_1, then w_6 is C-R_2 and w_4 and w_7 are independently C-R_a or N; or,

when w_3 is C-R_2, then w_6 is C-R_1 and w_4 and w_7 are independently C-R_a or N; or,

when w_4 is C-R_1, then w_7 is C-R_2 and w_3 is C-R_a or N and w_6 is C-R_c or N; or,

when w_4 is C-R_2, then w_7 is C-R_1 and w_3 is C-R_a or N and w_6 is C-R_c or N; and,

wherein any one, two or three of w_1, w_2, w_3, w_4, w_5, w_6 and w_7 may optionally be N;

R_1 is C_{1-8}alkyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino, C_{1-8}alkoxy-C_{1-8}alkyl-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, amino-C_{1-8}alkyl, C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, amino-C_{1-8}alkyl-amino, (amino-C_{1-8}alkyl)$_2$-amino, (amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, amino-C_{1-8}alkoxy, C_{1-8}alkyl-amino-C_{1-8}alkoxy, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkoxy, amino-C_{2-8}alkenyl, C_{1-8}alkyl-amino-C_{2-8}alkenyl, (C_{1-8}alkyl)$_2$-amino-C_{2-8}alkenyl, amino-C_{2-8}alkynyl, C_{1-8}alkyl-amino-C_{2-8}alkynyl, (C_{1-8}alkyl)$_2$-amino-C_{2-8}alkynyl, halo-C_{1-8}alkyl-amino, (halo-C_{1-8}alkyl)$_2$-amino, (halo-C_{1-8}alkyl)(C_{1-8}alkyl)amino, hydroxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkoxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkoxy, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino,

(hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino,
(hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl-amino,
[(hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino,
[(hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, heterocyclyl, heterocyclyl-C_{1-8}alkyl, heterocyclyl-C_{1-8}alkoxy, heterocyclyl-amino, (heterocyclyl)(C_{1-8}alkyl)amino, heterocyclyl-amino-C_{1-8}alkyl, heterocyclyl-C_{1-8}alkyl-amino, (heterocyclyl-C_{1-8}alkyl)$_2$-amino, (heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heterocyclyl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (heterocyclyl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heterocyclyl-oxy, heterocyclyl-carbonyl, heterocyclyl-carbonyl-oxy, C_{3-14}cycloalkyl, aryl-C_{1-8}alkyl-amino, (aryl-C_{1-8}alkyl)$_2$-amino, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, aryl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (aryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heteroaryl, heteroaryl-C_{1-8}alkyl, heteroaryl-C_{1-8}alkoxy, heteroaryl-amino, heteroaryl-C_{1-8}alkyl-amino, (heteroaryl-C_{1-8}alkyl)$_2$-amino, (heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heteroaryl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (heteroaryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl or (heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl;

wherein, each instance of heterocyclyl, C_{3-14}cycloalkyl, aryl and heteroaryl is optionally substituted with one, two or three R_3 substituents and optionally, with one additional R_4 substituent; or,

wherein, each instance of heterocyclyl, C_{3-14}cycloalkyl, aryl and heteroaryl is optionally substituted with one, two, three or four R_3 substituents;

R_2 is aryl, aryl-amino, aryl-amino-carbonyl, heterocyclyl, heteroaryl or heteroaryl-amino; wherein, each instance of aryl, heterocyclyl and heteroaryl is optionally substituted with one, two or three R_6 substituents and optionally, with one additional R_7 substituent;

R_a is, in each instance, independently selected from hydrogen, halogen, C_{1-8}alkyl or deuterium;

R_b is hydrogen, halogen, C_{1-8}alkyl, C_{1-8}alkoxy or deuterium;

R_c is hydrogen, halogen, C_{1-8}alkyl or deuterium;

R_3 is, in each instance, independently selected from cyano, halogen, hydroxy, oxo, C_{1-8}alkyl, halo-C_{1-8}alkyl, C_{1-8}alkyl-carbonyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl, C_{1-8}alkoxy-carbonyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino, amino-C_{1-8}alkyl, C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, amino-C_{1-8}alkyl-amino, C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl]$_2$-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, C_{1-8}alkoxy-C_{1-8}alkyl-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, C_{1-8}alkyl-carbonyl-amino, C_{1-8}alkoxy-carbonyl-amino, hydroxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkoxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino or (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino;

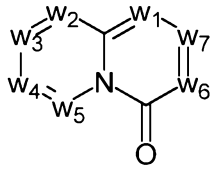
R_4 is C_{3-14}cycloalkyl, C_{3-14}cycloalkyl-C_{1-8}alkyl, C_{3-14}cycloalkyl-amino, aryl-C_{1-8}alkyl, aryl-C_{1-8}alkoxy-carbonyl, aryl-sulfonyloxy-C_{1-8}alkyl, heterocyclyl or heterocyclyl-C_{1-8}alkyl; wherein, each instance of C_{3-14}cycloalkyl, aryl and heterocyclyl is optionally substituted with one, two or three R_5 substituents;

R_5 is, in each instance, independently selected from halogen, hydroxy, cyano, nitro, C_{1-8}alkyl, halo-C_{1-8}alkyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino or C_{1-8}alkyl-thio;

R_6 is, in each instance, independently selected from halogen, hydroxy, cyano, nitro, C_{1-8}alkyl, C_{2-8}alkenyl, halo-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino or C_{1-8}alkyl-thio; and,

R_7 is C_{3-14}cycloalkyl, C_{3-14}cycloalkyl-oxy, aryl, heterocyclyl or heteroaryl.

[0095] In another aspect, provided herein is a method of regulating the amount and type of a protein produced by a gene comprising a nucleotide sequence encoding an endogenous or non-endogenous intronic REMS in a subject, wherein the nucleotide sequence encoding the endogenous or non-endogenous intronic REMS comprises the sequence GAgtrngn (SEQ ID NO: 4), wherein r is adenine or guanine and n is any nucleotide, the method comprising administering a compound of Formula (I) to the subject, wherein Formula (I) is



(I),

wherein:

w_1 and w_5 are independently C-R_a or N;

w_2 is C-R_b or N;

w_3, w_4 and w_7 are independently C-R_1, C-R_2, C-R_a or N;

w_6 is C-R_1, C-R_2, C-R_c or N;

wherein one of w_3, w_4, w_6 and w_7 is C-R_1 and one other of w_3, w_4, w_6 and w_7 is C-R_2, provided that,

when w_3 is C-R_1, then w_6 is C-R_2 and w_4 and w_7 are independently C-R_a or N; or,

when w_3 is C-R_2, then w_6 is C-R_1 and w_4 and w_7 are independently C-R_a or N; or,

when w_4 is C-R_1, then w_7 is C-R_2 and w_3 is C-R_a or N and w_6 is C-R_c or N; or,

when w_4 is C-R_2, then w_7 is C-R_1 and w_3 is C-R_a or N and w_6 is C-R_c or N; and,

wherein any one, two or three of w_1, w_2, w_3, w_4, w_5, w_6 and w_7 may optionally be N;

R_1 is C_{1-8}alkyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino, C_{1-8}alkoxy-C_{1-8}alkyl-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, amino-C_{1-8}alkyl, C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, amino-C_{1-8}alkyl-amino, (amino-C_{1-8}alkyl)$_2$-amino, (amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino,

[(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, amino-C_{1-8}alkoxy, C_{1-8}alkyl-amino-C_{1-8}alkoxy, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkoxy, amino-C_{2-8}alkenyl, C_{1-8}alkyl-amino-C_{2-8}alkenyl, (C_{1-8}alkyl)$_2$-amino-C_{2-8}alkenyl, amino-C_{2-8}alkynyl, C_{1-8}alkyl-amino-C_{2-8}alkynyl, (C_{1-8}alkyl)$_2$-amino-C_{2-8}alkynyl, halo-C_{1-8}alkyl-amino, (halo-C_{1-8}alkyl)$_2$-amino, (halo-C_{1-8}alkyl)(C_{1-8}alkyl)amino, hydroxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkoxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkoxy, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl-amino, [(hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, [(hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, heterocyclyl, heterocyclyl-C_{1-8}alkyl, heterocyclyl-C_{1-8}alkoxy, heterocyclyl-amino, (heterocyclyl)(C_{1-8}alkyl)amino, heterocyclyl-amino-C_{1-8}alkyl, heterocyclyl-C_{1-8}alkyl-amino, (heterocyclyl-C_{1-8}alkyl)$_2$-amino, (heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heterocyclyl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (heterocyclyl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heterocyclyl-oxy, heterocyclyl-carbonyl, heterocyclyl-carbonyl-oxy, C_{3-14}cycloalkyl, aryl-C_{1-8}alkyl-amino, (aryl-C_{1-8}alkyl)$_2$-amino, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, aryl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (aryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heteroaryl, heteroaryl-C_{1-8}alkyl, heteroaryl-C_{1-8}alkoxy, heteroaryl-amino, heteroaryl-C_{1-8}alkyl-amino, (heteroaryl-C_{1-8}alkyl)$_2$-amino, (heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heteroaryl-C_{1-8}alkyl-amino-C_{1-8}alkyl,

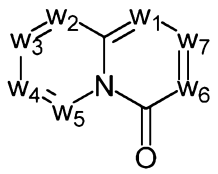
(heteroaryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl or
(heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl;
wherein, each instance of heterocyclyl, C_{3-14}cycloalkyl, aryl and heteroaryl is optionally substituted with one, two or three R_3 substituents and optionally, with one additional R_4 substituent; or,
wherein, each instance of heterocyclyl, C_{3-14}cycloalkyl, aryl and heteroaryl is optionally substituted with one, two, three or four R_3 substituents;
R_2 is aryl, aryl-amino, aryl-amino-carbonyl, heterocyclyl, heteroaryl or heteroaryl-amino; wherein, each instance of aryl, heterocyclyl and heteroaryl is optionally substituted with one, two or three R_6 substituents and optionally, with one additional R_7 substituent;
R_a is, in each instance, independently selected from hydrogen, halogen, C_{1-8}alkyl or deuterium;
R_b is hydrogen, halogen, C_{1-8}alkyl, C_{1-8}alkoxy or deuterium;
R_c is hydrogen, halogen, C_{1-8}alkyl or deuterium;
R_3 is, in each instance, independently selected from cyano, halogen, hydroxy, oxo, C_{1-8}alkyl, halo-C_{1-8}alkyl, C_{1-8}alkyl-carbonyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl, C_{1-8}alkoxy-carbonyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino, amino-C_{1-8}alkyl, C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, amino-C_{1-8}alkyl-amino, C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl]$_2$-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, C_{1-8}alkoxy-C_{1-8}alkyl-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, C_{1-8}alkyl-carbonyl-amino, C_{1-8}alkoxy-carbonyl-amino, hydroxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkoxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino or (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino;
R_4 is C_{3-14}cycloalkyl, C_{3-14}cycloalkyl-C_{1-8}alkyl, C_{3-14}cycloalkyl-amino, aryl-C_{1-8}alkyl, aryl-C_{1-8}alkoxy-carbonyl, aryl-sulfonyloxy-C_{1-8}alkyl, heterocyclyl or heterocyclyl-C_{1-8}alkyl; wherein, each instance of C_{3-14}cycloalkyl, aryl and heterocyclyl is optionally substituted with one, two or three R_5 substituents;

R_5 is, in each instance, independently selected from halogen, hydroxy, cyano, nitro, C_{1-8}alkyl, halo-C_{1-8}alkyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, amino, C_{1-8}alkyl-amino, $(C_{1-8}alkyl)_2$-amino or C_{1-8}alkyl-thio;

R_6 is, in each instance, independently selected from halogen, hydroxy, cyano, nitro, C_{1-8}alkyl, C_{2-8}alkenyl, halo-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl, amino, C_{1-8}alkyl-amino, $(C_{1-8}alkyl)_2$-amino or C_{1-8}alkyl-thio; and,

R_7 is C_{3-14}cycloalkyl, C_{3-14}cycloalkyl-oxy, aryl, heterocyclyl or heteroaryl.

[0096] In another aspect, provided herein is a method of regulating the amount and type of a protein produced by a gene comprising a nucleotide sequence encoding an endogenous or non-endogenous intronic REMS in a subject, wherein the nucleotide sequence encoding the endogenous or non-endogenous intronic REMS comprises the sequence NNGAgtrngn (SEQ ID NO: 3), wherein r is adenine or guanine and n or N is any nucleotide, the method comprising administering a compound of Formula (I) to the subject, wherein Formula (I) is



(I),

wherein:

w_1 and w_5 are independently C-R_a or N;

w_2 is C-R_b or N;

w_3, w_4 and w_7 are independently C-R_1, C-R_2, C-R_a or N;

w_6 is C-R_1, C-R_2, C-R_c or N;

wherein one of w_3, w_4, w_6 and w_7 is C-R_1 and one other of w_3, w_4, w_6 and w_7 is C-R_2, provided that,

when w_3 is C-R_1, then w_6 is C-R_2 and w_4 and w_7 are independently C-R_a or N; or,

when w_3 is C-R_2, then w_6 is C-R_1 and w_4 and w_7 are independently C-R_a or N; or,

when w_4 is C-R_1, then w_7 is C-R_2 and w_3 is C-R_a or N and w_6 is C-R_c or N; or,

when w_4 is C-R_2, then w_7 is C-R_1 and w_3 is C-R_a or N and w_6 is C-R_c or N; and,

wherein any one, two or three of w_1, w_2, w_3, w_4, w_5, w_6 and w_7 may optionally be N;

R_1 is C_{1-8}alkyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino, C_{1-8}alkoxy-C_{1-8}alkyl-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, amino-C_{1-8}alkyl, C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, amino-C_{1-8}alkyl-amino, (amino-C_{1-8}alkyl)$_2$-amino, (amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, amino-C_{1-8}alkoxy, C_{1-8}alkyl-amino-C_{1-8}alkoxy, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkoxy, amino-C_{2-8}alkenyl, C_{1-8}alkyl-amino-C_{2-8}alkenyl, (C_{1-8}alkyl)$_2$-amino-C_{2-8}alkenyl, amino-C_{2-8}alkynyl, C_{1-8}alkyl-amino-C_{2-8}alkynyl, (C_{1-8}alkyl)$_2$-amino-C_{2-8}alkynyl, halo-C_{1-8}alkyl-amino, (halo-C_{1-8}alkyl)$_2$-amino, (halo-C_{1-8}alkyl)(C_{1-8}alkyl)amino, hydroxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkoxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkoxy, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl-amino, [(hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, [(hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, heterocyclyl, heterocyclyl-C_{1-8}alkyl, heterocyclyl-C_{1-8}alkoxy, heterocyclyl-amino, (heterocyclyl)(C_{1-8}alkyl)amino, heterocyclyl-amino-C_{1-8}alkyl, heterocyclyl-C_{1-8}alkyl-amino, (heterocyclyl-C_{1-8}alkyl)$_2$-amino, (heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heterocyclyl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (heterocyclyl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl,

(heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heterocyclyl-oxy, heterocyclyl-carbonyl, heterocyclyl-carbonyl-oxy, C_{3-14}cycloalkyl, aryl-C_{1-8}alkyl-amino, (aryl-C_{1-8}alkyl)$_2$-amino, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, aryl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (aryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heteroaryl, heteroaryl-C_{1-8}alkyl, heteroaryl-C_{1-8}alkoxy, heteroaryl-amino, heteroaryl-C_{1-8}alkyl-amino, (heteroaryl-C_{1-8}alkyl)$_2$-amino, (heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heteroaryl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (heteroaryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl or (heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl;

wherein, each instance of heterocyclyl, C_{3-14}cycloalkyl, aryl and heteroaryl is optionally substituted with one, two or three R_3 substituents and optionally, with one additional R_4 substituent; or,

wherein, each instance of heterocyclyl, C_{3-14}cycloalkyl, aryl and heteroaryl is optionally substituted with one, two, three or four R_3 substituents;

R_2 is aryl, aryl-amino, aryl-amino-carbonyl, heterocyclyl, heteroaryl or heteroaryl-amino; wherein, each instance of aryl, heterocyclyl and heteroaryl is optionally substituted with one, two or three R_6 substituents and optionally, with one additional R_7 substituent;

R_a is, in each instance, independently selected from hydrogen, halogen, C_{1-8}alkyl or deuterium;

R_b is hydrogen, halogen, C_{1-8}alkyl, C_{1-8}alkoxy or deuterium;

R_c is hydrogen, halogen, C_{1-8}alkyl or deuterium;

R_3 is, in each instance, independently selected from cyano, halogen, hydroxy, oxo, C_{1-8}alkyl, halo-C_{1-8}alkyl, C_{1-8}alkyl-carbonyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl, C_{1-8}alkoxy-carbonyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino, amino-C_{1-8}alkyl, C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, amino-C_{1-8}alkyl-amino, C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl]$_2$-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, C_{1-8}alkoxy-C_{1-8}alkyl-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, C_{1-8}alkyl-carbonyl-amino, C_{1-8}alkoxy-carbonyl-amino, hydroxy-C_{1-8}alkyl,

hydroxy-C_{1-8}alkoxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino or (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino;

R_4 is C_{3-14}cycloalkyl, C_{3-14}cycloalkyl-C_{1-8}alkyl, C_{3-14}cycloalkyl-amino, aryl-C_{1-8}alkyl, aryl-C_{1-8}alkoxy-carbonyl, aryl-sulfonyloxy-C_{1-8}alkyl, heterocyclyl or heterocyclyl-C_{1-8}alkyl; wherein, each instance of C_{3-14}cycloalkyl, aryl and heterocyclyl is optionally substituted with one, two or three R_5 substituents;

R_5 is, in each instance, independently selected from halogen, hydroxy, cyano, nitro, C_{1-8}alkyl, halo-C_{1-8}alkyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino or C_{1-8}alkyl-thio;

R_6 is, in each instance, independently selected from halogen, hydroxy, cyano, nitro, C_{1-8}alkyl, C_{2-8}alkenyl, halo-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino or C_{1-8}alkyl-thio; and,

R_7 is C_{3-14}cycloalkyl, C_{3-14}cycloalkyl-oxy, aryl, heterocyclyl or heteroaryl.

[0097] In specific embodiments of the aspects and embodiments described herein, the gene is, or the RNA transcript is transcribed from a gene that is selected from: ABCA1, ABCA10, ABCB7, ABCB8, ABCC1, ABCC3, ABHD10, ABL2, ABLIM3, ACACA, ACADVL, ACAT2, ACTA2, ADAL, ADAM12, ADAM15, ADAM17, ADAM33, ADAMTS1, ADCY3, ADD1, ADGRG6, ADH6, ADHFE1, AFF2, AFF3, AGK, AGPAT3, AGPAT4, AGPS, AHCYL2, AHDC1, AHRR, AJUBA, AK021888, AK310472, AKAP1, AKAP3, AKAP9, AKNA, ALCAM, ALDH4A1, AMPD2, ANK1, ANK2, ANK3, ANKFY1, ANKHD1-EIF4EBP3, ANKRA2, ANKRD17, ANKRD33B, ANKRD36, ANKS6, ANP32A, ANXA11, ANXA6, AP2B1, AP4B1-AS1, APAF1, APIP, APLP2, APP, APPL2, APTX, ARHGAP1, ARHGAP12, ARHGAP22, ARHGEF16, ARID1A, ARID2, ARID5B, ARL9, ARL15, ARMCX3, ARMCX6, ASAP1, ASIC1, ASL, ASNS, ASPH, ATAD2B, ATF7IP, ATG5, ATG9A, ATMIN, ATP2A3, ATP2C1, ATXN1, ATXN3, AURKA, AXIN1, B3GALT2, B3GNT6, B4GALT2, BACE1, BAG2, BASP1, BC033281, BCAR3, BCL2L15, BCYRN1, BECN1, BEND6, BHMT2, BICD1, BIN1, BIN3-IT1, BIRC3, BIRC6, BNC1, BRD2, BRPF1, BSCL2, BTBD10, BTG2, BTN3A1, BZW1, C1orf86, C10orf54, C11orf30, C11orf70, C11orf73, C11orf94, C12orf4, C12orf56, C14orf132, C17orf76-AS1, C19orf47, C3, C4orf27, C5orf24, C6orf48, C7orf31, C8orf34, C8orf44, C8orf44-SGK3, C8orf88, C9orf69, CA13, CA3, CAB39, CACNA2D2, CACNB1,

CADM1, CALU, CAMKK1, CAND2, CAPNS1, CASC3, CASP7, CASP8AP2, CAV1, CCAR1, CCDC77, CCDC79, CCDC88A, CCDC92, CCDC122, CCER2, CCNF, CCT6A, CD276, CD46, CDC25B, CDC40, CDC42BPA, CDCA7, CDH11, CDH13, CDK11B, CDK16, CDKAL1, CECR7, CELSR1, CEMIP, CENPI, CEP112, CEP170, CEP192, CEP68, CFH, CFLAR, CHD8, CHEK1, CIITA, CIZ1, CLDN23, CLIC1, CLK4, CLTA, CMAHP, CNGA4, CNOT1, CNRIP1, CNTD1, COG1, COL1A1, COL11A1, COL12A1, COL14A1, COL15A1, COL5A1, COL5A3, COL6A1, COL6A6, COL8A1, COLEC12, COMP, COPS7B, CPA4, CPEB2, CPQ, CPSF4, CREB5, CRISPLD2, CRLF1, CRLS1, CRTAP, CRYBG3, CRYL1, CSDE1, CSNK1A1, CSNK1E, CSNK1G1, CTDSP2, CTNND1, CUL2, CUL4A, CUX1, CYB5B, CYB5R2, CYBRD1, CYGB, CYP1B1, CYP51A1, DAB2, DACT1, DAGLB, DARS, DAXX, DCAF10, DCAF11, DCAF17, DCBLD2, DCLK1, DCN, DCUN1D4, DDAH1, DDAH2, DDHD2, DDIT4L, DDR1, DDX39B, DDX42, DDX50, DEGS1, DENND1A, DENND1B, DENND5A, DEPTOR, DFNB59, DGCR2, DGKA, DHCR24, DHCR7, DHFR, DHX9, DIAPH1, DIAPH3, DIRAS3, DIS3L, DKFZp434M1735, DKK3, DLC1, DLG5, DLGAP4, DNAH8, DNAJC13, DNAJC27, DNM2, DNMBP, DOCK1, DOCK11, DPP8, DSEL, DST, DSTN, DYNC1I1, DYRK1A, DZIP1L, EBF1, EEA1, EEF1A1, EFCAB14, EFEMP1, EGR1, EGR3, EHMT2, EIF2B3, EIF4G1, EIF4G2, EIF4G3, ELF2, ELN, ELP4, EMX2OS, ENAH, ENG, ENPP1, ENPP2, ENSA, EP300, EPN1, EPT1, ERC1, ERCC1, ERCC8, ERGIC3, ERLIN2, ERRFI1, ESM1, ETV5, EVC, EVC2, EXO1, EXTL2, EYA3, F2R, FADS1, FADS2, FAF1, FAIM, FAM111A, FAM126A, FAM13A, FAM160A1, FAM162A, FAM174A, FAM198B, FAM20A, FAM219A, FAM219B, FAM3C, FAM46B, FAM65A, FAM65B, FAP, FARP1, FBLN2, FBN2, FBXO9, FBXL6, FBXO10, FBXO18, FBXO31, FBXO34, FBXO9, FCHO1, FDFT1, FDPS, FER, FEZ1, FGD5-AS1, FGFR2, FGFRL1, FGL2, FHOD3, FLII, FLNB, FLT1, FN1, FNBP1, FOCAD, FOS, FOSB, FOSL1, FOXK1, FOXM1, FRAS1, FSCN2, FUS, FYN, GABPB1, GAL3ST4, GALC, GALNT1, GALNT15, GAS7, GATA6, GBA2, GBGT1, GCFC2, GCNT1, GDF6, GGACT, GGCT, GHDC, GIGYF2, GJC1, GLCE, GMIP, GNA13, GNAQ, GNAS, GNL3L, GOLGA2, GOLGA4, GOLGB1, GORASP1, GPR1, GPR183, GPR50, GPR89A, GPRC5A, GPRC5B, GPSM2, GREM1, GRK6, GRTP1, GSE1, GTF2H2B, GUCA1B, GULP1, GXYLT1, HAPLN1, HAPLN2, HAS2, HAS3, HAT1, HAUS3, HAUS6, HAVCR2, HDAC5, HDAC7, HDX, HECTD2-AS1, HEG1, HEPH, HEY1, HLA-A, HLA-E, HLTF, HMGA1, HMGA2, HMGB1, HMGCR, HMGN3-AS1, HMGCS1, HOOK3, HMOX1, HNMT, HNRNPR,

HNRNPUL1, HP1BP3, HPS1, HRH1, HSD17B12, HSD17B4, HSPA1L, HTATIP2, HTT, IARS, IDH1, IDI1, IFT57, IGDCC4, IGF2BP2, IGF2R, IGFBP3, IL16, IL6ST, INA, INHBA, INPP5K, INSIG1, INTU, IQCE, IQCG, ITGA11, ITGA8, ITGAV, ITGB5, ITGB8, ITIH1, ITM2C, ITPKA, ITSN1, IVD, KANSL3, KAT6B, KCNK2, KCNS1, KCNS2, KDM6A, KDSR, KIAA1033, KIAA1143, KIAA1199, KIAA1456, KIAA1462, KIAA1522, KIAA1524, KIAA1549, KIAA1715, KIAA1755, KIF14, KIF2A, KIF3A, KIT, KLC1, KLC2, KLF17, KLF6, KLHL7, KLRG1, KMT2D, KRT7, KRT18, KRT19, KRT34, KRTAP1-1, KRTAP1-5, KRTAP2-3, L3MBTL2, LAMA2, LAMB1, LAMB2P1, LARP4, LARP7, LATS2, LDLR, LEMD3, LETM2, LGALS8, LGI2, LGR4, LHX9, LIMS1, LINC00341, LINC00472, LINC00570, LINC00578, LINC00607, LINC00657, LINC00678, LINC00702, LINC00886, LINC00961, LINC01011, LINC01118, LINC01204, LMAN2L, LMO7, LMOD1, LOC400927, LONP1, LOX, LRBA, LRCH4, LRIG1, LRP4, LRP8, LRRC32, LRRC39, LRRC42, LRRC8A, LSAMP, LSS, LTBR, LUC7L2, LUM, LYPD1, LYRM1, LZTS2, MADD, MAFB, MAGED4, MAGED4B, MAMDC2, MAN1A2, MAN2A1, MAN2C1, MAP4K4, MAPK13, MASP1, MB, MB21D2, MBD1, MBOAT7, MC4R, MCM10, MDM2, MED1, MED13L, MEDAG, MEF2D, MEGF6, MEIS2, MEMO1, MEPCE, MFGE8, MFN2, MIAT, MICAL2, MINPP1, MIR612, MKL1, MKLN1, MKNK2, MLLT4, MLLT10, MLST8, MMAB, MMP10, MMP24, MMS19, MMS22L, MN1, MOXD1, MPPE1, MPZL1, MRPL3, MRPL45, MRPL55, MRPS28, MRVI1, MSANTD3, MSC, MSH2, MSH4, MSH6, MSL3, MSMO1, MSRB3, MTAP, MTERF3, MTERFD1, MTHFD1L, MTMR9, MTRR, MUM1, MVD, MVK, MXRA5, MYADM, MYCBP2, MYLK, MYO1D, MYO9B, MYOF, NA, NAA35, NAALADL2, NADK, NAE1, NAGS, NASP, NAV1, NAV2, NCOA1, NCOA3, NCOA4, NCSTN, NDNF, NELFA, NEO1, NEURL1B, NF2, NFE2L1, NFX1, NGF, NGFR, NHLH1, NID1, NID2, NIPA1, NKX3-1, NLN, NOL10, NOMO3, NOTCH3, NOTUM, NOVA2, NOX4, NPEPPS, NRD1, NREP, NRG1, NRROS, NSUN4, NT5C2, NT5E, NTNG1, NUDT4, NUP153, NUP35, NUP50, NUPL1, NUSAP1, OCLN, ODF2, OLR1, OS9, OSBPL6, OSBPL10, OSMR, OXCT1, OXCT2, P4HA1, P4HB, PABPC1, PAIP2B, PAK4, PAPD4, PARD3, PARN, PARP14, PARP4, PARVB, PBLD, PCBP2, PCBP4, PCDHGB3, PCGF3, PCM1, PCMTD2, PCNXL2, PCSK9, PDE1C, PDE4A, PDE5A, PDE7A, PDGFD, PDGFRB, PDLIM7, PDS5B, PDXDC1, PEAR1, PEPD, PEX5, PFKP, PHACTR3, PHF19, PHF8, PHRF1, PHTF2, PI4K2A, PIEZO1, PIGN, PIGU, PIK3C2B, PIK3CD, PIK3R1, PIKFYVE, PIM2, PITPNA, PITPNB, PITPNM1, PITPNM3, PLAU, PLEC,

PLEK2, PLEKHA1, PLEKHA6, PLEKHB2, PLEKHH2, PLSCR1, PLSCR3, PLXNB2, PLXNC1, PMS1, PNISR, PODN, POLE3, POLN, POLR1A, POLR3D, POMT2, POSTN, POU2F1, PPAPDC1A, PPARA, PPARG, PPHLN1, PPIP5K1, PPIP5K2, PPM1E, PPP1R12A, PPP1R26, PPP3CA, PPP6R1, PPP6R2, PRKACB, PRKCA, PRKDC, PRKG1, PRMT1, PRNP, PRPF31, PRPH2, PRRG4, PRSS23, PRUNE2, PSMA4, PSMC1, PSMD6, PSMD6-AS2, PTGIS, PTK2B, PTPN14, PTX3, PUF60, PUS7, PVR, PXK, PXN, QKI, RAB23, RAB2B, RAB30, RAB34, RAB38, RAB44, RAD1, RAD9B, RAD23B, RAF1, RALB, RAP1A, RAP1GDS1, RAPGEF1, RARG, RARS, RARS2, RASSF8, RBBP8, RBCK1, RBFOX2, RBKS, RBM10, RCC1, RDX, RERE, RFTN1, RFWD2, RFX3-AS1, RGCC, RGS10, RGS3, RIF1, RNF14, RNF19A, RNF38, RNFT1, ROR1, ROR2, RPA1, RPL10, RPS10, RPS6KB2, RPS6KC1, RRBP1, RWDD4, SAMD4A, SAMD9, SAMD9L, SAR1A, SART3, SCAF4, SCAF8, SCARNA9, SCD, SCLT1, SCO1, SDCBP, SEC14L1, SEC22A, SEC24A, SEC24B, SEC61A1, SENP6, SEPT9, SERGEF, SERPINE2, SF1, SGK3, SGOL2, SH3RF1, SH3YL1, SHROOM3, SIGLEC10, SKA2, SKIL, SLC12A2, SLC24A3, SLC25A17, SLC35F3, SLC39A3, SLC39A10, SLC4A4, SLC4A11, SLC41A1, SLC44A2, SLC46A2, SLC6A15, SLC7A6, SLC7A8, SLC7A11, SLC9A3, SLIT3, SMARCA4, SMARCC2, SMC4, SMC6, SMCHD1, SMG1, SMG1P3, SMN2, SMPD4, SMTN, SMYD3, SMYD5, SNAP23, SNED1, SNHG16, SNX7, SNX14, SOCS2, SON, SORBS2, SORCS2, SOS2, SOX7, SPATA18, SPATA20, SPATA5, SPATS2, SPDYA, SPEF2, SPG20, SPIDR, SPRED2, SPRYD7, SQLE, SQRDL, SQSTM1, SRCAP, SREBF1, SREK1, SRGAP1, SRRM1, SRSF3, STAC2, STARD4, STAT1, STAT3, STAT4, STAU1, STC2, STEAP2, STK32B, STRIP1, STRN3, STRN4, STS, STX16, STXBP6, SULF1, SUPT20H, SVEP1, SYNE1, SYNE2, SYNGR2, SYNPO, SYNPO2, SYNPO2L, SYT15, SYTL2, TACC1, TAF2, TAGLN3, TANC2, TANGO6, TARBP1, TARS, TASP1, TBC1D15, TBL2, TCF12, TCF4, TCF7L2, TENC1, TENM2, TEP1, TET3, TEX21P, TFCP2, TGFA, TGFB2, TGFB3, TGFBI, TGFBR1, TGFBRAP1, TGM2, THADA, THAP4, THBS2, THRB, TIAM1, TIMP2, TJP2, TLE3, TLK1, TMC3, TMEM102, TMEM119, TMEM134, TMEM154, TMEM189-UBE2V1, TMEM214, TMEM256-PLSCR3, TMEM47, TMEM50B, TMEM63A, TNC, TNFAIP3, TNFAIP8L3, TNFRSF12A, TNFRSF14, TNIP1, TNKS1BP1, TNPO3, TNRC18P1, TNRC6A, TNS1, TNS3, TNXB, TOE1, TOMM40, TOMM5, TOPORS, TP53AIP1, TP53INP1, TPRG1, TRAF3, TRAK1, TRAPPC12, TRIB1, TRIM2, TRIM23, TRIM26, TRIM28, TRIM65, TRIM66, TRMT1L, TRPC4, TRPS1, TSC2, TSHZ1,

TSHZ2, TSPAN11, TSPAN18, TSPAN2, TSPAN7, TSSK3, TTC7A, TTC7B, TUBB2C, TUBB3, TUBE1, TXNIP, TXNL1, TXNRD1, TYW5, U2SURP, UBAP2L, UBE2G2, UBE2V1, UBQLN4, UCHL5, UHMK1, UHRF1BP1L, UNC5B, URGCP, USP19, USP7, USP27X, UVRAG, VANGL1, VARS2, VAV2, VCL, VIM-AS1, VIPAS39, VPS13A, VPS29, VPS41, VPS51, VSTM2L, VWA8, VWF, WDR19, WDR27, WDR37, WDR48, WDR91, WIPF1, WISP1, WNK1, WNT5B, WNT10B, WSB1, WWTR1, XIAP, XRN2, YAP1, YDJC, YES1, YPEL5, YTHDF3, Z24749, ZAK, ZBTB10, ZBTB24, ZBTB26, ZBTB7A, ZC3H12C, ZC3H14, ZC3H18, ZCCHC5, ZCCHC8, ZCCHC11, ZEB1, ZEB2, ZFAND1, ZFAND5, ZFP82, ZHX3, ZMIZ1, ZMIZ1-AS1, ZMYM2, ZNF12, ZNF138, ZNF148, ZNF212, ZNF219, ZNF227, ZNF232, ZNF24, ZNF268, ZNF28, ZNF281, ZNF335, ZNF350, ZNF37A, ZNF37BP, ZNF395, ZNF431, ZNF583, ZNF621, ZNF652, ZNF655, ZNF660, ZNF674, ZNF680, ZNF74, ZNF764, ZNF778, ZNF780A, ZNF79, ZNF827, ZNF837, ZNF839 or ZNF91.

[0098] In another specific embodiment of the aspects and embodiments described herein, the gene is, or the RNA transcript is transcribed from a gene that is selected from: ABCA10, ABCB8, ABCC3, ACTA2, ADAL, ADAMTS1, ADCY3, ADD1, ADGRG6, ADH6, ADHFE1, AFF3, AGPAT4, AKAP3, ANK1, ANK3, ANKRA2, ANKRD33B, ANKRD36, AP4B1-AS1, APIP, ARHGAP1, ARHGAP12, ARHGEF16, ARID5B, ARL15, ARL9, ARMCX6, ASIC1, ATG5, ATP2A3, ATXN1, B3GALT2, B3GNT6, BCL2L15, BCYRN1, BECN1, BHMT2, BIN3-IT1, BIRC3, BIRC6, BTG2, BTN3A1, C10orf54, C11orf70, C11orf94, C12orf4, C12orf56, C14orf132, C19orf47, C1orf86, C3, C7orf31, C8orf34, C8orf44, C8orf44-SGK3, C8orf88, CA13, CA3, CACNA2D2, CACNB1, CADM1, CAND2, CASP7, CCDC122, CCDC79, CCER2, CCNF, CECR7, CELSR1, CEMIP, CENPI, CEP112, CEP170, CEP192, CFH, CHEK1, CIITA, CLDN23, CLTA, CMAHP, CNGA4, CNRIP1, CNTD1, COL11A1, COL14A1, COL15A1, COL5A1, COL5A3, COL6A6, COL8A1, COLEC12, COMP, CPA4, CPQ, CPSF4, CRISPLD2, CRLF1, CRYBG3, CRYL1, CSNK1E, CSNK1G1, CYB5R2, CYGB, CYP1B1, DAGLB, DCAF17, DCLK1, DCN, DDIT4L, DDX50, DEGS1, DEPTOR, DFNB59, DIRAS3, DLG5, DLGAP4, DNAH8, DNAJC13, DNAJC27, DNMBP, DOCK11, DYNC1I1, DYRK1A, DZIP1L, EFEMP1, EGR3, ELN, ELP4, EMX2OS, ENAH, ENPP1, EP300, ERCC1, ERCC8, ERGIC3, ERLIN2, ERRFI1, ESM1, EVC, EVC2, F2R, FAIM, FAM126A, FAM13A, FAM160A1, FAM162A, FAM174A, FAM20A, FAM46B, FAM65B, FAP, FARP1, FBLN2, FBN2, FBXL6, FCHO1, FGFR2, FGL2, FLT1, FRAS1, FSCN2, GAL3ST4, GALNT15,

GATA6, GBGT1, GCNT1, GDF6, GGACT, GLCE, GNAQ, GPR183, GPR50, GPRC5A, GPRC5B, GRTP1, GUCA1B, GULP1, GXYLT1, HAPLN1, HAPLN2, HAS3, HAVCR2, HDAC5, HDX, HECTD2-AS1, HEPH, HEY1, HMGA2, HMGN3-AS1, HNMT, HOOK3, HPS1, HSPA1L, HTATIP2, IFT57, IGDCC4, IGF2R, IGFBP3, IL16, INA, INPP5K, INTU, IQCG, ITGA11, ITGA8, ITGB8, ITIH1, ITPKA, IVD, KAT6B, KCNS1, KCNS2, KDM6A, KDSR, KIAA1456, KIAA1462, KIAA1755, KIT, KLF17, KLRG1, KMT2D, KRT7, KRTAP1-1, KRTAP1-5, L3MBTL2, LAMB2P1, LETM2, LGI2, LGR4, LHX9, LINC00472, LINC00570, LINC00578, LINC00607, LINC00678, LINC00702, LINC00886, LINC00961, LINC01011, LINC01118, LINC01204, LMOD1, LOC400927, LRBA, LRP4, LRRC32, LRRC39, LRRC42, LSAMP, LUM, LYPD1, LYRM1, MAFB, MAMDC2, MAN2A1, MAN2C1, MAPK13, MASP1, MB, MB21D2, MC4R, MCM10, MED13L, MEGF6, MFN2, MIAT, MIR612, MLLT10, MMP10, MMP24, MN1, MOXD1, MRPL45, MRPL55, MRPS28, MRVI1, MSH4, MTERF3, MXRA5, MYCBP2, NA, NAALADL2, NAE1, NAGS, NDNF, NGF, NGFR, NHLH1, NLN, NOTCH3, NOTUM, NOVA2, NOX4, NRROS, OCLN, OLR1, OSBPL10, OXCT1, OXCT2, PAIP2B, PBLD, PDE1C, PDE5A, PDGFD, PDGFRB, PDS5B, PEAR1, PHACTR3, PIGN, PIK3CD, PIK3R1, PIKFYVE, PIM2, PITPNM3, PLEK2, PLEKHA1, PLEKHA6, PLEKHH2, PLSCR1, PNISR, PODN, POLN, POLR1A, POMT2, PPARG, PPIP5K2, PPM1E, PPP1R26, PPP3CA, PRKCA, PRKG1, PRPF31, PRPH2, PRRG4, PRUNE2, PSMD6-AS2, PTGIS, PTX3, PXK, RAB30, RAB38, RAB44, RAD9B, RAF1, RAPGEF1, RARS, RARS2, RBBP8, RBKS, RDX, RERE, RFX3-AS1, RGCC, ROR1, ROR2, RPA1, RPS10, RPS6KB2, SAMD4A, SCARNA9, SEC24A, SENP6, SERGEF, SGK3, SH3YL1, SHROOM3, SIGLEC10, SKA2, SLC12A2, SLC24A3, SLC35F3, SLC39A10, SLC44A2, SLC46A2, SLC4A11, SLC6A15, SLC7A11, SLC9A3, SLIT3, SMG1P3, SMTN, SNED1, SNX7, SORBS2, SORCS2, SOX7, SPATA18, SPATA5, SPDYA, SPEF2, SPIDR, SPRYD7, SRGAP1, SRRM1, STAC2, STAT4, STK32B, STRN4, STS, STXBP6, SULF1, SVEP1, SYNGR2, SYNPO, SYNPO2, SYNPO2L, TAGLN3, TANGO6, TASP1, TCF12, TCF4, TGFA, TGFB2, TGFB3, TGM2, THBS2, TIAM1, TMC3, TMEM102, TMEM119, TMEM134, TMEM189-UBE2V1, TMEM214, TMEM256-PLSCR3, TMEM50B, TNFAIP8L3, TNFRSF14, TNRC18P1, TNRC6A, TNXB, TP53AIP1, TPRG1, TRIM66, TRPC4, TSHZ2, TSPAN11, TSPAN18, TSPAN7, TSSK3, TTC7B, TUBE1, TXNIP, TYW5, URGCP, USP27X, UVRAG, VAV2, VIM-AS1, VPS41, VSTM2L, VWF, WDR27, WDR91, WISP1, WNK1, WNT10B,

YDJC, ZBTB26, ZCCHC5, ZCCHC8, ZFP82, ZMIZ1-AS1, ZNF138, ZNF212, ZNF232, ZNF350, ZNF431, ZNF660, ZNF680, ZNF79, or ZNF837.

[0099] In another specific embodiment of the aspects and embodiments described herein, the gene is, or the RNA transcript is transcribed from a gene that is not described in International Publication No. WO 2015/105657. In another specific embodiment of the aspects and embodiments described herein, the gene is, or the RNA transcript is transcribed from a gene that is not described in International Publication No. WO 2016/196386. In another specific embodiment of the aspects and embodiments described herein, the gene is, or the RNA transcript is transcribed from a gene that is not described in International Publication No. WO 2015/105657 and not described in International Publication No. WO 2016/196386.

[00100] In another specific embodiment of the aspects and embodiments described herein, the gene is, or the RNA transcript is transcribed from a gene that is selected from: ABCA1, ABCB7, ABCC1, ABHD10, ABL2, ABLIM3, ACACA, ACADVL, ACAT2, ADAM12, ADAM15, ADAM17, ADAM33, AFF2, AGK, AGPAT3, AGPS, AHCYL2, AHDC1, AHRR, AJUBA, AK021888, AK310472, AKAP1, AKAP9, AKNA, ALCAM, ALDH4A1, AMPD2, ANK2, ANKFY1, ANKHD1-EIF4EBP3, ANKRD17, ANKS6, ANP32A, ANXA11, ANXA6, AP2B1, APAF1, APLP2, APP, APPL2, APTX, ARHGAP22, ARID1A, ARID2, ARMCX3, ASAP1, ASL, ASNS, ASPH, ATAD2B, ATF7IP, ATG9A, ATMIN, ATP2C1, ATXN3, AURKA, AXIN1, B4GALT2, BACE1, BAG2, BASP1, BC033281, BCAR3, BEND6, BICD1, BIN1, BNC1, BRD2, BRPF1, BSCL2, BTBD10, BZW1, C11orf30, C11orf73, C17orf76-AS1, C4orf27, C5orf24, C6orf48, C9orf69, CAB39, CALU, CAMKK1, CAPNS1, CASC3, CASP8AP2, CAV1, CCAR1, CCDC77, CCDC88A, CCDC92, CCT6A, CD276, CD46, CDC25B, CDC40, CDC42BPA, CDCA7, CDH11, CDH13, CDK11B, CDK16, CDKAL1, CEP68, CFLAR, CHD8, CIZ1, CLIC1, CLK4, CNOT1, COG1, COL12A1, COL1A1, COL6A1, COPS7B, CPEB2, CREB5, CRLS1, CRTAP, CSDE1, CSNK1A1, CTDSP2, CTNND1, CUL2, CUL4A, CUX1, CYB5B, CYBRD1, CYP51A1, DAB2, DACT1, DARS, DAXX, DCAF10, DCAF11, DCBLD2, DCUN1D4, DDAH1, DDAH2, DDHD2, DDR1, DDX39B, DDX42, DENND1A, DENND1B, DENND5A, DGCR2, DGKA, DHCR24, DHCR7, DHFR, DHX9, DIAPH1, DIAPH3, DIS3L, DKFZp434M1735, DKK3, DLC1, DNM2, DOCK1, DPP8, DSEL, DST, DSTN, EBF1, EEA1, EEF1A1, EFCAB14, EGR1, EHMT2, EIF2B3, EIF4G1, EIF4G2, EIF4G3, ELF2, ENG, ENPP2, ENSA, EPN1, EPT1, ERC1, ERGIC3, ETV5, EXO1, EXTL2,

EYA3, FADS1, FADS2, FAF1, FAM111A, FAM198B, FAM219A, FAM219B, FAM3C, FAM65A, FBXO10, FBXO18, FBXO31, FBXO34, FBXO9, FDFT1, FDPS, FER, FEZ1, FGD5-AS1, FGFRL1, FHOD3, FLII, FLNB, FN1, FNBP1, FOCAD, FOS, FOSB, FOSL1, FOXK1, FOXM1, FUS, FYN, GABPB1, GALC, GALNT1, GAS7, GBA2, GCFC2, GGCT, GHDC, GIGYF2, GJC1, GMIP, GNA13, GNAS, GNL3L, GOLGA2, GOLGA4, GOLGB1, GORASP1, GPR1, GPR89A, GPSM2, GREM1, GRK6, GSE1, GTF2H2B, HAS2, HAT1, HAUS3, HAUS6, HDAC7, HEG1, HLA-A, HLA-E, HLTF, HMGA1, HMGB1, HMGCR, HMGCS1, HMOX1, HNRNPR, HNRNPUL1, HP1BP3, HRH1, HSD17B12, HSD17B4, HTT, IARS, IDH1, IDI1, IGF2BP2, IL6ST, INHBA, INSIG1, IQCE, ITGAV, ITGB5, ITM2C, ITSN1, KANSL3, KCNK2, KIAA1033, KIAA1143, KIAA1199, KIAA1522, KIAA1524, KIAA1549, KIAA1715, KIF14, KIF2A, KIF3A, KLC1, KLC2, KLF6, KLHL7, KRT18, KRT19, KRT34, KRTAP2-3, LAMA2, LAMB1, LARP4, LARP7, LATS2, LDLR, LEMD3, LGALS8, LIMS1, LINC00341, LINC00657, LMAN2L, LMO7, LONP1, LOX, LRCH4, LRIG1, LRP8, LRRC8A, LSS, LTBR, LUC7L2, LZTS2, MADD, MAGED4, MAGED4B, MAN1A2, MAP4K4, MBD1, MBOAT7, MDM2, MED1, MEDAG, MEF2D, MEIS2, MEMO1, MEPCE, MFGE8, MICAL2, MINPP1, MKL1, MKLN1, MKNK2, MLLT4, MLST8, MMAB, MMS19, MMS22L, MPPE1, MPZL1, MRPL3, MSANTD3, MSC, MSH2, MSH6, MSL3, MSMO1, MSRB3, MTAP, MTERFD1, MTHFD1L, MTMR9, MTRR, MUM1, MVD, MVK, MYADM, MYLK, MYO1D, MYO9B, MYOF, NAA35, NADK, NASP, NAV1, NAV2, NCOA1, NCOA3, NCOA4, NCSTN, NELFA, NEO1, NEURL1B, NF2, NFE2L1, NFX1, NID1, NID2, NIPA1, NKX3-1, NOL10, NOMO3, NPEPPS, NRD1, NREP, NRG1, NSUN4, NT5C2, NT5E, NTNG1, NUDT4, NUP153, NUP35, NUP50, NUPL1, NUSAP1, ODF2, OS9, OSBPL6, OSMR, P4HA1, P4HB, PABPC1, PAK4, PAPD4, PARD3, PARN, PARP14, PARP4, PARVB, PCBP2, PCBP4, PCDHGB3, PCGF3, PCM1, PCMTD2, PCNXL2, PCSK9, PDE4A, PDE7A, PDLIM7, PDXDC1, PEPD, PEX5, PFKP, PHF19, PHF8, PHRF1, PHTF2, PI4K2A, PIEZO1, PIGU, PIK3C2B, PITPNA, PITPNB, PITPNM1, PLAU, PLEC, PLEKHB2, PLSCR3, PLXNB2, PLXNC1, PMS1, POLE3, POLR3D, POSTN, POU2F1, PPAPDC1A, PPARA, PPHLN1, PPIP5K1, PPP1R12A, PPP6R1, PPP6R2, PRKACB, PRKDC, PRMT1, PRNP, PRSS23, PSMA4, PSMC1, PSMD6, PTK2B, PTPN14, PUF60, PUS7, PVR, PXN, QKI, RAB23, RAB2B, RAB34, RAD1, RAD23B, RALB, RAP1A, RAP1GDS1, RARG, RASSF8, RBCK1, RBFOX2, RBM10, RCC1, RFTN1, RFWD2, RGS10, RGS3, RIF1, RNF14, RNF19A, RNF38, RNFT1, RPL10, RPS6KC1, RRBP1, RWDD4,

SAMD9, SAMD9L, SAR1A, SART3, SCAF4, SCAF8, SCD, SCLT1, SCO1, SDCBP, SEC14L1, SEC22A, SEC24B, SEC61A1, SEPT9, SERPINE2, SF1, SGOL2, SH3RF1, SKIL, SLC25A17, SLC39A3, SLC41A1, SLC4A4, SLC7A6, SLC7A8, SMARCA4, SMARCC2, SMC4, SMC6, SMCHD1, SMG1, SMN2, SMPD4, SMYD3, SMYD5, SNAP23, SNHG16, SNX14, SOCS2, SON, SOS2, SPATA20, SPATS2, SPG20, SPRED2, SQLE, SQRDL, SQSTM1, SRCAP, SREBF1, SREK1, SRSF3, STARD4, STAT1, STAT3, STAU1, STC2, STEAP2, STRIP1, STRN3, STX16, SUPT20H, SYNE1, SYNE2, SYT15, SYTL2, TACC1, TAF2, TANC2, TARBP1, TARS, TBC1D15, TBL2, TCF7L2, TENC1, TENM2, TEP1, TET3, TFCP2, TGFBI, TGFBR1, TGFBRAP1, THADA, THAP4, THRB, TIMP2, TJP2, TLE3, TLK1, TMEM154, TMEM47, TMEM63A, TNC, TNFAIP3, TNFRSF12A, TNIP1, TNKS1BP1, TNPO3, TNS1, TNS3, TOE1, TOMM40, TOMM5, TOPORS, TP53INP1, TRAF3, TRAK1, TRAPPC12, TRIB1, TRIM2, TRIM23, TRIM26, TRIM28, TRIM65, TRMT1L, TRPS1, TSC2, TSHZ1, TSPAN2, TTC7A, TUBB2C, TUBB3, TXNL1, TXNRD1, U2SURP, UBAP2L, UBE2G2, UBE2V1, UBQLN4, UCHL5, UHMK1, UHRF1BP1L, UNC5B, USP19, USP7, VANGL1, VARS2, VCL, VIPAS39, VPS13A, VPS29, VPS51, VWA8, WDR19, WDR37, WDR48, WIPF1, WNT5B, WSB1, WWTR1, XIAP, XRN2, YAP1, YES1, YPEL5, YTHDF3, Z24749, ZAK, ZBTB10, ZBTB24, ZBTB7A, ZC3H12C, ZC3H14, ZC3H18, ZCCHC11, ZEB1, ZEB2, ZFAND1, ZFAND5, ZHX3, ZMIZ1, ZMYM2, ZNF12, ZNF148, ZNF219, ZNF227, ZNF24, ZNF268, ZNF28, ZNF281, ZNF335, ZNF37A, ZNF37BP, ZNF395, ZNF583, ZNF621, ZNF652, ZNF655, ZNF674, ZNF74, ZNF764, ZNF778, ZNF780A, ZNF827, ZNF839 or ZNF91.

[00101] In another specific embodiment of the aspects and embodiments described herein, the gene is, or the RNA transcript is transcribed from a gene that is selected from: ABCB8, ANKRD36, APLP2, ARHGAP12, ARMCX6, ASAP1, ATG5, AXIN1, BIRC6, C1orf86, CDC42BPA, CLTA, DYRK1A, ERGIC3, FBXL6, FOXM1, GGCT, KAT6B, KDM6A, KIF3A, KMT2D, LARP7, LYRM1, MADD, MAN2C1, MRPL55, MYCBP2, MYO9B, PNISR, RAP1A, RAPGEF1, SENP6, SH3YL1, SLC25A17, SMN2, SREK1, STRN3, TAF2, TMEM134, VPS29, ZFAND1 or ZNF431.

[00102] In another specific embodiment of the aspects and embodiments described herein, the gene is, or the RNA transcript is transcribed from a gene that is selected from: ABCB8, ANKRD36, ARHGAP12, ARMCX6, ATG5, BIRC6, C1orf86, CLTA, DYRK1A, FBXL6,

KAT6B, KDM6A, KMT2D, LYRM1, MAN2C1, MRPL55, MYCBP2, PNISR, RAPGEF1, SENP6, SH3YL1, TMEM134 or ZNF431.

[00103] In another specific embodiment of the aspects and embodiments described herein, the gene is, or the RNA transcript is transcribed from a gene that is selected from: ABCA10, ABCC1, ACTA2, ADAL, ADAM12, ADAMTS1, ADAMTS5, ADD1, ADGRG6, ADH6, ADHFE1, AFF2, AFF3, AGK, AGPS, AKAP3, ANK1, ANK2, ANK3, ANKRD33B, ANXA11, ANXA6, AP4B1-AS1, ARHGEF16, ARID5B, ARL9, ARMCX3, ASAP1, ASIC1, ATP2A3, B3GALT2, B3GNT6, BCL2L15, BCYRN1, BIN3-IT1, BIRC3, BTG2, C10orf54, C11orf70, C11orf73, C11orf94, C12orf56, C19orf47, C3, C4orf27, C7orf31, C8orf34, CA13, CA3, CACNA2D2, CACNB1, CADM1, CAND2, CCDC79, CCER2, CCNF, CDCA7, CDKAL1, CELSR1, CEMIP, CEP170, CFH, CIITA, CLDN23, CMAHP, CNGA4, CNTD1, COL11A1, COL12A1, COL14A1, COL15A1, COL5A1, COL5A3, COL6A6, COL8A1, COLEC12, COMP, CPA4, CPQ, CRISPLD2, CRLF1, CRYL1, CUX1, CYB5B, CYB5R2, CYGB, CYP1B1, DCLK1, DCN, DDIT4L, DDX42, DDX50, DEGS1, DENND1A, DENND5A, DEPTOR, DFNB59, DGKA, DHFR, DIAPH3, DIRAS3, DIS3L, DLG5, DNAH8, DNAJC27, DOCK1, DOCK11, DYNC1I1, DZIP1L, EBF1, EFEMP1, EGR3, EIF2B3, ELN, ELP4, EMX2OS, ENPP1, ERCC8, ESM1, EVC2, F2R, FAM160A1, FAM198B, FAM20A, FAM46B, FAM65B, FAP, FARP1, FBLN2, FBN2, FBXO9, FCHO1, FER, FGFR2, FGL2, FLT1, FRAS1, FSCN2, GAL3ST4, GALC, GALNT15, GATA6, GBGT1, GCNT1, GDF6, GNAQ, GOLGB1, GPR183, GPR50, GPRC5A, GPRC5B, GRTP1, GUCA1B, GXYLT1, HAPLN1, HAPLN2, HAS3, HAVCR2, HDAC5, HECTD2-AS1, HEPH, HEY1, HLTF, HMGN3-AS1, HMOX1, HOOK3, HSD17B12, HSPA1L, HTATIP2, HTT, IGDCC4, IGF2R, IGFBP3, IL16, INA, INTU, IQCG, ITGA11, ITGA8, ITGB8, ITIH1, ITPKA, KCNS1, KCNS2, KDM6A, KDSR, KIAA1456, KIAA1462, KIAA1524, KIAA1715, KIAA1755, KIT, KLF17, KLRG1, KRT7, KRTAP1-1, KRTAP1-5, L3MBTL2, LAMB2P1, LGI2, LGR4, LHX9, LINC00472, LINC00570, LINC00578, LINC00607, LINC00678, LINC00702, LINC00886, LINC00961, LINC01011, LINC01118, LINC01204, LMOD1, LRBA, LRP4, LRRC32, LRRC39, LSAMP, LUM, LYPD1, LYRM1, MAFB, MAMDC2, MAN1A2, MAN2A1, MAPK13, MASP1, MB, MC4R, MEDAG, MEGF6, MEMO1, MIAT, MIR612, MLLT10, MMP10, MMP24, MMS19, MN1, MOXD1, MRVI1, MSH4, MTERF3, MXRA5, MYO1D, NA, NAALADL2, NAE1, NAGS, NDNF, NEURL1B, NGFR, NHLH1, NLN, NOTCH3, NOTUM, NOVA2, NOX4, NRROS, NTNG1,

OCLN, OLR1, OSBPL10, OXCT2, PAIP2B, PAPD4, PBLD, PCM1, PDE1C, PDE5A, PDGFD, PDGFRB, PDS5B, PDXDC1, PEAR1, PEPD, PHACTR3, PI4K2B, PIK3R1, PIM2, PITPNB, PITPNM3, PLAU, PLEK2, PLEKHA6, PLEKHH2, PLXNC1, PMS1, PODN, POLN, POLR1A, POSTN, PPM1E, PPP3CA, PRKCA, PRKDC, PRKG1, PRPH2, PRRG4, PRUNE2, PSMD6-AS2, PTGIS, PTX3, RAB30, RAB38, RAB44, RAD9B, RARS, RBBP8, RBKS, RCC1, RDX, RFWD2, RFX3-AS1, RGCC, RNFT1, ROR1, ROR2, RWDD4, SCARNA9, SCO1, SEC22A, SHROOM3, SIGLEC10, SLC24A3, SLC35F3, SLC39A10, SLC46A2, SLC4A11, SLC6A15, SLC7A11, SLC9A3, SLIT3, SMG1P3, SMTN, SMYD3, SNED1, SORBS2, SORCS2, SOX7, SPDYA, SPEF2, SQRDL, STAC2, STAT1, STAT4, STEAP2, STK32B, STRN4, STS, STXBP6, SULF1, SVEP1, SYNGR2, SYNPO, SYNPO2, SYNPO2L, TAGLN3, TANGO6, TARBP1, TEX21P, TGFA, TGFB2, TGFB3, TGM2, THADA, THBS2, THRB, TMEM102, TMEM119, TMEM256-PLSCR3, TMEM50B, TNC, TNFAIP8L3, TNFRSF14, TNRC18P1, TNS3, TNXB, TP53AIP1, TPRG1, TRAF3, TRIM66, TRPC4, TSHZ2, TSPAN11, TSPAN18, TSPAN7, TSSK3, TXNIP, UNC5B, USP27X, UVRAG, VIM-AS1, VPS41, VSTM2L, VWA8, VWF, WDR91, WISP1, WNT10B, XRN2, YDJC, ZBTB26, ZCCHC5, ZFP82, ZMIZ1-AS1, ZNF212, ZNF350, ZNF660, ZNF79 or ZNF837.

[00104] In another specific embodiment of the aspects and embodiments described herein, the gene is, or the RNA transcript is transcribed from a gene that is selected from: ABCA10, ACTA2, ADAL, ADAMTS1, ADAMTS5, ADD1, ADGRG6, ADH6, ADHFE1, AFF3, AKAP3, ANK1, ANK3, ANKRD33B, AP4B1-AS1, ARHGEF16, ARID5B, ARL9, ASIC1, ATP2A3, B3GALT2, B3GNT6, BCL2L15, BCYRN1, BIN3-IT1, BIRC3, BTG2, C10orf54, C11orf70, C11orf94, C12orf56, C19orf47, C3, C7orf31, C8orf34, CA13, CA3, CACNA2D2, CACNB1, CADM1, CAND2, CCDC79, CCER2, CCNF, CELSR1, CEMIP, CEP170, CFH, CIITA, CLDN23, CMAHP, CNGA4, CNTD1, COL11A1, COL14A1, COL15A1, COL5A1, COL5A3, COL6A6, COL8A1, COLEC12, COMP, CPA4, CPQ, CRISPLD2, CRLF1, CRYL1, CYB5R2, CYGB, CYP1B1, DCLK1, DCN, DDIT4L, DDX50, DEGS1, DEPTOR, DFNB59, DIRAS3, DLG5, DNAH8, DNAJC27, DOCK11, DYNC1I1, DZIP1L, EFEMP1, EGR3, ELN, ELP4, EMX2OS, ENPP1, ERCC8, ESM1, EVC2, F2R, FAM160A1, FAM20A, FAM46B, FAM65B, FAP, FARP1, FBLN2, FBN2, FBXO9, FCHO1, FGFR2, FGL2, FLT1, FRAS1, FSCN2, GAL3ST4, GALNT15, GATA6, GBGT1, GCNT1, GDF6, GNAQ, GPR183, GPR50, GPRC5A, GPRC5B, GRTP1, GUCA1B, GXYLT1, HAPLN1, HAPLN2, HAS3, HAVCR2, HDAC5,

HECTD2-AS1, HEPH, HEY1, HMGN3-AS1, HOOK3, HSPA1L, HTATIP2, IGDCC4, IGF2R, IGFBP3, IL16, INA, INTU, IQCG, ITGA11, ITGA8, ITGB8, ITIH1, ITPKA, KCNS1, KCNS2, KDM6A, KDSR, KIAA1456, KIAA1462, KIAA1755, KIT, KLF17, KLRG1, KRT7, KRTAP1-1, KRTAP1-5, L3MBTL2, LAMB2P1, LGI2, LGR4, LHX9, LINC00472, LINC00570, LINC00578, LINC00607, LINC00678, LINC00702, LINC00886, LINC00961, LINC01011, LINC01118, LINC01204, LMOD1, LRBA, LRP4, LRRC32, LRRC39, LSAMP, LUM, LYPD1, MAFB, MAMDC2, MAN2A1, MAPK13, MASP1, MB, MC4R, MEGF6, MIAT, MIR612, MLLT10, MMP10, MMP24, MN1, MOXD1, MRVI1, MSH4, MTERF3, MXRA5, NA, NAALADL2, NAE1, NAGS, NDNF, NGFR, NHLH1, NLN, NOTCH3, NOTUM, NOVA2, NOX4, NRROS, OCLN, OLR1, OSBPL10, OXCT2, PAIP2B, PBLD, PDE1C, PDE5A, PDGFD, PDGFRB, PDS5B, PEAR1, PHACTR3, PI4K2B, PIK3R1, PIM2, PITPNM3, PLEK2, PLEKHA6, PLEKHH2, PODN, POLN, POLR1A, PPM1E, PPP3CA, PRKCA, PRKG1, PRPH2, PRRG4, PRUNE2, PSMD6-AS2, PTGIS, PTX3, RAB30, RAB38, RAB44, RAD9B, RARS, RBBP8, RBKS, RDX, RFX3-AS1, RGCC, ROR1, ROR2, SCARNA9, SHROOM3, SIGLEC10, SLC24A3, SLC35F3, SLC39A10, SLC46A2, SLC4A11, SLC6A15, SLC7A11, SLC9A3, SLIT3, SMG1P3, SMTN, SNED1, SORBS2, SORCS2, SOX7, SPDYA, SPEF2, STAC2, STAT4, STK32B, STRN4, STS, STXBP6, SULF1, SVEP1, SYNGR2, SYNPO, SYNPO2, SYNPO2L, TAGLN3, TANGO6, TEX21P, TGFA, TGFB2, TGFB3, TGM2, THBS2, TMEM102, TMEM119, TMEM256-PLSCR3, TMEM50B, TNFAIP8L3, TNFRSF14, TNRC18P1, TNXB, TP53AIP1, TPRG1, TRIM66, TRPC4, TSHZ2, TSPAN11, TSPAN18, TSPAN7, TSSK3, TXNIP, USP27X, UVRAG, VIM-AS1, VPS41, VSTM2L, VWF, WDR91, WISP1, WNT10B, YDJC, ZBTB26, ZCCHC5, ZFP82, ZMIZ1-AS1, ZNF212, ZNF350, ZNF660, ZNF79 or ZNF837.

[00105] In another specific embodiment of the aspects and embodiments described herein, the gene is, or the RNA transcript is transcribed from a gene that is selected from: ABCB8, ABCC3, ADAM17, ADCY3, AGPAT4, ANKRA2, ANXA11, APIP, APLP2, APLP2, ARHGAP1, ARL15, ASAP1, ASPH, ATAD2B, ATXN1, AXIN1, BECN1, BHMT2, BICD1, BTN3A1, C11orf30, C11orf73, C12orf4, C14orf132, C8orf44, C8orf44-SGK3, C8orf88, CASC3, CASP7, CCDC122, CDH13, CECR7, CENPI, CEP112, CEP192, CHEK1, CMAHP, CNRIP1, COPS7B, CPSF4, CRISPLD2, CRYBG3, CSNK1E, CSNK1G1, DAGLB, DCAF17, DCUN1D4, DDX42, DENND1A, DENND5A, DGKA, DHFR, DIAPH3, DLGAP4, DNAJC13, DNMBP, DOCK1,

DYRK1A, EIF2B3, ENAH, ENOX1, EP300, ERC1, ERCC1, ERGIC3, ERLIN2, ERRFI1, EVC, FAF1, FAIM, FAM126A, FAM13A, FAM162A, FAM174A, FAM198B, FBN2, FER, FHOD3, FOCAD, GALC, GCFC2, GGACT, GGCT, GLCE, GOLGA4, GOLGB1, GPSM2, GULP1, GXYLT1, HAT1, HDX, HLTF, HMGA2, HNMT, HPS1, HSD17B12, HSD17B4, HTT, IFT57, INPP5K, IVD, KDM6A, KIAA1524, KIAA1715, LETM2, LOC400927, LRRC42, LUC7L3, LYRM1, MADD, MB21D2, MCM10, MED13L, MEDAG, MEMO1, MFN2, MMS19, MRPL45, MRPS28, MTERF3, MYCBP2, MYLK, MYOF, NGF, NREP, NSUN4, NT5C2, OSMR, OXCT1, PAPD4, PCM1, PDE7A, PDS5B, PDXDC1, PIGN, PIK3CD, PIK3R1, PIKFYVE, PITPNB, PLEKHA1, PLSCR1, PMS1, POMT2, PPARG, PPHLN1, PPIP5K2, PPP1R26, PRPF31, PRSS23, PRUNE2, PSMA4, PXK, RAF1, RAP1A, RAPGEF1, RARS2, RBKS, RERE, RFWD2, RNFT1, RPA1, RPS10, RPS6KB2, SAMD4A, SAR1A, SCO1, SEC24A, SENP6, SERGEF, SGK3, SH3YL1, SKA2, SLC12A2, SLC25A17, SLC44A2, SMYD3, SNAP23, SNHG16, SNX7, SOS2, SPATA18, SPATA5, SPIDR, SPRYD7, SRGAP1, SRRM1, STAT1, STRN3, STXBP6, SUPT20H, TAF2, TASP1, TBC1D15, TCF12, TCF4, TIAM1, TJP2, TMC3, TMEM189-UBE2V1, TMEM214, TNRC6A, TNS3, TOE1, TRAF3, TRIM65, TSPAN2, TTC7B, TUBE1, TYW5, UBAP2L, UBE2V1, URGCP, VAV2, VPS29, WDR27, WDR37, WDR91, WNK1, XRN2, ZCCHC8, ZFP82, ZNF138, ZNF232, ZNF37BP or ZNF680.

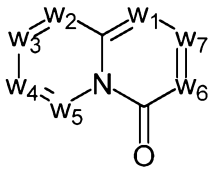
[00106] In another specific embodiment of the aspects and embodiments described herein, the gene is, or the RNA transcript is transcribed from a gene that is selected from: ABCB8, ABCC3, ADAM17, ADCY3, AGPAT4, ANKRA2, ANXA11, APIP, APPL2, ARHGAP1, ARL15, ASAP1, ASPH, ATAD2B, ATXN1, BECN1, BHMT2, BICD1, BTN3A1, C11orf30, C11orf73, C12orf4, C14orf132, C8orf44, C8orf44-SGK3, C8orf88, CASC3, CASP7, CCDC122, CDH13, CECR7, CENPI, CEP112, CEP192, CHEK1, CMAHP, CNRIP1, COPS7B, CPSF4, CRISPLD2, CRYBG3, CSNK1E, CSNK1G1, DCAF17, DCUN1D4, DDX42, DENND1A, DENND5A, DGKA, DHFR, DIAPH3, DNAJC13, DNMBP, DOCK1, DYRK1A, EIF2B3, ENAH, ENOX1, EP300, ERC1, ERLIN2, ERRFI1, EVC, FAF1, FAIM, FAM126A, FAM13A, FAM162A, FAM174A, FBN2, FER, FHOD3, FOCAD, GALC, GCFC2, GGACT, GLCE, GOLGA4, GOLGB1, GPSM2, GULP1, GXYLT1, HDX, HLTF, HMGA2, HNMT, HSD17B12, HSD17B4, HTT, IFT57, IVD, KDM6A, KIAA1524, KIAA1715, LETM2, LOC400927, LRRC42, LUC7L3, LYRM1, MB21D2, MCM10, MED13L, MEDAG, MEMO1, MFN2, MMS19, MRPL45,

MRPS28, MTERF3, MYCBP2, MYLK, MYOF, NGF, NREP, NSUN4, NT5C2, OSMR, OXCT1, PAPD4, PCM1, PDE7A, PDS5B, PDXDC1, PIGN, PIK3CD, PIK3R1, PIKFYVE, PITPNB, PLEKHA1, PLSCR1, PMS1, POMT2, PPARG, PPIP5K2, PPP1R26, PRPF31, PRSS23, PSMA4, PXK, RAF1, RAPGEF1, RARS2, RBKS, RERE, RFWD2, RPA1, RPS10, SAMD4A, SAR1A, SCO1, SEC24A, SENP6, SERGEF, SGK3, SLC12A2, SLC25A17, SLC44A2, SMYD3, SNAP23, SNHG16, SNX7, SOS2, SPATA5, SPIDR, SPRYD7, SRGAP1, SRRM1, STAT1, STXBP6, SUPT20H, TAF2, TASP1, TBC1D15, TCF12, TCF4, TIAM1, TJP2, TMC3, TMEM214, TNRC6A, TNS3, TOE1, TRAF3, TSPAN2, TTC7B, TYW5, UBAP2L, URGCP, VAV2, WDR27, WDR37, WDR91, WNK1, XRN2, ZCCHC8, ZFP82, ZNF138, ZNF232 or ZNF37BP.

[00107] In another specific embodiment of the aspects and embodiments described herein, the gene is, or the RNA transcript is transcribed from a gene that is selected from: APLP2, AXIN1, CECR7, DAGLB, DLGAP4, ERCC1, ERGIC3, FAM198B, GGCT, HAT1, HPS1, INPP5K, MADD, PPHLN1, PRUNE2, RAP1A, RNFT1, RPS6KB2, SH3YL1, SKA2, SPATA18, STRN3, TMEM189-UBE2V1, TRIM65, TUBE1, UBE2V1, VPS29 or ZNF680.

[00108] In another specific embodiment of the aspects and embodiments described herein, the gene is, or the RNA transcript is transcribed from a gene that is selected from: ABCB8, ABCC3, ADCY3, AGPAT4, ANKRA2, APIP, ARHGAP1, ARL15, ATXN1, BECN1, BHMT2, BTN3A1, C12orf4, C14orf132, C8orf44, C8orf44-SGK3, C8orf88, CASP7, CCDC122, CECR7, CENPI, CEP112, CEP192, CHEK1, CMAHP, CNRIP1, CPSF4, CRISPLD2, CRYBG3, CSNK1E, CSNK1G1, DAGLB, DCAF17, DLGAP4, DNAJC13, DNMBP, DYRK1A, ENAH, EP300, ERCC1, ERLIN2, ERRFI1, EVC, FAIM, FAM126A, FAM13A, FAM162A, FAM174A, FBN2, GGACT, GLCE, GULP1, GXYLT1, HDX, HMGA2, HNMT, HPS1, IFT57, INPP5K, IVD, KDM6A, LETM2, LOC400927, LRRC42, LYRM1, MB21D2, MCM10, MED13L, MFN2, MRPL45, MRPS28, MTERF3, MYCBP2, NGF, OXCT1, PDS5B, PIGN, PIK3CD, PIK3R1, PIKFYVE, PLEKHA1, PLSCR1, POMT2, PPARG, PPIP5K2, PPP1R26, PRPF31, PRUNE2, PXK, RAF1, RAPGEF1, RARS2, RBKS, RERE, RPA1, RPS10, RPS6KB2, SAMD4A, SEC24A, SENP6, SERGEF, SGK3, SH3YL1, SKA2, SLC12A2, SLC44A2, SNX7, SPATA18, SPATA5, SPIDR, SPRYD7, SRGAP1, SRRM1, STXBP6, TASP1, TCF12, TCF4, TIAM1, TMC3, TMEM189-UBE2V1, TMEM214, TNRC6A, TTC7B, TUBE1, TYW5, URGCP, VAV2, WDR27, WDR91, WNK1, ZCCHC8, ZFP82, ZNF138, ZNF232 or ZNF680.

[00109] In another aspect, provide herein is a method of modulating the amount and type of a protein produced by a cell containing the artificial gene construct as described above, the method comprising contacting the cell with a compound of Formula (I) or a form thereof, wherein Formula (I) is



(I),

wherein:

w_1 and w_5 are independently C-R_a or N;

w_2 is C-R_b or N;

w_3, w_4 and w_7 are independently C-R_1, C-R_2, C-R_a or N;

w_6 is C-R_1, C-R_2, C-R_c or N;

wherein one of w_3, w_4, w_6 and w_7 is C-R_1 and one other of w_3, w_4, w_6 and w_7 is C-R_2, provided that,

when w_3 is C-R_1, then w_6 is C-R_2 and w_4 and w_7 are independently C-R_a or N; or,

when w_3 is C-R_2, then w_6 is C-R_1 and w_4 and w_7 are independently C-R_a or N; or,

when w_4 is C-R_1, then w_7 is C-R_2 and w_3 is C-R_a or N and w_6 is C-R_c or N; or,

when w_4 is C-R_2, then w_7 is C-R_1 and w_3 is C-R_a or N and w_6 is C-R_c or N; and,

wherein any one, two or three of w_1, w_2, w_3, w_4, w_5, w_6 and w_7 may optionally be N;

R_1 is C_{1-8}alkyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino, C_{1-8}alkoxy-C_{1-8}alkyl-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, amino-C_{1-8}alkyl, C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, amino-C_{1-8}alkyl-amino, (amino-C_{1-8}alkyl)$_2$-amino, (amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, amino-C_{1-8}alkoxy, C_{1-8}alkyl-amino-C_{1-8}alkoxy, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy,

C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkoxy, amino-C_{2-8}alkenyl, C_{1-8}alkyl-amino-C_{2-8}alkenyl, (C_{1-8}alkyl)$_2$-amino-C_{2-8}alkenyl, amino-C_{2-8}alkynyl, C_{1-8}alkyl-amino-C_{2-8}alkynyl, (C_{1-8}alkyl)$_2$-amino-C_{2-8}alkynyl, halo-C_{1-8}alkyl-amino, (halo-C_{1-8}alkyl)$_2$-amino, (halo-C_{1-8}alkyl)(C_{1-8}alkyl)amino, hydroxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkoxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkoxy, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl-amino, [(hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, [(hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, heterocyclyl, heterocyclyl-C_{1-8}alkyl, heterocyclyl-C_{1-8}alkoxy, heterocyclyl-amino, (heterocyclyl)(C_{1-8}alkyl)amino, heterocyclyl-amino-C_{1-8}alkyl, heterocyclyl-C_{1-8}alkyl-amino, (heterocyclyl-C_{1-8}alkyl)$_2$-amino, (heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heterocyclyl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (heterocyclyl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heterocyclyl-oxy, heterocyclyl-carbonyl, heterocyclyl-carbonyl-oxy, C_{3-14}cycloalkyl, aryl-C_{1-8}alkyl-amino, (aryl-C_{1-8}alkyl)$_2$-amino, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, aryl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (aryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heteroaryl, heteroaryl-C_{1-8}alkyl, heteroaryl-C_{1-8}alkoxy, heteroaryl-amino, heteroaryl-C_{1-8}alkyl-amino, (heteroaryl-C_{1-8}alkyl)$_2$-amino, (heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heteroaryl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (heteroaryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl or (heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl;

wherein, each instance of heterocyclyl, C_{3-14}cycloalkyl, aryl and heteroaryl is optionally substituted with one, two or three R_3 substituents and optionally, with one additional R_4 substituent; or,

wherein, each instance of heterocyclyl, C_{3-14}cycloalkyl, aryl and heteroaryl is optionally substituted with one, two, three or four R_3 substituents;

R_2 is aryl, aryl-amino, aryl-amino-carbonyl, heterocyclyl, heteroaryl or heteroaryl-amino; wherein, each instance of aryl, heterocyclyl and heteroaryl is optionally substituted with one, two or three R_6 substituents and optionally, with one additional R_7 substituent;

R_a is, in each instance, independently selected from hydrogen, halogen, C_{1-8}alkyl or deuterium;

R_b is hydrogen, halogen, C_{1-8}alkyl, C_{1-8}alkoxy or deuterium;

R_c is hydrogen, halogen, C_{1-8}alkyl or deuterium;

R_3 is, in each instance, independently selected from cyano, halogen, hydroxy, oxo, C_{1-8}alkyl, halo-C_{1-8}alkyl, C_{1-8}alkyl-carbonyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl, C_{1-8}alkoxy-carbonyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino, amino-C_{1-8}alkyl, C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, amino-C_{1-8}alkyl-amino, C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl]$_2$-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, C_{1-8}alkoxy-C_{1-8}alkyl-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, C_{1-8}alkyl-carbonyl-amino, C_{1-8}alkoxy-carbonyl-amino, hydroxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkoxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino or (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino;

R_4 is C_{3-14}cycloalkyl, C_{3-14}cycloalkyl-C_{1-8}alkyl, C_{3-14}cycloalkyl-amino, aryl-C_{1-8}alkyl, aryl-C_{1-8}alkoxy-carbonyl, aryl-sulfonyloxy-C_{1-8}alkyl, heterocyclyl or heterocyclyl-C_{1-8}alkyl; wherein, each instance of C_{3-14}cycloalkyl, aryl and heterocyclyl is optionally substituted with one, two or three R_5 substituents;

R_5 is, in each instance, independently selected from halogen, hydroxy, cyano, nitro, C_{1-8}alkyl, halo-C_{1-8}alkyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino or C_{1-8}alkyl-thio;

R_6 is, in each instance, independently selected from halogen, hydroxy, cyano, nitro, C_{1-8}alkyl, C_{2-8}alkenyl, halo-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl, amino, C_{1-8}alkyl-amino, $(C_{1-8}alkyl)_2$-amino or C_{1-8}alkyl-thio; and, R_7 is C_{3-14}cycloalkyl, C_{3-14}cycloalkyl-oxy, aryl, heterocyclyl or heteroaryl.

[00110] In a specific embodiment, in the context of DNA, the nucleotide sequence encoding the intronic REMS comprises a sequence selected from the group consisting of ANGAgtrngn (SEQ ID NO: 1829), CNGAgtrngn (SEQ ID NO: 1835), GNGAgtrngn (SEQ ID NO: 1841), TNGAgtrngn (SEQ ID NO: 1847), NAGAgtrngn (SEQ ID NO: 1830), NCGAgtrngn (SEQ ID NO: 1836), NGGAgtrngn (SEQ ID NO: 1842), NTGAgtrngn (SEQ ID NO: 1848), AAGAgtrngn (SEQ ID NO: 1831), ACGAgtrngn (SEQ ID NO: 1837), AGGAgtrngn (SEQ ID NO: 1843), ATGAgtrngn (SEQ ID NO: 1849), CAGAgtrngn (SEQ ID NO: 1832), CCGAgtrngn (SEQ ID NO: 1838), CGGAgtrngn (SEQ ID NO: 1844), CTGAgtrngn (SEQ ID NO: 1850), GAGAgtrngn (SEQ ID NO: 1833), GCGAgtrngn (SEQ ID NO: 1839), GGGAgtrngn (SEQ ID NO: 1845), GTGAgtrngn (SEQ ID NO: 1851), TAGAgtrngn (SEQ ID NO: 1834), TCGAgtrngn (SEQ ID NO: 1840), TGGAgtrngn (SEQ ID NO: 1846) and TTGAgtrngn (SEQ ID NO: 1852), wherein r is adenine or guanine and n or N is any nucleotide.

[00111] In a further specific embodiment, in the context of DNA, the nucleotide sequence encoding the intronic REMS comprises a sequence selected from the group consisting of ANGAgtragt (SEQ ID NO: 2237), CNGAgtragt (SEQ ID NO: 2243), GNGAgtragt (SEQ ID NO: 2249), TNGAgtragt (SEQ ID NO: 2255), NAGAgtragt (SEQ ID NO: 2238), NCGAgtragt (SEQ ID NO: 2244), NGGAgtragt (SEQ ID NO: 2250), NTGAgtragt (SEQ ID NO: 2256), AAGAgtragt (SEQ ID NO: 2239), ACGAgtragt (SEQ ID NO: 2245), AGGAgtragt (SEQ ID NO: 2251), ATGAgtragt (SEQ ID NO: 2257), CAGAgtragt (SEQ ID NO: 2240), CCGAgtragt (SEQ ID NO: 2246), CGGAgtragt (SEQ ID NO: 2252), CTGAgtragt (SEQ ID NO: 2258), GAGAgtragt (SEQ ID NO: 2241), GCGAgtragt (SEQ ID NO: 2247),

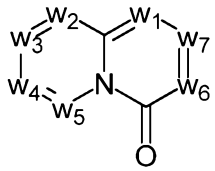
GGGAgtragt (SEQ ID NO: 2253), GTGAgtragt (SEQ ID NO: 2259), TAGAgtragt (SEQ ID NO: 2242), TCGAgtragt (SEQ ID NO: 2248), TGGAgtragt (SEQ ID NO: 2254) and TTGAgtragt (SEQ ID NO: 2260), wherein r is adenine or guanine and N is any nucleotide. In one or more embodiments provided herein, N is adenine or guanine.

[00112] In various specific embodiments, the nucleotide sequence encoding the intronic REMS is a nucleotide sequence encoding a non-endogenous intronic REMS, i.e., a precursor RNA transcript comprising the non-endogenous intronic REMS not naturally found in the DNA sequence of the artificial construct.

[00113] In one aspect, provided herein is a method for modulating the amount of an RNA transcript comprising a RNA nucleotide sequence comprising in 5' to 3' order: a branch point, a 3' splice site and an endogenous intronic recognition element for splicing modifier (iREMS), wherein the iREMS comprises an RNA sequence GAgurngn (SEQ ID NO: 2), wherein r is adenine or guanine and n is any nucleotide, and wherein the RNA transcript is an RNA transcript of a gene that is selected from: ABCA10, ABCB8, ABCC3, ACTA2, ADAL, ADAMTS1, ADCY3, ADD1, ADGRG6, ADH6, ADHFE1, AFF3, AGPAT4, AKAP3, ANK1, ANK3, ANKRA2, ANKRD33B, ANKRD36, AP4B1-AS1, APIP, ARHGAP1, ARHGAP12, ARHGEF16, ARID5B, ARL15, ARL9, ARMCX6, ASIC1, ATG5, ATP2A3, ATXN1, B3GALT2, B3GNT6, BCL2L15, BCYRN1, BECN1, BHMT2, BIN3-IT1, BIRC3, BIRC6, BTG2, BTN3A1, C10orf54, C11orf70, C11orf94, C12orf4, C12orf56, C14orf132, C19orf47, C1orf86, C3, C7orf31, C8orf34, C8orf44, C8orf44-SGK3, C8orf88, CA13, CA3, CACNA2D2, CACNB1, CADM1, CAND2, CASP7, CCDC122, CCDC79, CCER2, CCNF, CECR7, CELSR1, CEMIP, CENPI, CEP112, CEP170, CEP192, CFH, CHEK1, CIITA, CLDN23, CLTA, CMAHP, CNGA4, CNRIP1, CNTD1, COL11A1, COL14A1, COL15A1, COL5A1, COL5A3, COL6A6, COL8A1, COLEC12, COMP, CPA4, CPQ, CPSF4, CRISPLD2, CRLF1, CRYBG3, CRYL1, CSNK1E, CSNK1G1, CYB5R2, CYGB, CYP1B1, DAGLB, DCAF17, DCLK1, DCN, DDIT4L, DDX50, DEGS1, DEPTOR, DFNB59, DIRAS3, DLG5, DLGAP4, DNAH8, DNAJC13, DNAJC27, DNMBP, DOCK11, DYNC1I1, DYRK1A, DZIP1L, EFEMP1, EGR3, ELN, ELP4, EMX2OS, ENAH, ENPP1, EP300, ERCC1, ERCC8, ERGIC3, ERLIN2, ERRFI1, ESM1, EVC, EVC2, F2R, FAIM, FAM126A, FAM13A, FAM160A1, FAM162A, FAM174A, FAM20A, FAM46B, FAM65B, FAP, FARP1, FBLN2, FBN2, FBXL6, FCHO1, FGFR2, FGL2, FLT1,

FRAS1, FSCN2, GAL3ST4, GALNT15, GATA6, GBGT1, GCNT1, GDF6, GGACT, GLCE, GNAQ, GPR183, GPR50, GPRC5A, GPRC5B, GRTP1, GUCA1B, GULP1, GXYLT1, HAPLN1, HAPLN2, HAS3, HAVCR2, HDAC5, HDX, HECTD2-AS1, HEPH, HEY1, HMGA2, HMGN3-AS1, HNMT, HOOK3, HPS1, HSPA1L, HTATIP2, IFT57, IGDCC4, IGF2R, IGFBP3, IL16, INA, INPP5K, INTU, IQCG, ITGA11, ITGA8, ITGB8, ITIH1, ITPKA, IVD, KAT6B, KCNS1, KCNS2, KDM6A, KDSR, KIAA1456, KIAA1462, KIAA1755, KIT, KLF17, KLRG1, KMT2D, KRT7, KRTAP1-1, KRTAP1-5, L3MBTL2, LAMB2P1, LETM2, LGI2, LGR4, LHX9, LINC00472, LINC00570, LINC00578, LINC00607, LINC00678, LINC00702, LINC00886, LINC00961, LINC01011, LINC01118, LINC01204, LMOD1, LOC400927, LRBA, LRP4, LRRC32, LRRC39, LRRC42, LSAMP, LUM, LYPD1, LYRM1, MAFB, MAMDC2, MAN2A1, MAN2C1, MAPK13, MASP1, MB, MB21D2, MC4R, MCM10, MED13L, MEGF6, MFN2, MIAT, MIR612, MLLT10, MMP10, MMP24, MN1, MOXD1, MRPL45, MRPL55, MRPS28, MRVI1, MSH4, MTERF3, MXRA5, MYCBP2, NA, NAALADL2, NAE1, NAGS, NDNF, NGF, NGFR, NHLH1, NLN, NOTCH3, NOTUM, NOVA2, NOX4, NRROS, OCLN, OLR1, OSBPL10, OXCT1, OXCT2, PAIP2B, PBLD, PDE1C, PDE5A, PDGFD, PDGFRB, PDS5B, PEAR1, PHACTR3, PIGN, PIK3CD, PIK3R1, PIKFYVE, PIM2, PITPNM3, PLEK2, PLEKHA1, PLEKHA6, PLEKHH2, PLSCR1, PNISR, PODN, POLN, POLR1A, POMT2, PPARG, PPIP5K2, PPM1E, PPP1R26, PPP3CA, PRKCA, PRKG1, PRPF31, PRPH2, PRRG4, PRUNE2, PSMD6-AS2, PTGIS, PTX3, PXK, RAB30, RAB38, RAB44, RAD9B, RAF1, RAPGEF1, RARS, RARS2, RBBP8, RBKS, RDX, RERE, RFX3-AS1, RGCC, ROR1, ROR2, RPA1, RPS10, RPS6KB2, SAMD4A, SCARNA9, SEC24A, SENP6, SERGEF, SGK3, SH3YL1, SHROOM3, SIGLEC10, SKA2, SLC12A2, SLC24A3, SLC35F3, SLC39A10, SLC44A2, SLC46A2, SLC4A11, SLC6A15, SLC7A11, SLC9A3, SLIT3, SMG1P3, SMTN, SNED1, SNX7, SORBS2, SORCS2, SOX7, SPATA18, SPATA5, SPDYA, SPEF2, SPIDR, SPRYD7, SRGAP1, SRRM1, STAC2, STAT4, STK32B, STRN4, STS, STXBP6, SULF1, SVEP1, SYNGR2, SYNPO, SYNPO2, SYNPO2L, TAGLN3, TANGO6, TASP1, TCF12, TCF4, TGFA, TGFB2, TGFB3, TGM2, THBS2, TIAM1, TMC3, TMEM102, TMEM119, TMEM134, TMEM189-UBE2V1, TMEM214, TMEM256-PLSCR3, TMEM50B, TNFAIP8L3, TNFRSF14, TNRC18P1, TNRC6A, TNXB, TP53AIP1, TPRG1, TRIM66, TRPC4, TSHZ2, TSPAN11, TSPAN18, TSPAN7, TSSK3, TTC7B, TUBE1, TXNIP, TYW5, URGCP, USP27X, UVRAG, VAV2, VIM-AS1, VPS41, VSTM2L, VWF, WDR27,

WDR91, WISP1, WNK1, WNT10B, YDJC, ZBTB26, ZCCHC5, ZCCHC8, ZFP82, ZMIZ1-AS1, ZNF138, ZNF212, ZNF232, ZNF350, ZNF431, ZNF660, ZNF680, ZNF79, or ZNF837; the method comprising contacting the RNA transcript with a compound of Formula (I) or a form thereof, wherein Formula (I) is:



(I),

wherein:

w_1 and w_5 are independently C-R_a or N;

w_2 is C-R_b or N;

w_3, w_4 and w_7 are independently C-R_1, C-R_2, C-R_a or N;

w_6 is C-R_1, C-R_2, C-R_c or N;

wherein one of w_3, w_4, w_6 and w_7 is C-R_1 and one other of w_3, w_4, w_6 and w_7 is C-R_2, provided that,

when w_3 is C-R_1, then w_6 is C-R_2 and w_4 and w_7 are independently C-R_a or N; or,

when w_3 is C-R_2, then w_6 is C-R_1 and w_4 and w_7 are independently C-R_a or N; or,

when w_4 is C-R_1, then w_7 is C-R_2 and w_3 is C-R_a or N and w_6 is C-R_c or N; or,

when w_4 is C-R_2, then w_7 is C-R_1 and w_3 is C-R_a or N and w_6 is C-R_c or N; and,

wherein any one, two or three of w_1, w_2, w_3, w_4, w_5, w_6 and w_7 may optionally be N;

R_1 is C_{1-8}alkyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino, C_{1-8}alkoxy-C_{1-8}alkyl-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, amino-C_{1-8}alkyl, C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, amino-C_{1-8}alkyl-amino, (amino-C_{1-8}alkyl)$_2$-amino, (amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, amino-C_{1-8}alkoxy, C_{1-8}alkyl-amino-C_{1-8}alkoxy, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy,

C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkoxy, amino-C_{2-8}alkenyl, C_{1-8}alkyl-amino-C_{2-8}alkenyl, (C_{1-8}alkyl)$_2$-amino-C_{2-8}alkenyl, amino-C_{2-8}alkynyl, C_{1-8}alkyl-amino-C_{2-8}alkynyl, (C_{1-8}alkyl)$_2$-amino-C_{2-8}alkynyl, halo-C_{1-8}alkyl-amino, (halo-C_{1-8}alkyl)$_2$-amino, (halo-C_{1-8}alkyl)(C_{1-8}alkyl)amino, hydroxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkoxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkoxy, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl-amino, [(hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, [(hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, heterocyclyl, heterocyclyl-C_{1-8}alkyl, heterocyclyl-C_{1-8}alkoxy, heterocyclyl-amino, (heterocyclyl)(C_{1-8}alkyl)amino, heterocyclyl-amino-C_{1-8}alkyl, heterocyclyl-C_{1-8}alkyl-amino, (heterocyclyl-C_{1-8}alkyl)$_2$-amino, (heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heterocyclyl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (heterocyclyl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heterocyclyl-oxy, heterocyclyl-carbonyl, heterocyclyl-carbonyl-oxy, C_{3-14}cycloalkyl, aryl-C_{1-8}alkyl-amino, (aryl-C_{1-8}alkyl)$_2$-amino, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, aryl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (aryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heteroaryl, heteroaryl-C_{1-8}alkyl, heteroaryl-C_{1-8}alkoxy, heteroaryl-amino, heteroaryl-C_{1-8}alkyl-amino, (heteroaryl-C_{1-8}alkyl)$_2$-amino, (heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heteroaryl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (heteroaryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl or (heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl;

wherein, each instance of heterocyclyl, C_{3-14}cycloalkyl, aryl and heteroaryl is optionally substituted with one, two or three R_3 substituents and optionally, with one additional R_4 substituent; or,

wherein, each instance of heterocyclyl, C_{3-14}cycloalkyl, aryl and heteroaryl is optionally substituted with one, two, three or four R_3 substituents;

R_2 is aryl, aryl-amino, aryl-amino-carbonyl, heterocyclyl, heteroaryl or heteroaryl-amino; wherein, each instance of aryl, heterocyclyl and heteroaryl is optionally substituted with one, two or three R_6 substituents and optionally, with one additional R_7 substituent;

R_a is, in each instance, independently selected from hydrogen, halogen, C_{1-8}alkyl or deuterium;

R_b is hydrogen, halogen, C_{1-8}alkyl, C_{1-8}alkoxy or deuterium;

R_c is hydrogen, halogen, C_{1-8}alkyl or deuterium;

R_3 is, in each instance, independently selected from cyano, halogen, hydroxy, oxo, C_{1-8}alkyl, halo-C_{1-8}alkyl, C_{1-8}alkyl-carbonyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl, C_{1-8}alkoxy-carbonyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino, amino-C_{1-8}alkyl, C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, amino-C_{1-8}alkyl-amino, C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl]$_2$-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, C_{1-8}alkoxy-C_{1-8}alkyl-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, C_{1-8}alkyl-carbonyl-amino, C_{1-8}alkoxy-carbonyl-amino, hydroxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkoxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino or (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino;

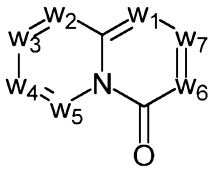
R_4 is C_{3-14}cycloalkyl, C_{3-14}cycloalkyl-C_{1-8}alkyl, C_{3-14}cycloalkyl-amino, aryl-C_{1-8}alkyl, aryl-C_{1-8}alkoxy-carbonyl, aryl-sulfonyloxy-C_{1-8}alkyl, heterocyclyl or heterocyclyl-C_{1-8}alkyl; wherein, each instance of C_{3-14}cycloalkyl, aryl and heterocyclyl is optionally substituted with one, two or three R_5 substituents;

R_5 is, in each instance, independently selected from halogen, hydroxy, cyano, nitro, C_{1-8}alkyl, halo-C_{1-8}alkyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino or C_{1-8}alkyl-thio;

R_6 is, in each instance, independently selected from halogen, hydroxy, cyano, nitro, C_{1-8}alkyl, C_{2-8}alkenyl, halo-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl, amino, C_{1-8}alkyl-amino, $(C_{1-8}alkyl)_2$-amino or C_{1-8}alkyl-thio; and,

R_7 is C_{3-14}cycloalkyl, C_{3-14}cycloalkyl-oxy, aryl, heterocyclyl or heteroaryl.

[00114] In another aspect, provided herein is a method for modulating the amount of an RNA transcript comprising a RNA nucleotide sequence comprising in 5' to 3' order: a branch point, a 3' splice site and an endogenous intronic recognition element for splicing modifier (iREMS); wherein the iREMS comprises an RNA sequence GAgurngn (SEQ ID NO: 2), wherein r is adenine or guanine and n is any nucleotide, and wherein the RNA transcript is an RNA transcript of a gene not disclosed in either International Publication No. WO 2015/105657, International Publication No. WO 2016/196386, or both; the method comprising contacting the RNA transcript with a compound of Formula (I) or a form thereof, wherein Formula (I) is:



(I),

wherein:

w_1 and w_5 are independently C-R_a or N;

w_2 is C-R_b or N;

w_3, w_4 and w_7 are independently C-R_1, C-R_2, C-R_a or N;

w_6 is C-R_1, C-R_2, C-R_c or N;

wherein one of w_3, w_4, w_6 and w_7 is C-R_1 and one other of w_3, w_4, w_6 and w_7 is C-R_2, provided that,

when w_3 is C-R_1, then w_6 is C-R_2 and w_4 and w_7 are independently C-R_a or N; or,

when w_3 is C-R_2, then w_6 is C-R_1 and w_4 and w_7 are independently C-R_a or N; or,

when w_4 is C-R_1, then w_7 is C-R_2 and w_3 is C-R_a or N and w_6 is C-R_c or N; or,

when w_4 is C-R_2, then w_7 is C-R_1 and w_3 is C-R_a or N and w_6 is C-R_c or N; and,

wherein any one, two or three of w_1, w_2, w_3, w_4, w_5, w_6 and w_7 may optionally be N;

R_1 is C_{1-8}alkyl, amino, C_{1-8}alkyl-amino, $(C_{1-8}alkyl)_2$-amino, C_{1-8}alkoxy-C_{1-8}alkyl-amino, $(C_{1-8}alkoxy\text{-}C_{1-8}alkyl)_2$-amino, ($C_{1-8}$alkoxy-$C_{1-8}$alkyl)($C_{1-8}$alkyl)amino, amino-$C_{1-8}$alkyl,

C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, amino-C_{1-8}alkyl-amino, (amino-C_{1-8}alkyl)$_2$-amino, (amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, amino-C_{1-8}alkoxy, C_{1-8}alkyl-amino-C_{1-8}alkoxy, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkoxy, amino-C_{2-8}alkenyl, C_{1-8}alkyl-amino-C_{2-8}alkenyl, (C_{1-8}alkyl)$_2$-amino-C_{2-8}alkenyl, amino-C_{2-8}alkynyl, C_{1-8}alkyl-amino-C_{2-8}alkynyl, (C_{1-8}alkyl)$_2$-amino-C_{2-8}alkynyl, halo-C_{1-8}alkyl-amino, (halo-C_{1-8}alkyl)$_2$-amino, (halo-C_{1-8}alkyl)(C_{1-8}alkyl)amino, hydroxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkoxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkoxy, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl-amino, [(hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, [(hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, heterocyclyl, heterocyclyl-C_{1-8}alkyl, heterocyclyl-C_{1-8}alkoxy, heterocyclyl-amino, (heterocyclyl)(C_{1-8}alkyl)amino, heterocyclyl-amino-C_{1-8}alkyl, heterocyclyl-C_{1-8}alkyl-amino, (heterocyclyl-C_{1-8}alkyl)$_2$-amino, (heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heterocyclyl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (heterocyclyl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heterocyclyl-oxy, heterocyclyl-carbonyl, heterocyclyl-carbonyl-oxy, C_{3-14}cycloalkyl, aryl-C_{1-8}alkyl-amino,

(aryl-C_{1-8}alkyl)$_2$-amino, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, aryl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (aryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heteroaryl, heteroaryl-C_{1-8}alkyl, heteroaryl-C_{1-8}alkoxy, heteroaryl-amino, heteroaryl-C_{1-8}alkyl-amino, (heteroaryl-C_{1-8}alkyl)$_2$-amino, (heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heteroaryl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (heteroaryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl or (heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl;

wherein, each instance of heterocyclyl, C_{3-14}cycloalkyl, aryl and heteroaryl is optionally substituted with one, two or three R_3 substituents and optionally, with one additional R_4 substituent; or,

wherein, each instance of heterocyclyl, C_{3-14}cycloalkyl, aryl and heteroaryl is optionally substituted with one, two, three or four R_3 substituents;

R_2 is aryl, aryl-amino, aryl-amino-carbonyl, heterocyclyl, heteroaryl or heteroaryl-amino; wherein, each instance of aryl, heterocyclyl and heteroaryl is optionally substituted with one, two or three R_6 substituents and optionally, with one additional R_7 substituent;

R_a is, in each instance, independently selected from hydrogen, halogen, C_{1-8}alkyl or deuterium;

R_b is hydrogen, halogen, C_{1-8}alkyl, C_{1-8}alkoxy or deuterium;

R_c is hydrogen, halogen, C_{1-8}alkyl or deuterium;

R_3 is, in each instance, independently selected from cyano, halogen, hydroxy, oxo, C_{1-8}alkyl, halo-C_{1-8}alkyl, C_{1-8}alkyl-carbonyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl, C_{1-8}alkoxy-carbonyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino, amino-C_{1-8}alkyl, C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, amino-C_{1-8}alkyl-amino, C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl]$_2$-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, C_{1-8}alkoxy-C_{1-8}alkyl-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, C_{1-8}alkyl-carbonyl-amino, C_{1-8}alkoxy-carbonyl-amino, hydroxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkoxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino or (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino;

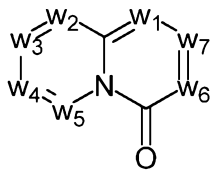
R_4 is C_{3-14}cycloalkyl, C_{3-14}cycloalkyl-C_{1-8}alkyl, C_{3-14}cycloalkyl-amino, aryl-C_{1-8}alkyl, aryl-C_{1-8}alkoxy-carbonyl, aryl-sulfonyloxy-C_{1-8}alkyl, heterocyclyl or heterocyclyl-C_{1-8}alkyl; wherein, each instance of C_{3-14}cycloalkyl, aryl and heterocyclyl is optionally substituted with one, two or three R_5 substituents;

R_5 is, in each instance, independently selected from halogen, hydroxy, cyano, nitro, C_{1-8}alkyl, halo-C_{1-8}alkyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, amino, C_{1-8}alkyl-amino, $(C_{1-8}alkyl)_2$-amino or C_{1-8}alkyl-thio;

R_6 is, in each instance, independently selected from halogen, hydroxy, cyano, nitro, C_{1-8}alkyl, C_{2-8}alkenyl, halo-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl, amino, C_{1-8}alkyl-amino, $(C_{1-8}alkyl)_2$-amino or C_{1-8}alkyl-thio; and,

R_7 is C_{3-14}cycloalkyl, C_{3-14}cycloalkyl-oxy, aryl, heterocyclyl or heteroaryl.

[00115] In another aspect, provided herein is a method for modulating the amount of an RNA transcript comprising a RNA nucleotide sequence comprising in 5' to 3' order: a branch point, a 3' splice site and a non-endogenous intronic recognition element for splicing modifier (iREMS),; wherein the iREMS comprises an RNA sequence GAgurngn (SEQ ID NO: 2), wherein r is adenine or guanine and n is any nucleotide, the method comprising contacting the RNA transcript with a compound of Formula (I) or a form thereof, wherein Formula (I) is:



(I),

wherein:

w_1 and w_5 are independently C-R_a or N;

w_2 is C-R_b or N;

w_3, w_4 and w_7 are independently C-R_1, C-R_2, C-R_a or N;

w_6 is C-R_1, C-R_2, C-R_c or N;

wherein one of w_3, w_4, w_6 and w_7 is C-R_1 and one other of w_3, w_4, w_6 and w_7 is C-R_2, provided that,

when w_3 is C-R_1, then w_6 is C-R_2 and w_4 and w_7 are independently C-R_a or N; or,

when w_3 is C-R_2, then w_6 is C-R_1 and w_4 and w_7 are independently C-R_a or N; or,

when w_4 is C-R_1, then w_7 is C-R_2 and w_3 is C-R_a or N and w_6 is C-R_c or N; or, when w_4 is C-R_2, then w_7 is C-R_1 and w_3 is C-R_a or N and w_6 is C-R_c or N; and, wherein any one, two or three of w_1, w_2, w_3, w_4, w_5, w_6 and w_7 may optionally be N; R_1 is C_{1-8}alkyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino, C_{1-8}alkoxy-C_{1-8}alkyl-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, amino-C_{1-8}alkyl, C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, amino-C_{1-8}alkyl-amino, (amino-C_{1-8}alkyl)$_2$-amino, (amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, amino-C_{1-8}alkoxy, C_{1-8}alkyl-amino-C_{1-8}alkoxy, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkoxy, amino-C_{2-8}alkenyl, C_{1-8}alkyl-amino-C_{2-8}alkenyl, (C_{1-8}alkyl)$_2$-amino-C_{2-8}alkenyl, amino-C_{2-8}alkynyl, C_{1-8}alkyl-amino-C_{2-8}alkynyl, (C_{1-8}alkyl)$_2$-amino-C_{2-8}alkynyl, halo-C_{1-8}alkyl-amino, (halo-C_{1-8}alkyl)$_2$-amino, (halo-C_{1-8}alkyl)(C_{1-8}alkyl)amino, hydroxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkoxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkoxy, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl-amino, [(hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, [(hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, heterocyclyl, heterocyclyl-C_{1-8}alkyl, heterocyclyl-C_{1-8}alkoxy, heterocyclyl-amino, (heterocyclyl)(C_{1-8}alkyl)amino, heterocyclyl-amino-C_{1-8}alkyl,

heterocyclyl-C_{1-8}alkyl-amino, (heterocyclyl-C_{1-8}alkyl)$_2$-amino, (heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heterocyclyl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (heterocyclyl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heterocyclyl-oxy, heterocyclyl-carbonyl, heterocyclyl-carbonyl-oxy, C_{3-14}cycloalkyl, aryl-C_{1-8}alkyl-amino, (aryl-C_{1-8}alkyl)$_2$-amino, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, aryl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (aryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heteroaryl, heteroaryl-C_{1-8}alkyl, heteroaryl-C_{1-8}alkoxy, heteroaryl-amino, heteroaryl-C_{1-8}alkyl-amino, (heteroaryl-C_{1-8}alkyl)$_2$-amino, (heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heteroaryl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (heteroaryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl or (heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl;

wherein, each instance of heterocyclyl, C_{3-14}cycloalkyl, aryl and heteroaryl is optionally substituted with one, two or three R_3 substituents and optionally, with one additional R_4 substituent; or,

wherein, each instance of heterocyclyl, C_{3-14}cycloalkyl, aryl and heteroaryl is optionally substituted with one, two, three or four R_3 substituents;

R_2 is aryl, aryl-amino, aryl-amino-carbonyl, heterocyclyl, heteroaryl or heteroaryl-amino; wherein, each instance of aryl, heterocyclyl and heteroaryl is optionally substituted with one, two or three R_6 substituents and optionally, with one additional R_7 substituent;

R_a is, in each instance, independently selected from hydrogen, halogen, C_{1-8}alkyl or deuterium;

R_b is hydrogen, halogen, C_{1-8}alkyl, C_{1-8}alkoxy or deuterium;

R_c is hydrogen, halogen, C_{1-8}alkyl or deuterium;

R_3 is, in each instance, independently selected from cyano, halogen, hydroxy, oxo, C_{1-8}alkyl, halo-C_{1-8}alkyl, C_{1-8}alkyl-carbonyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl, C_{1-8}alkoxy-carbonyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino, amino-C_{1-8}alkyl, C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, amino-C_{1-8}alkyl-amino, C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl]$_2$-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino,

[(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, C_{1-8}alkoxy-C_{1-8}alkyl-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, C_{1-8}alkyl-carbonyl-amino, C_{1-8}alkoxy-carbonyl-amino, hydroxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkoxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino or (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino;

R_4 is C_{3-14}cycloalkyl, C_{3-14}cycloalkyl-C_{1-8}alkyl, C_{3-14}cycloalkyl-amino, aryl-C_{1-8}alkyl, aryl-C_{1-8}alkoxy-carbonyl, aryl-sulfonyloxy-C_{1-8}alkyl, heterocyclyl or heterocyclyl-C_{1-8}alkyl; wherein, each instance of C_{3-14}cycloalkyl, aryl and heterocyclyl is optionally substituted with one, two or three R_5 substituents;

R_5 is, in each instance, independently selected from halogen, hydroxy, cyano, nitro, C_{1-8}alkyl, halo-C_{1-8}alkyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino or C_{1-8}alkyl-thio;

R_6 is, in each instance, independently selected from halogen, hydroxy, cyano, nitro, C_{1-8}alkyl, C_{2-8}alkenyl, halo-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino or C_{1-8}alkyl-thio; and,

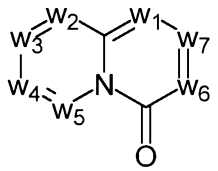
R_7 is C_{3-14}cycloalkyl, C_{3-14}cycloalkyl-oxy, aryl, heterocyclyl or heteroaryl.

[00116] In certain embodiments, the iREMS comprises an RNA sequence GAguragu (SEQ ID NO: 3866), wherein r is adenine or guanine and n is any nucleotide. In some embodiments, the iREMS comprises an RNA sequence NNGAgurngn (SEQ ID NO: 1), wherein r is adenine or guanine and n or N is any nucleotide. In a specific embodiment, the RNA sequence NNGAgurngn (SEQ ID NO: 1) is selected from the group consisting of ANGAgurngn (SEQ ID NO: 29), CNGAgurngn (SEQ ID NO: 35), GNGAgurngn (SEQ ID NO: 41), UNGAgurngn (SEQ ID NO: 47), NAGAgurngn (SEQ ID NO: 30), NCGAgurngn (SEQ ID NO: 36), NGGAgurngn (SEQ ID NO: 42), NUGAgurngn (SEQ ID NO: 48), AAGAgurngn (SEQ ID NO: 31), ACGAgurngn (SEQ ID NO: 37), AGGAgurngn (SEQ ID NO: 43), AUGAgurngn (SEQ ID NO: 49), CAGAgurngn (SEQ ID NO: 32), CCGAgurngn (SEQ ID NO: 38), CGGAgurngn (SEQ ID NO: 44), CUGAgurngn (SEQ ID NO: 50), GAGAgurngn (SEQ ID NO: 33), GCGAgurngn (SEQ ID NO: 39), GGGAgurngn (SEQ ID NO: 45), GUGAgurngn (SEQ ID NO: 51), UAGAgurngn (SEQ ID NO: 34),

UCGAgurngn (SEQ ID NO: 40), UGGAgurngn (SEQ ID NO: 46) and UUGAgurngn (SEQ ID NO: 52), wherein r is adenine or guanine and n or N is any nucleotide. In certain embodiments, n is adenine or guanine.

[00117] In certain embodiments, the iREMS comprises an RNA sequence NNGAguragu (SEQ ID NO: 3862), wherein r is adenine or guanine and N is any nucleotide. In a specific embodiment, the RNA sequence NNGAguragu (SEQ ID NO: 3862) is selected from the group consisting of ANGAguragu (SEQ ID NO: 437), CNGAguragu (SEQ ID NO: 443), GNGAguragu (SEQ ID NO: 449), UNGAguragu (SEQ ID NO: 455), NAGAguragu (SEQ ID NO: 438), NCGAguragu (SEQ ID NO: 444), NGGAguragu (SEQ ID NO: 450), NUGAguragu (SEQ ID NO: 456), AAGAguragu (SEQ ID NO: 439), ACGAguragu (SEQ ID NO: 445), AGGAguragu (SEQ ID NO: 451), AUGAguragu (SEQ ID NO: 457), CAGAguragu (SEQ ID NO: 440), CCGAguragu (SEQ ID NO: 446), CGGAguragu (SEQ ID NO: 452), CUGAguragu (SEQ ID NO: 458), GAGAguragu (SEQ ID NO: 441), GCGAguragu (SEQ ID NO: 447), GGGAguragu (SEQ ID NO: 453), GUGAguragu (SEQ ID NO: 459), UAGAguragu (SEQ ID NO: 442), UCGAguragu (SEQ ID NO: 448), UGGAguragu (SEQ ID NO: 454) and UUGAguragu (SEQ ID NO: 460), wherein r is adenine or guanine, and N is any nucleotide. the iREMS comprises an RNA sequence presented in Table 13. In certain embodiments, n is adenine or guanine.

[00118] In another aspect, provided herein is a method for modulating the amount of an RNA transcript produced from a DNA sequence comprising a DNA nucleotide sequence encoding exons and one or more introns, comprising in 5' to 3' order: a branch point, a 3' splice site and an endogenous iREMS; wherein the iREMS comprises a DNA sequence GAgtrngn (SEQ ID NO: 4), wherein r is adenine or guanine and n is any nucleotide, the method comprising contacting the RNA transcript with a compound of Formula (I) or a form thereof, wherein Formula (I) is:



(I),

wherein:

w_1 and w_5 are independently C-R_a or N;

w_2 is C-R_b or N;

w_3, w_4 and w_7 are independently C-R_1, C-R_2, C-R_a or N;

w_6 is C-R_1, C-R_2, C-R_c or N;

wherein one of w_3, w_4, w_6 and w_7 is C-R_1 and one other of w_3, w_4, w_6 and w_7 is C-R_2, provided that,

when w_3 is C-R_1, then w_6 is C-R_2 and w_4 and w_7 are independently C-R_a or N; or,

when w_3 is C-R_2, then w_6 is C-R_1 and w_4 and w_7 are independently C-R_a or N; or,

when w_4 is C-R_1, then w_7 is C-R_2 and w_3 is C-R_a or N and w_6 is C-R_c or N; or,

when w_4 is C-R_2, then w_7 is C-R_1 and w_3 is C-R_a or N and w_6 is C-R_c or N; and,

wherein any one, two or three of w_1, w_2, w_3, w_4, w_5, w_6 and w_7 may optionally be N;

R_1 is C_{1-8}alkyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino, C_{1-8}alkoxy-C_{1-8}alkyl-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, amino-C_{1-8}alkyl, C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, amino-C_{1-8}alkyl-amino, (amino-C_{1-8}alkyl)$_2$-amino, (amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, amino-C_{1-8}alkoxy, C_{1-8}alkyl-amino-C_{1-8}alkoxy, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkoxy, amino-C_{2-8}alkenyl, C_{1-8}alkyl-amino-C_{2-8}alkenyl, (C_{1-8}alkyl)$_2$-amino-C_{2-8}alkenyl, amino-C_{2-8}alkynyl, C_{1-8}alkyl-amino-C_{2-8}alkynyl, (C_{1-8}alkyl)$_2$-amino-C_{2-8}alkynyl, halo-C_{1-8}alkyl-amino, (halo-C_{1-8}alkyl)$_2$-amino, (halo-C_{1-8}alkyl)(C_{1-8}alkyl)amino, hydroxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkoxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl,

hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkoxy, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl-amino, [(hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, [(hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, heterocyclyl, heterocyclyl-C_{1-8}alkyl, heterocyclyl-C_{1-8}alkoxy, heterocyclyl-amino, (heterocyclyl)(C_{1-8}alkyl)amino, heterocyclyl-amino-C_{1-8}alkyl, heterocyclyl-C_{1-8}alkyl-amino, (heterocyclyl-C_{1-8}alkyl)$_2$-amino, (heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heterocyclyl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (heterocyclyl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heterocyclyl-oxy, heterocyclyl-carbonyl, heterocyclyl-carbonyl-oxy, C_{3-14}cycloalkyl, aryl-C_{1-8}alkyl-amino, (aryl-C_{1-8}alkyl)$_2$-amino, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, aryl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (aryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heteroaryl, heteroaryl-C_{1-8}alkyl, heteroaryl-C_{1-8}alkoxy, heteroaryl-amino, heteroaryl-C_{1-8}alkyl-amino, (heteroaryl-C_{1-8}alkyl)$_2$-amino, (heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heteroaryl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (heteroaryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl or (heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl;

wherein, each instance of heterocyclyl, C_{3-14}cycloalkyl, aryl and heteroaryl is optionally substituted with one, two or three R_3 substituents and optionally, with one additional R_4 substituent; or,

wherein, each instance of heterocyclyl, C_{3-14}cycloalkyl, aryl and heteroaryl is optionally substituted with one, two, three or four R_3 substituents;

R_2 is aryl, aryl-amino, aryl-amino-carbonyl, heterocyclyl, heteroaryl or heteroaryl-amino; wherein, each instance of aryl, heterocyclyl and heteroaryl is optionally substituted with one, two or three R_6 substituents and optionally, with one additional R_7 substituent;

R_a is, in each instance, independently selected from hydrogen, halogen, C_{1-8}alkyl or deuterium;

R_b is hydrogen, halogen, C_{1-8}alkyl, C_{1-8}alkoxy or deuterium;

R_c is hydrogen, halogen, C_{1-8}alkyl or deuterium;

R_3 is, in each instance, independently selected from cyano, halogen, hydroxy, oxo, C_{1-8}alkyl, halo-C_{1-8}alkyl, C_{1-8}alkyl-carbonyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl, C_{1-8}alkoxy-carbonyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino, amino-C_{1-8}alkyl, C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, amino-C_{1-8}alkyl-amino, C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl]$_2$-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, C_{1-8}alkoxy-C_{1-8}alkyl-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, C_{1-8}alkyl-carbonyl-amino, C_{1-8}alkoxy-carbonyl-amino, hydroxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkoxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino or (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino;

R_4 is C_{3-14}cycloalkyl, C_{3-14}cycloalkyl-C_{1-8}alkyl, C_{3-14}cycloalkyl-amino, aryl-C_{1-8}alkyl, aryl-C_{1-8}alkoxy-carbonyl, aryl-sulfonyloxy-C_{1-8}alkyl, heterocyclyl or heterocyclyl-C_{1-8}alkyl; wherein, each instance of C_{3-14}cycloalkyl, aryl and heterocyclyl is optionally substituted with one, two or three R_5 substituents;

R_5 is, in each instance, independently selected from halogen, hydroxy, cyano, nitro, C_{1-8}alkyl, halo-C_{1-8}alkyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino or C_{1-8}alkyl-thio;

R_6 is, in each instance, independently selected from halogen, hydroxy, cyano, nitro, C_{1-8}alkyl, C_{2-8}alkenyl, halo-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino or C_{1-8}alkyl-thio; and,

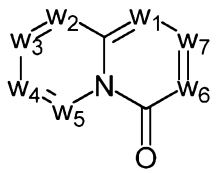
R_7 is C_{3-14}cycloalkyl, C_{3-14}cycloalkyl-oxy, aryl, heterocyclyl or heteroaryl.

[00119] In a specific embodiment, the DNA sequence is in a gene selected from: ABCA10, ABCB8, ABCC3, ACTA2, ADAL, ADAMTS1, ADCY3, ADD1, ADGRG6, ADH6, ADHFE1, AFF3, AGPAT4, AKAP3, ANK1, ANK3, ANKRA2, ANKRD33B, ANKRD36, AP4B1-AS1, APIP, ARHGAP1, ARHGAP12, ARHGEF16, ARID5B, ARL15, ARL9, ARMCX6, ASIC1,

ATG5, ATP2A3, ATXN1, B3GALT2, B3GNT6, BCL2L15, BCYRN1, BECN1, BHMT2, BIN3-IT1, BIRC3, BIRC6, BTG2, BTN3A1, C10orf54, C11orf70, C11orf94, C12orf4, C12orf56, C14orf132, C19orf47, C1orf86, C3, C7orf31, C8orf34, C8orf44, C8orf44-SGK3, C8orf88, CA13, CA3, CACNA2D2, CACNB1, CADM1, CAND2, CASP7, CCDC122, CCDC79, CCER2, CCNF, CECR7, CELSR1, CEMIP, CENPI, CEP112, CEP170, CEP192, CFH, CHEK1, CIITA, CLDN23, CLTA, CMAHP, CNGA4, CNRIP1, CNTD1, COL11A1, COL14A1, COL15A1, COL5A1, COL5A3, COL6A6, COL8A1, COLEC12, COMP, CPA4, CPQ, CPSF4, CRISPLD2, CRLF1, CRYBG3, CRYL1, CSNK1E, CSNK1G1, CYB5R2, CYGB, CYP1B1, DAGLB, DCAF17, DCLK1, DCN, DDIT4L, DDX50, DEGS1, DEPTOR, DFNB59, DIRAS3, DLG5, DLGAP4, DNAH8, DNAJC13, DNAJC27, DNMBP, DOCK11, DYNC1I1, DYRK1A, DZIP1L, EFEMP1, EGR3, ELN, ELP4, EMX2OS, ENAH, ENPP1, EP300, ERCC1, ERCC8, ERGIC3, ERLIN2, ERRFI1, ESM1, EVC, EVC2, F2R, FAIM, FAM126A, FAM13A, FAM160A1, FAM162A, FAM174A, FAM20A, FAM46B, FAM65B, FAP, FARP1, FBLN2, FBN2, FBXL6, FCHO1, FGFR2, FGL2, FLT1, FRAS1, FSCN2, GAL3ST4, GALNT15, GATA6, GBGT1, GCNT1, GDF6, GGACT, GLCE, GNAQ, GPR183, GPR50, GPRC5A, GPRC5B, GRTP1, GUCA1B, GULP1, GXYLT1, HAPLN1, HAPLN2, HAS3, HAVCR2, HDAC5, HDX, HECTD2-AS1, HEPH, HEY1, HMGA2, HMGN3-AS1, HNMT, HOOK3, HPS1, HSPA1L, HTATIP2, IFT57, IGDCC4, IGF2R, IGFBP3, IL16, INA, INPP5K, INTU, IQCG, ITGA11, ITGA8, ITGB8, ITIH1, ITPKA, IVD, KAT6B, KCNS1, KCNS2, KDM6A, KDSR, KIAA1456, KIAA1462, KIAA1755, KIT, KLF17, KLRG1, KMT2D, KRT7, KRTAP1-1, KRTAP1-5, L3MBTL2, LAMB2P1, LETM2, LGI2, LGR4, LHX9, LINC00472, LINC00570, LINC00578, LINC00607, LINC00678, LINC00702, LINC00886, LINC00961, LINC01011, LINC01118, LINC01204, LMOD1, LOC400927, LRBA, LRP4, LRRC32, LRRC39, LRRC42, LSAMP, LUM, LYPD1, LYRM1, MAFB, MAMDC2, MAN2A1, MAN2C1, MAPK13, MASP1, MB, MB21D2, MC4R, MCM10, MED13L, MEGF6, MFN2, MIAT, MIR612, MLLT10, MMP10, MMP24, MN1, MOXD1, MRPL45, MRPL55, MRPS28, MRVI1, MSH4, MTERF3, MXRA5, MYCBP2, NA, NAALADL2, NAE1, NAGS, NDNF, NGF, NGFR, NHLH1, NLN, NOTCH3, NOTUM, NOVA2, NOX4, NRROS, OCLN, OLR1, OSBPL10, OXCT1, OXCT2, PAIP2B, PBLD, PDE1C, PDE5A, PDGFD, PDGFRB, PDS5B, PEAR1, PHACTR3, PIGN, PIK3CD, PIK3R1, PIKFYVE, PIM2, PITPNM3, PLEK2, PLEKHA1, PLEKHA6, PLEKHH2, PLSCR1, PNISR, PODN, POLN, POLR1A, POMT2, PPARG,

PPIP5K2, PPM1E, PPP1R26, PPP3CA, PRKCA, PRKG1, PRPF31, PRPH2, PRRG4, PRUNE2, PSMD6-AS2, PTGIS, PTX3, PXK, RAB30, RAB38, RAB44, RAD9B, RAF1, RAPGEF1, RARS, RARS2, RBBP8, RBKS, RDX, RERE, RFX3-AS1, RGCC, ROR1, ROR2, RPA1, RPS10, RPS6KB2, SAMD4A, SCARNA9, SEC24A, SENP6, SERGEF, SGK3, SH3YL1, SHROOM3, SIGLEC10, SKA2, SLC12A2, SLC24A3, SLC35F3, SLC39A10, SLC44A2, SLC46A2, SLC4A11, SLC6A15, SLC7A11, SLC9A3, SLIT3, SMG1P3, SMTN, SNED1, SNX7, SORBS2, SORCS2, SOX7, SPATA18, SPATA5, SPDYA, SPEF2, SPIDR, SPRYD7, SRGAP1, SRRM1, STAC2, STAT4, STK32B, STRN4, STS, STXBP6, SULF1, SVEP1, SYNGR2, SYNPO, SYNPO2, SYNPO2L, TAGLN3, TANGO6, TASP1, TCF12, TCF4, TGFA, TGFB2, TGFB3, TGM2, THBS2, TIAM1, TMC3, TMEM102, TMEM119, TMEM134, TMEM189-UBE2V1, TMEM214, TMEM256-PLSCR3, TMEM50B, TNFAIP8L3, TNFRSF14, TNRC18P1, TNRC6A, TNXB, TP53AIP1, TPRG1, TRIM66, TRPC4, TSHZ2, TSPAN11, TSPAN18, TSPAN7, TSSK3, TTC7B, TUBE1, TXNIP, TYW5, URGCP, USP27X, UVRAG, VAV2, VIM-AS1, VPS41, VSTM2L, VWF, WDR27, WDR91, WISP1, WNK1, WNT10B, YDJC, ZBTB26, ZCCHC5, ZCCHC8, ZFP82, ZMIZ1-AS1, ZNF138, ZNF212, ZNF232, ZNF350, ZNF431, ZNF660, ZNF680, ZNF79, or ZNF837. In another specific embodiment, the DNA sequence is a gene not disclosed in either International Publication No. WO 2015/105657, International Publication No. WO 2016/196386, or both.

[00120] In another aspect, provided herein is a method for modulating the amount of an RNA transcript produced from a DNA sequence comprising a DNA nucleotide sequence encoding exons and one or more introns, comprising in 5' to 3' order: a branch point, a 3' splice site and a non-endogenous iREMS; wherein the iREMS comprises a DNA sequence GAgtrngn (SEQ ID NO: 4), wherein r is adenine or guanine and n is any nucleotide, the method comprising contacting the RNA transcript with a compound of Formula (I) or a form thereof, wherein Formula (I) is:



(I),

wherein:

w_1 and w_5 are independently C-R_a or N;

w_2 is C-R_b or N;

w_3, w_4 and w_7 are independently C-R_1, C-R_2, C-R_a or N;

w_6 is C-R_1, C-R_2, C-R_c or N;

wherein one of w_3, w_4, w_6 and w_7 is C-R_1 and one other of w_3, w_4, w_6 and w_7 is C-R_2, provided that,

when w_3 is C-R_1, then w_6 is C-R_2 and w_4 and w_7 are independently C-R_a or N; or,

when w_3 is C-R_2, then w_6 is C-R_1 and w_4 and w_7 are independently C-R_a or N; or,

when w_4 is C-R_1, then w_7 is C-R_2 and w_3 is C-R_a or N and w_6 is C-R_c or N; or,

when w_4 is C-R_2, then w_7 is C-R_1 and w_3 is C-R_a or N and w_6 is C-R_c or N; and,

wherein any one, two or three of w_1, w_2, w_3, w_4, w_5, w_6 and w_7 may optionally be N;

R_1 is C_{1-8}alkyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino, C_{1-8}alkoxy-C_{1-8}alkyl-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, amino-C_{1-8}alkyl, C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, amino-C_{1-8}alkyl-amino, (amino-C_{1-8}alkyl)$_2$-amino, (amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, amino-C_{1-8}alkoxy, C_{1-8}alkyl-amino-C_{1-8}alkoxy, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkoxy, amino-C_{2-8}alkenyl, C_{1-8}alkyl-amino-C_{2-8}alkenyl, (C_{1-8}alkyl)$_2$-amino-C_{2-8}alkenyl, amino-C_{2-8}alkynyl, C_{1-8}alkyl-amino-C_{2-8}alkynyl, (C_{1-8}alkyl)$_2$-amino-C_{2-8}alkynyl, halo-C_{1-8}alkyl-amino, (halo-C_{1-8}alkyl)$_2$-amino, (halo-C_{1-8}alkyl)(C_{1-8}alkyl)amino, hydroxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkoxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkoxy,

hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl-amino, [(hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, [(hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, heterocyclyl, heterocyclyl-C_{1-8}alkyl, heterocyclyl-C_{1-8}alkoxy, heterocyclyl-amino, (heterocyclyl)(C_{1-8}alkyl)amino, heterocyclyl-amino-C_{1-8}alkyl, heterocyclyl-C_{1-8}alkyl-amino, (heterocyclyl-C_{1-8}alkyl)$_2$-amino, (heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heterocyclyl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (heterocyclyl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heterocyclyl-oxy, heterocyclyl-carbonyl, heterocyclyl-carbonyl-oxy, C_{3-14}cycloalkyl, aryl-C_{1-8}alkyl-amino, (aryl-C_{1-8}alkyl)$_2$-amino, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, aryl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (aryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heteroaryl, heteroaryl-C_{1-8}alkyl, heteroaryl-C_{1-8}alkoxy, heteroaryl-amino, heteroaryl-C_{1-8}alkyl-amino, (heteroaryl-C_{1-8}alkyl)$_2$-amino, (heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heteroaryl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (heteroaryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl or (heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl;

wherein, each instance of heterocyclyl, C_{3-14}cycloalkyl, aryl and heteroaryl is optionally substituted with one, two or three R_3 substituents and optionally, with one additional R_4 substituent; or,

wherein, each instance of heterocyclyl, C_{3-14}cycloalkyl, aryl and heteroaryl is optionally substituted with one, two, three or four R_3 substituents;

R_2 is aryl, aryl-amino, aryl-amino-carbonyl, heterocyclyl, heteroaryl or heteroaryl-amino; wherein, each instance of aryl, heterocyclyl and heteroaryl is optionally substituted with one, two or three R_6 substituents and optionally, with one additional R_7 substituent;

R_a is, in each instance, independently selected from hydrogen, halogen, C_{1-8}alkyl or deuterium;

R_b is hydrogen, halogen, C_{1-8}alkyl, C_{1-8}alkoxy or deuterium;

R_c is hydrogen, halogen, C_{1-8}alkyl or deuterium;

R_3 is, in each instance, independently selected from cyano, halogen, hydroxy, oxo, C_{1-8}alkyl, halo-C_{1-8}alkyl, C_{1-8}alkyl-carbonyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl, C_{1-8}alkoxy-carbonyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino, amino-C_{1-8}alkyl, C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, amino-C_{1-8}alkyl-amino, C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl]$_2$-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, C_{1-8}alkoxy-C_{1-8}alkyl-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, C_{1-8}alkyl-carbonyl-amino, C_{1-8}alkoxy-carbonyl-amino, hydroxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkoxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino or (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino;

R_4 is C_{3-14}cycloalkyl, C_{3-14}cycloalkyl-C_{1-8}alkyl, C_{3-14}cycloalkyl-amino, aryl-C_{1-8}alkyl, aryl-C_{1-8}alkoxy-carbonyl, aryl-sulfonyloxy-C_{1-8}alkyl, heterocyclyl or heterocyclyl-C_{1-8}alkyl; wherein, each instance of C_{3-14}cycloalkyl, aryl and heterocyclyl is optionally substituted with one, two or three R_5 substituents;

R_5 is, in each instance, independently selected from halogen, hydroxy, cyano, nitro, C_{1-8}alkyl, halo-C_{1-8}alkyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino or C_{1-8}alkyl-thio;

R_6 is, in each instance, independently selected from halogen, hydroxy, cyano, nitro, C_{1-8}alkyl, C_{2-8}alkenyl, halo-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino or C_{1-8}alkyl-thio; and,

R_7 is C_{3-14}cycloalkyl, C_{3-14}cycloalkyl-oxy, aryl, heterocyclyl or heteroaryl.

[00121] In certain embodiments, the iREMS comprises a DNA sequence GAgtrngn (SEQ ID NO: 4), wherein r is adenine or guanine and n is any nucleotide. In certain embodiments, n is adenine or guanine. In certain embodiments, the iREMS comprises a DNA sequence NNGAgtrngn (SEQ ID NO: 3), wherein r is adenine or guanine and n or N is any nucleotide. In a specific embodiment, the DNA sequence NNGAgtrngn (SEQ ID NO: 3) is selected from the group consisting of ANGAgtrngn (SEQ ID NO: 1829), CNGAgtrngn (SEQ ID NO: 1835), GNGAgtrngn (SEQ ID NO: 1841), TNGAgtrngn (SEQ ID NO: 1847),

NAGAgtrngn (SEQ ID NO: 1830), NCGAgtrngn (SEQ ID NO: 1836), NGGAgtrngn (SEQ ID NO: 1842), NTGAgtrngn (SEQ ID NO: 1848), AAGAgtrngn (SEQ ID NO: 1831), ACGAgtrngn (SEQ ID NO: 1837), AGGAgtrngn (SEQ ID NO: 1843), ATGAgtrngn (SEQ ID NO: 1849), CAGAgtrngn (SEQ ID NO: 1832), CCGAgtrngn (SEQ ID NO: 1838), CGGAgtrngn (SEQ ID NO: 1844), CTGAgtrngn (SEQ ID NO: 1850), GAGAgtrngn (SEQ ID NO: 1833), GCGAgtrngn (SEQ ID NO: 1839), GGGAgtrngn (SEQ ID NO: 1845), GTGAgtrngn (SEQ ID NO: 1851), TAGAgtrngn (SEQ ID NO: 1834), TCGAgtrngn (SEQ ID NO: 1840), TGGAgtrngn (SEQ ID NO: 1846) and TTGAgtrngn (SEQ ID NO: 1852). In certain embodiments, n is adenine or guanine.

[00122] In certain embodiments, the iREMS comprises a DNA sequence NNGAgtragt (SEQ ID NO: 3864), wherein r is adenine or guanine and N is any nucleotide. In a specific embodiment, the DNA sequence NNGAgtragt (SEQ ID NO: 3864) is selected from the group consisting of ANGAgtragt (SEQ ID NO: 2237), CNGAgtragt (SEQ ID NO: 2243), GNGAgtragt (SEQ ID NO: 2249), TNGAgtragt (SEQ ID NO: 2255), NAGAgtragt (SEQ ID NO: 2238), NCGAgtragt (SEQ ID NO: 2244), NGGAgtragt (SEQ ID NO: 2250), NTGAgtragt (SEQ ID NO: 2256), AAGAgtragt (SEQ ID NO: 2239), ACGAgtragt (SEQ ID NO: 2245), AGGAgtragt (SEQ ID NO: 2251), ATGAgtragt (SEQ ID NO: 2257), CAGAgtragt (SEQ ID NO: 2240), CCGAgtragt (SEQ ID NO: 2246), CGGAgtragt (SEQ ID NO: 2252), CTGAgtragt (SEQ ID NO: 2258), GAGAgtragt (SEQ ID NO: 2241), GCGAgtragt (SEQ ID NO: 2247), GGGAgtragt (SEQ ID NO: 2253), GTGAgtragt (SEQ ID NO: 2259), TAGAgtragt (SEQ ID NO: 2242), TCGAgtragt (SEQ ID NO: 2248), TGGAgtragt (SEQ ID NO: 2254) and TTGAgtragt (SEQ ID NO: 2260), wherein r is adenine or guanine, and N is any nucleotide. In a specific embodiment, the iREMS comprises a DNA sequence presented in Table 14. In certain embodiments, n is adenine or guanine. In certain embodiments of the aspects and embodiments described herein, n is adenine or guanine.

[00123] In certain embodiments of a method for modulating the amount of an RNA transcript described herein, modulation of the amount of the RNA transcript is modulation of the amount of

the RNA transcript in a cell or a lysate of the cell, the method comprising contacting the compound of Formula (I) or a form thereof with the cell or the cell lysate. In a specific embodiment of a method for modulating the amount of an RNA transcript described herein, modulation of the amount of the RNA transcript is modulation of the amount of the RNA transcript in a cell, the method comprising contacting the compound of Formula (I) or a form thereof with the cell. In certain embodiments of a method of modulating the amount of an RNA transcript described herein, the modulation modulates the amount and/or type of a protein translated from the RNA transcript and produced in the cell or lysate of the cell.

[00124] In certain embodiments of a method for modulating the amount of an RNA transcript described herein, modulation of the amount of the RNA transcript is modulation of the amount of the RNA transcript in a subject, the method comprising administering the compound of Formula (I) or a form thereof to the subject. In certain embodiments of a method for modulating the amount of an RNA transcript described herein, the modulation modulates the amount and/or type of a protein translated from the RNA transcript and produced in the subject. In a specific embodiment, the subject is a non-human subject. In another specific embodiment, the subject is a human subject.

[00125] In certain embodiments, the RNA transcript encodes a detectable reporter protein.

[00126] In another aspect, provided herein is an artificial gene construct comprising an RNA sequence comprising exons and one or more introns, wherein at least one intron comprises an iREMS that is downstream of a branch point and a 3' splice site and wherein the iREMS comprises the sequence GAgurngn (SEQ ID NO: 2), wherein r is adenine or guanine and n is any nucleotide. In certain embodiments, n is adenine or guanine. In certain embodiments, one, two, or all of the iREMS, the branch point, and the 3' splice site are non-endogenous. In certain embodiments, one, two, or all of the iREMS, the branch point, and the 3' splice site are endogenous.

[00127] In another aspect, provided herein is an artificial gene construct comprising a DNA sequence encoding exons and one or more introns, wherein the nucleotide sequence encoding at least one intron comprises an iREMS that is downstream of the nucleotide sequence encoding a branch point and the nucleotide sequence encoding a 3' splice site, and wherein the iREMS comprises the sequence GAgtrngn (SEQ ID NO: 4), wherein r is adenine or guanine and n is any nucleotide. In certain embodiments, n is adenine or guanine. In certain embodiments, one, two,

or all of the iREMS, the branch point, and the 3' splice site are non-endogenous. In certain embodiments, one, two, or all of the iREMS, the branch point, and the 3' splice site are endogenous.

[00128] In another aspect, provided herein is a cell comprising an RNA sequence comprising exons and one or more introns, wherein at least one intron comprises an iREMS that is downstream of a branch point and a 3' splice site and wherein the iREMS comprises the sequence GAgurngn (SEQ ID NO: 2), wherein r is adenine or guanine and n is any nucleotide. In certain embodiments, n is adenine or guanine. In certain embodiments, one, two, or all of the iREMS, the branch point, and the 3' splice site are non-endogenous. In certain embodiments, one, two, or all of the iREMS, the branch point, and the 3' splice site are endogenous.

[00129] In another aspect, provided herein is a cell comprising a DNA sequence encoding exons and one or more introns, wherein the nucleotide sequence encoding at least one intron comprises an iREMS that is downstream of the nucleotide sequence encoding a branch point and the nucleotide sequence encoding a 3' splice site, and wherein the iREMS comprises the sequence GAgtrngn (SEQ ID NO: 4), wherein r is adenine or guanine and n is any nucleotide. In certain embodiments, one, two, or all of the iREMS, the branch point, and the 3' splice site are non-endogenous. In certain embodiments, one, two, or all of the iREMS, the branch point, and the 3' splice site are endogenous.

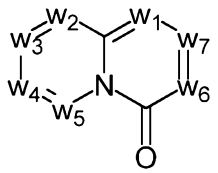
[00130] In another aspect, provided herein is a cell comprising an artificial gene construct described herein.

[00131] In another aspect, provided herein is a cell comprising a vector comprising an artificial gene construct described herein.

[00132] In another aspect, provided herein is a method for modulating the amount of an RNA transcript comprising a RNA nucleotide sequence comprising in 5' to 3' order: a branch point, a 3' splice site, and an endogenous intronic recognition element for splicing modifier (iREMS), wherein the iREMS comprises an RNA sequence GAgurngn (SEQ ID NO: 2), wherein r is adenine or guanine and n is any nucleotide, and wherein the RNA transcript is an RNA transcript of a gene that is selected from ABCA10, ABCB8, ABCC3, ACTA2, ADAL, ADAMTS1, ADCY3, ADD1, ADGRG6, ADH6, ADHFE1, AFF3, AGPAT4, AKAP3, ANK1, ANK3, ANKRA2, ANKRD33B, ANKRD36, AP4B1-AS1, APIP, ARHGAP1, ARHGAP12, ARHGEF16, ARID5B, ARL15, ARL9, ARMCX6, ASIC1, ATG5, ATP2A3, ATXN1,

B3GALT2, B3GNT6, BCL2L15, BCYRN1, BECN1, BHMT2, BIN3-IT1, BIRC3, BIRC6, BTG2, BTN3A1, C10orf54, C11orf70, C11orf94, C12orf4, C12orf56, C14orf132, C19orf47, C1orf86, C3, C7orf31, C8orf34, C8orf44, C8orf44-SGK3, C8orf88, CA13, CA3, CACNA2D2, CACNB1, CADM1, CAND2, CASP7, CCDC122, CCDC79, CCER2, CCNF, CECR7, CELSR1, CEMIP, CENPI, CEP112, CEP170, CEP192, CFH, CHEK1, CIITA, CLDN23, CLTA, CMAHP, CNGA4, CNRIP1, CNTD1, COL11A1, COL14A1, COL15A1, COL5A1, COL5A3, COL6A6, COL8A1, COLEC12, COMP, CPA4, CPQ, CPSF4, CRISPLD2, CRLF1, CRYBG3, CRYL1, CSNK1E, CSNK1G1, CYB5R2, CYGB, CYP1B1, DAGLB, DCAF17, DCLK1, DCN, DDIT4L, DDX50, DEGS1, DEPTOR, DFNB59, DIRAS3, DLG5, DLGAP4, DNAH8, DNAJC13, DNAJC27, DNMBP, DOCK11, DYNC1I1, DYRK1A, DZIP1L, EFEMP1, EGR3, ELN, ELP4, EMX2OS, ENAH, ENPP1, EP300, ERCC1, ERCC8, ERGIC3, ERLIN2, ERRFI1, ESM1, EVC, EVC2, F2R, FAIM, FAM126A, FAM13A, FAM160A1, FAM162A, FAM174A, FAM20A, FAM46B, FAM65B, FAP, FARP1, FBLN2, FBN2, FBXL6, FCHO1, FGFR2, FGL2, FLT1, FRAS1, FSCN2, GAL3ST4, GALNT15, GATA6, GBGT1, GCNT1, GDF6, GGACT, GLCE, GNAQ, GPR183, GPR50, GPRC5A, GPRC5B, GRTP1, GUCA1B, GULP1, GXYLT1, HAPLN1, HAPLN2, HAS3, HAVCR2, HDAC5, HDX, HECTD2-AS1, HEPH, HEY1, HMGA2, HMGN3-AS1, HNMT, HOOK3, HPS1, HSPA1L, HTATIP2, IFT57, IGDCC4, IGF2R, IGFBP3, IL16, INA, INPP5K, INTU, IQCG, ITGA11, ITGA8, ITGB8, ITIH1, ITPKA, IVD, KAT6B, KCNS1, KCNS2, KDM6A, KDSR, KIAA1456, KIAA1462, KIAA1755, KIT, KLF17, KLRG1, KMT2D, KRT7, KRTAP1-1, KRTAP1-5, L3MBTL2, LAMB2P1, LETM2, LGI2, LGR4, LHX9, LINC00472, LINC00570, LINC00578, LINC00607, LINC00678, LINC00702, LINC00886, LINC00961, LINC01011, LINC01118, LINC01204, LMOD1, LOC400927, LRBA, LRP4, LRRC32, LRRC39, LRRC42, LSAMP, LUM, LYPD1, LYRM1, MAFB, MAMDC2, MAN2A1, MAN2C1, MAPK13, MASP1, MB, MB21D2, MC4R, MCM10, MED13L, MEGF6, MFN2, MIAT, MIR612, MLLT10, MMP10, MMP24, MN1, MOXD1, MRPL45, MRPL55, MRPS28, MRVI1, MSH4, MTERF3, MXRA5, MYCBP2, NA, NAALADL2, NAE1, NAGS, NDNF, NGF, NGFR, NHLH1, NLN, NOTCH3, NOTUM, NOVA2, NOX4, NRROS, OCLN, OLR1, OSBPL10, OXCT1, OXCT2, PAIP2B, PBLD, PDE1C, PDE5A, PDGFD, PDGFRB, PDS5B, PEAR1, PHACTR3, PIGN, PIK3CD, PIK3R1, PIKFYVE, PIM2, PITPNM3, PLEK2, PLEKHA1, PLEKHA6, PLEKHH2, PLSCR1, PNISR, PODN, POLN, POLR1A, POMT2, PPARG, PPIP5K2, PPM1E, PPP1R26, PPP3CA, PRKCA,

PRKG1, PRPF31, PRPH2, PRRG4, PRUNE2, PSMD6-AS2, PTGIS, PTX3, PXK, RAB30, RAB38, RAB44, RAD9B, RAF1, RAPGEF1, RARS, RARS2, RBBP8, RBKS, RDX, RERE, RFX3-AS1, RGCC, ROR1, ROR2, RPA1, RPS10, RPS6KB2, SAMD4A, SCARNA9, SEC24A, SENP6, SERGEF, SGK3, SH3YL1, SHROOM3, SIGLEC10, SKA2, SLC12A2, SLC24A3, SLC35F3, SLC39A10, SLC44A2, SLC46A2, SLC4A11, SLC6A15, SLC7A11, SLC9A3, SLIT3, SMG1P3, SMTN, SNED1, SNX7, SORBS2, SORCS2, SOX7, SPATA18, SPATA5, SPDYA, SPEF2, SPIDR, SPRYD7, SRGAP1, SRRM1, STAC2, STAT4, STK32B, STRN4, STS, STXBP6, SULF1, SVEP1, SYNGR2, SYNPO, SYNPO2, SYNPO2L, TAGLN3, TANGO6, TASP1, TCF12, TCF4, TGFA, TGFB2, TGFB3, TGM2, THBS2, TIAM1, TMC3, TMEM102, TMEM119, TMEM134, TMEM189-UBE2V1, TMEM214, TMEM256-PLSCR3, TMEM50B, TNFAIP8L3, TNFRSF14, TNRC18P1, TNRC6A, TNXB, TP53AIP1, TPRG1, TRIM66, TRPC4, TSHZ2, TSPAN11, TSPAN18, TSPAN7, TSSK3, TTC7B, TUBE1, TXNIP, TYW5, URGCP, USP27X, UVRAG, VAV2, VIM-AS1, VPS41, VSTM2L, VWF, WDR27, WDR91, WISP1, WNK1, WNT10B, YDJC, ZBTB26, ZCCHC5, ZCCHC8, ZFP82, ZMIZ1-AS1, ZNF138, ZNF212, ZNF232, ZNF350, ZNF431, ZNF660, ZNF680, ZNF79, or ZNF837; the method comprising contacting the RNA transcript with a compound of Formula (I) or a form thereof, wherein Formula (I) is:



(I),

wherein:

w_1 and w_5 are independently C-R_a or N;

w_2 is C-R_b or N;

w_3, w_4 and w_7 are independently C-R_1, C-R_2, C-R_a or N;

w_6 is C-R_1, C-R_2, C-R_c or N;

wherein one of w_3, w_4, w_6 and w_7 is C-R_1 and one other of w_3, w_4, w_6 and w_7 is C-R_2, provided that,

when w_3 is C-R_1, then w_6 is C-R_2 and w_4 and w_7 are independently C-R_a or N; or,

when w_3 is C-R_2, then w_6 is C-R_1 and w_4 and w_7 are independently C-R_a or N; or,

when w_4 is C-R_1, then w_7 is C-R_2 and w_3 is C-R_a or N and w_6 is C-R_c or N; or, when w_4 is C-R_2, then w_7 is C-R_1 and w_3 is C-R_a or N and w_6 is C-R_c or N; and, wherein any one, two or three of w_1, w_2, w_3, w_4, w_5, w_6 and w_7 may optionally be N; R_1 is C_{1-8}alkyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino, C_{1-8}alkoxy-C_{1-8}alkyl-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, amino-C_{1-8}alkyl, C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, amino-C_{1-8}alkyl-amino, (amino-C_{1-8}alkyl)$_2$-amino, (amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, amino-C_{1-8}alkoxy, C_{1-8}alkyl-amino-C_{1-8}alkoxy, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkoxy, amino-C_{2-8}alkenyl, C_{1-8}alkyl-amino-C_{2-8}alkenyl, (C_{1-8}alkyl)$_2$-amino-C_{2-8}alkenyl, amino-C_{2-8}alkynyl, C_{1-8}alkyl-amino-C_{2-8}alkynyl, (C_{1-8}alkyl)$_2$-amino-C_{2-8}alkynyl, halo-C_{1-8}alkyl-amino, (halo-C_{1-8}alkyl)$_2$-amino, (halo-C_{1-8}alkyl)(C_{1-8}alkyl)amino, hydroxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkoxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkoxy, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl-amino, [(hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, [(hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, heterocyclyl, heterocyclyl-C_{1-8}alkyl, heterocyclyl-C_{1-8}alkoxy, heterocyclyl-amino, (heterocyclyl)(C_{1-8}alkyl)amino, heterocyclyl-amino-C_{1-8}alkyl,

heterocyclyl-C_{1-8}alkyl-amino, (heterocyclyl-C_{1-8}alkyl)$_2$-amino, (heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heterocyclyl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (heterocyclyl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heterocyclyl-oxy, heterocyclyl-carbonyl, heterocyclyl-carbonyl-oxy, C_{3-14}cycloalkyl, aryl-C_{1-8}alkyl-amino, (aryl-C_{1-8}alkyl)$_2$-amino, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, aryl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (aryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heteroaryl, heteroaryl-C_{1-8}alkyl, heteroaryl-C_{1-8}alkoxy, heteroaryl-amino, heteroaryl-C_{1-8}alkyl-amino, (heteroaryl-C_{1-8}alkyl)$_2$-amino, (heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heteroaryl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (heteroaryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl or (heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl;

wherein, each instance of heterocyclyl, C_{3-14}cycloalkyl, aryl and heteroaryl is optionally substituted with one, two or three R_3 substituents and optionally, with one additional R_4 substituent; or,

wherein, each instance of heterocyclyl, C_{3-14}cycloalkyl, aryl and heteroaryl is optionally substituted with one, two, three or four R_3 substituents;

R_2 is aryl, aryl-amino, aryl-amino-carbonyl, heterocyclyl, heteroaryl or heteroaryl-amino; wherein, each instance of aryl, heterocyclyl and heteroaryl is optionally substituted with one, two or three R_6 substituents and optionally, with one additional R_7 substituent;

R_a is, in each instance, independently selected from hydrogen, halogen, C_{1-8}alkyl or deuterium;

R_b is hydrogen, halogen, C_{1-8}alkyl, C_{1-8}alkoxy or deuterium;

R_c is hydrogen, halogen, C_{1-8}alkyl or deuterium;

R_3 is, in each instance, independently selected from cyano, halogen, hydroxy, oxo, C_{1-8}alkyl, halo-C_{1-8}alkyl, C_{1-8}alkyl-carbonyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl, C_{1-8}alkoxy-carbonyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino, amino-C_{1-8}alkyl, C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, amino-C_{1-8}alkyl-amino, C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl]$_2$-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino,

[(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, C_{1-8}alkoxy-C_{1-8}alkyl-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, C_{1-8}alkyl-carbonyl-amino, C_{1-8}alkoxy-carbonyl-amino, hydroxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkoxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino or (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino;

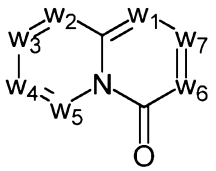
R_4 is C_{3-14}cycloalkyl, C_{3-14}cycloalkyl-C_{1-8}alkyl, C_{3-14}cycloalkyl-amino, aryl-C_{1-8}alkyl, aryl-C_{1-8}alkoxy-carbonyl, aryl-sulfonyloxy-C_{1-8}alkyl, heterocyclyl or heterocyclyl-C_{1-8}alkyl; wherein, each instance of C_{3-14}cycloalkyl, aryl and heterocyclyl is optionally substituted with one, two or three R_5 substituents;

R_5 is, in each instance, independently selected from halogen, hydroxy, cyano, nitro, C_{1-8}alkyl, halo-C_{1-8}alkyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino or C_{1-8}alkyl-thio;

R_6 is, in each instance, independently selected from halogen, hydroxy, cyano, nitro, C_{1-8}alkyl, C_{2-8}alkenyl, halo-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino or C_{1-8}alkyl-thio; and,

R_7 is C_{3-14}cycloalkyl, C_{3-14}cycloalkyl-oxy, aryl, heterocyclyl or heteroaryl.

[00133] In another aspect provided herein is a method for modulating the amount of an RNA transcript comprising a RNA nucleotide sequence comprising in 5' to 3' order: a branch point, a 3' splice site and an endogenous or non-endogenous intronic recognition element for splicing modifier (iREMS); wherein the iREMS comprises an RNA sequence GAgurngn (SEQ ID NO: 2), wherein r is adenine or guanine and n is any nucleotide, the method comprising contacting the RNA transcript with a compound of Formula (I) or a form thereof, wherein Formula (I) is:



(I),

wherein:

w_1 and w_5 are independently C-R_a or N;

w_2 is C-R_b or N;

w_3, w_4 and w_7 are independently C-R_1, C-R_2, C-R_a or N;

w_6 is C-R_1, C-R_2, C-R_c or N;

wherein one of w_3, w_4, w_6 and w_7 is C-R_1 and one other of w_3, w_4, w_6 and w_7 is C-R_2, provided that,

when w_3 is C-R_1, then w_6 is C-R_2 and w_4 and w_7 are independently C-R_a or N; or,

when w_3 is C-R_2, then w_6 is C-R_1 and w_4 and w_7 are independently C-R_a or N; or,

when w_4 is C-R_1, then w_7 is C-R_2 and w_3 is C-R_a or N and w_6 is C-R_c or N; or,

when w_4 is C-R_2, then w_7 is C-R_1 and w_3 is C-R_a or N and w_6 is C-R_c or N; and,

wherein any one, two or three of w_1, w_2, w_3, w_4, w_5, w_6 and w_7 may optionally be N;

R_1 is C_{1-8}alkyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino, C_{1-8}alkoxy-C_{1-8}alkyl-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, amino-C_{1-8}alkyl, C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, amino-C_{1-8}alkyl-amino, (amino-C_{1-8}alkyl)$_2$-amino, (amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, amino-C_{1-8}alkoxy, C_{1-8}alkyl-amino-C_{1-8}alkoxy, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkoxy, amino-C_{2-8}alkenyl, C_{1-8}alkyl-amino-C_{2-8}alkenyl, (C_{1-8}alkyl)$_2$-amino-C_{2-8}alkenyl, amino-C_{2-8}alkynyl, C_{1-8}alkyl-amino-C_{2-8}alkynyl, (C_{1-8}alkyl)$_2$-amino-C_{2-8}alkynyl, halo-C_{1-8}alkyl-amino, (halo-C_{1-8}alkyl)$_2$-amino, (halo-C_{1-8}alkyl)(C_{1-8}alkyl)amino, hydroxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkoxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkoxy, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino,

(hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl-amino,
[(hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino,
[(hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, heterocyclyl,
heterocyclyl-C_{1-8}alkyl, heterocyclyl-C_{1-8}alkoxy, heterocyclyl-amino,
(heterocyclyl)(C_{1-8}alkyl)amino, heterocyclyl-amino-C_{1-8}alkyl,
heterocyclyl-C_{1-8}alkyl-amino, (heterocyclyl-C_{1-8}alkyl)$_2$-amino,
(heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heterocyclyl-C_{1-8}alkyl-amino-C_{1-8}alkyl,
(heterocyclyl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl,
(heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heterocyclyl-oxy,
heterocyclyl-carbonyl, heterocyclyl-carbonyl-oxy, C_{3-14}cycloalkyl, aryl-C_{1-8}alkyl-amino,
(aryl-C_{1-8}alkyl)$_2$-amino, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, aryl-C_{1-8}alkyl-amino-C_{1-8}alkyl,
(aryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heteroaryl,
heteroaryl-C_{1-8}alkyl, heteroaryl-C_{1-8}alkoxy, heteroaryl-amino,
heteroaryl-C_{1-8}alkyl-amino, (heteroaryl-C_{1-8}alkyl)$_2$-amino,
(heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heteroaryl-C_{1-8}alkyl-amino-C_{1-8}alkyl,
(heteroaryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl or
(heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl;
wherein, each instance of heterocyclyl, C_{3-14}cycloalkyl, aryl and heteroaryl is optionally substituted with one, two or three R_3 substituents and optionally, with one additional R_4 substituent; or,
wherein, each instance of heterocyclyl, C_{3-14}cycloalkyl, aryl and heteroaryl is optionally substituted with one, two, three or four R_3 substituents;
R_2 is aryl, aryl-amino, aryl-amino-carbonyl, heterocyclyl, heteroaryl or heteroaryl-amino; wherein, each instance of aryl, heterocyclyl and heteroaryl is optionally substituted with one, two or three R_6 substituents and optionally, with one additional R_7 substituent;
R_a is, in each instance, independently selected from hydrogen, halogen, C_{1-8}alkyl or deuterium;
R_b is hydrogen, halogen, C_{1-8}alkyl, C_{1-8}alkoxy or deuterium;
R_c is hydrogen, halogen, C_{1-8}alkyl or deuterium;
R_3 is, in each instance, independently selected from cyano, halogen, hydroxy, oxo, C_{1-8}alkyl, halo-C_{1-8}alkyl, C_{1-8}alkyl-carbonyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy,

C_{1-8}alkoxy-C_{1-8}alkyl, C_{1-8}alkoxy-carbonyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino, amino-C_{1-8}alkyl, C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, amino-C_{1-8}alkyl-amino, C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl]$_2$-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, C_{1-8}alkoxy-C_{1-8}alkyl-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, C_{1-8}alkyl-carbonyl-amino, C_{1-8}alkoxy-carbonyl-amino, hydroxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkoxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino or (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino;

R_4 is C_{3-14}cycloalkyl, C_{3-14}cycloalkyl-C_{1-8}alkyl, C_{3-14}cycloalkyl-amino, aryl-C_{1-8}alkyl, aryl-C_{1-8}alkoxy-carbonyl, aryl-sulfonyloxy-C_{1-8}alkyl, heterocyclyl or heterocyclyl-C_{1-8}alkyl; wherein, each instance of C_{3-14}cycloalkyl, aryl and heterocyclyl is optionally substituted with one, two or three R_5 substituents;

R_5 is, in each instance, independently selected from halogen, hydroxy, cyano, nitro, C_{1-8}alkyl, halo-C_{1-8}alkyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino or C_{1-8}alkyl-thio;

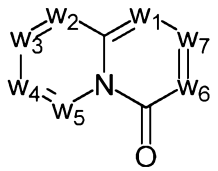
R_6 is, in each instance, independently selected from halogen, hydroxy, cyano, nitro, C_{1-8}alkyl, C_{2-8}alkenyl, halo-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino or C_{1-8}alkyl-thio; and,

R_7 is C_{3-14}cycloalkyl, C_{3-14}cycloalkyl-oxy, aryl, heterocyclyl or heteroaryl.

[00134] In certain embodiments, the RNA transcript is an RNA transcript of a gene that is selected from ABCB8, ABCC3, ADAM17, ADCY3, AGPAT4, ANKRA2, ANXA11, APIP, APLP2, APPL2, ARHGAP1, ARL15, ASAP1, ASPH, ATAD2B, ATXN1, AXIN1, BECN1, BHMT2, BICD1, BTN3A1, C11orf30, C11orf73, C12orf4, C14orf132, C8orf44, C8orf44-SGK3, C8orf88, CASC3, CASP7, CCDC122, CDH13, CECR7, CENPI, CEP112, CEP192, CHEK1, CMAHP, CNRIP1, COPS7B, CPSF4, CRISPLD2, CRYBG3, CSNK1E, CSNK1G1, DAGLB, DCAF17, DCUN1D4, DDX42, DENND1A, DENND5A, DGKA, DHFR, DIAPH3, DLGAP4, DNAJC13, DNMBP, DOCK1, DYRK1A, EIF2B3, ENAH, ENOX1, EP300, ERC1, ERCC1, ERGIC3, ERLIN2, ERRFI1, EVC, FAF1, FAIM, FAM126A, FAM13A, FAM162A, FAM174A, FAM198B, FBN2, FER, FHOD3, FOCAD, GALC, GCFC2, GGACT, GGCT,

GLCE, GOLGA4, GOLGB1, GPSM2, GULP1, GXYLT1, HAT1, HDX, HLTF, HMGA2, HNMT, HPS1, HSD17B12, HSD17B4, HTT, IFT57, INPP5K, IVD, KDM6A, KIAA1524, KIAA1715, LETM2, LOC400927, LRRC42, LUC7L3, LYRM1, MADD, MB21D2, MCM10, MED13L, MEDAG, MEMO1, MFN2, MMS19, MRPL45, MRPS28, MTERF3, MYCBP2, MYLK, MYOF, NGF, NREP, NSUN4, NT5C2, OSMR, OXCT1, PAPD4, PCM1, PDE7A, PDS5B, PDXDC1, PIGN, PIK3CD, PIK3R1, PIKFYVE, PITPNB, PLEKHA1, PLSCR1, PMS1, POMT2, PPARG, PPHLN1, PPIP5K2, PPP1R26, PRPF31, PRSS23, PRUNE2, PSMA4, PXK, RAF1, RAP1A, RAPGEF1, RARS2, RBKS, RERE, RFWD2, RNFT1, RPA1, RPS10, RPS6KB2, SAMD4A, SAR1A, SCO1, SEC24A, SENP6, SERGEF, SGK3, SH3YL1, SKA2, SLC12A2, SLC25A17, SLC44A2, SMYD3, SNAP23, SNHG16, SNX7, SOS2, SPATA18, SPATA5, SPIDR, SPRYD7, SRGAP1, SRRM1, STAT1, STRN3, STXBP6, SUPT20H, TAF2, TASP1, TBC1D15, TCF12, TCF4, TIAM1, TJP2, TMC3, TMEM189-UBE2V1, TMEM214, TNRC6A, TNS3, TOE1, TRAF3, TRIM65, TSPAN2, TTC7B, TUBE1, TYW5, UBAP2L, UBE2V1, URGCP, VAV2, VPS29, WDR27, WDR37, WDR91, WNK1, XRN2, ZCCHC8, ZFP82, ZNF138, ZNF232, ZNF37BP or ZNF680.

[00135] In another aspect, provided herein is a method for modulating the amount of an RNA transcript comprising a RNA nucleotide sequence, wherein the RNA nucleotide sequence comprises two exons and an intron, wherein one exon is upstream of the intron and the other exon is downstream of the intron, wherein the RNA nucleotide sequence of the intron comprises in 5' to 3' order: a first 5' splice site, a first branch point, a first 3' splice site, an iREMS, a second branch point and a second 3' splice site, wherein the iREMS comprises an RNA sequence GAgurngn (SEQ ID NO: 2), wherein r is adenine or guanine and n is any nucleotide, the method comprising contacting the RNA transcript with a compound of Formula (I) or a form thereof, wherein Formula (I) is:



(I),

wherein:

w_1 and w_5 are independently C-R_a or N;

w_2 is C-R_b or N;

w_3, w_4 and w_7 are independently C-R_1, C-R_2, C-R_a or N;

w_6 is C-R_1, C-R_2, C-R_c or N;

wherein one of w_3, w_4, w_6 and w_7 is C-R_1 and one other of w_3, w_4, w_6 and w_7 is C-R_2, provided that,

when w_3 is C-R_1, then w_6 is C-R_2 and w_4 and w_7 are independently C-R_a or N; or,

when w_3 is C-R_2, then w_6 is C-R_1 and w_4 and w_7 are independently C-R_a or N; or,

when w_4 is C-R_1, then w_7 is C-R_2 and w_3 is C-R_a or N and w_6 is C-R_c or N; or,

when w_4 is C-R_2, then w_7 is C-R_1 and w_3 is C-R_a or N and w_6 is C-R_c or N; and,

wherein any one, two or three of w_1, w_2, w_3, w_4, w_5, w_6 and w_7 may optionally be N;

R_1 is C_{1-8}alkyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino, C_{1-8}alkoxy-C_{1-8}alkyl-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, amino-C_{1-8}alkyl, C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, amino-C_{1-8}alkyl-amino, (amino-C_{1-8}alkyl)$_2$-amino, (amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, amino-C_{1-8}alkoxy, C_{1-8}alkyl-amino-C_{1-8}alkoxy, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkoxy, amino-C_{2-8}alkenyl, C_{1-8}alkyl-amino-C_{2-8}alkenyl, (C_{1-8}alkyl)$_2$-amino-C_{2-8}alkenyl, amino-C_{2-8}alkynyl, C_{1-8}alkyl-amino-C_{2-8}alkynyl, (C_{1-8}alkyl)$_2$-amino-C_{2-8}alkynyl, halo-C_{1-8}alkyl-amino, (halo-C_{1-8}alkyl)$_2$-amino, (halo-C_{1-8}alkyl)(C_{1-8}alkyl)amino, hydroxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkoxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkoxy, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino,

(hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino,
(hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino,
(hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl-amino,
[(hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino,
[(hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, heterocyclyl,
heterocyclyl-C_{1-8}alkyl, heterocyclyl-C_{1-8}alkoxy, heterocyclyl-amino,
(heterocyclyl)(C_{1-8}alkyl)amino, heterocyclyl-amino-C_{1-8}alkyl,
heterocyclyl-C_{1-8}alkyl-amino, (heterocyclyl-C_{1-8}alkyl)$_2$-amino,
(heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heterocyclyl-C_{1-8}alkyl-amino-C_{1-8}alkyl,
(heterocyclyl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl,
(heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heterocyclyl-oxy,
heterocyclyl-carbonyl, heterocyclyl-carbonyl-oxy, C_{3-14}cycloalkyl, aryl-C_{1-8}alkyl-amino,
(aryl-C_{1-8}alkyl)$_2$-amino, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, aryl-C_{1-8}alkyl-amino-C_{1-8}alkyl,
(aryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heteroaryl,
heteroaryl-C_{1-8}alkyl, heteroaryl-C_{1-8}alkoxy, heteroaryl-amino,
heteroaryl-C_{1-8}alkyl-amino, (heteroaryl-C_{1-8}alkyl)$_2$-amino,
(heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heteroaryl-C_{1-8}alkyl-amino-C_{1-8}alkyl,
(heteroaryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl or
(heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl;
wherein, each instance of heterocyclyl, C_{3-14}cycloalkyl, aryl and heteroaryl is optionally substituted with one, two or three R_3 substituents and optionally, with one additional R_4 substituent; or,
wherein, each instance of heterocyclyl, C_{3-14}cycloalkyl, aryl and heteroaryl is optionally substituted with one, two, three or four R_3 substituents;
R_2 is aryl, aryl-amino, aryl-amino-carbonyl, heterocyclyl, heteroaryl or heteroaryl-amino; wherein, each instance of aryl, heterocyclyl and heteroaryl is optionally substituted with one, two or three R_6 substituents and optionally, with one additional R_7 substituent;
R_a is, in each instance, independently selected from hydrogen, halogen, C_{1-8}alkyl or deuterium;
R_b is hydrogen, halogen, C_{1-8}alkyl, C_{1-8}alkoxy or deuterium;
R_c is hydrogen, halogen, C_{1-8}alkyl or deuterium;

R_3 is, in each instance, independently selected from cyano, halogen, hydroxy, oxo, C_{1-8}alkyl, halo-C_{1-8}alkyl, C_{1-8}alkyl-carbonyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl, C_{1-8}alkoxy-carbonyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino, amino-C_{1-8}alkyl, C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, amino-C_{1-8}alkyl-amino, C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl]$_2$-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, C_{1-8}alkoxy-C_{1-8}alkyl-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, C_{1-8}alkyl-carbonyl-amino, C_{1-8}alkoxy-carbonyl-amino, hydroxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkoxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino or (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino;

R_4 is C_{3-14}cycloalkyl, C_{3-14}cycloalkyl-C_{1-8}alkyl, C_{3-14}cycloalkyl-amino, aryl-C_{1-8}alkyl, aryl-C_{1-8}alkoxy-carbonyl, aryl-sulfonyloxy-C_{1-8}alkyl, heterocyclyl or heterocyclyl-C_{1-8}alkyl; wherein, each instance of C_{3-14}cycloalkyl, aryl and heterocyclyl is optionally substituted with one, two or three R_5 substituents;

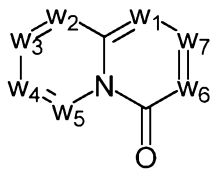
R_5 is, in each instance, independently selected from halogen, hydroxy, cyano, nitro, C_{1-8}alkyl, halo-C_{1-8}alkyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino or C_{1-8}alkyl-thio;

R_6 is, in each instance, independently selected from halogen, hydroxy, cyano, nitro, C_{1-8}alkyl, C_{2-8}alkenyl, halo-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino or C_{1-8}alkyl-thio; and,

R_7 is C_{3-14}cycloalkyl, C_{3-14}cycloalkyl-oxy, aryl, heterocyclyl or heteroaryl.

[00136] In another aspect, provided herein is a method for modulating the amount of an RNA transcript comprising a RNA nucleotide sequence, wherein the RNA nucleotide sequence comprises two exons and an intron, wherein one exon is upstream of the intron and the other exon is downstream of the intron, wherein the RNA nucleotide sequence of the intron comprises in 5' to 3' order: an iREMS, a first branch point and a first 3' splice site, wherein the iREMS comprises an RNA sequence GAgurngn (SEQ ID NO: 2), wherein r is adenine or guanine and n

is any nucleotide, the method comprising contacting the RNA transcript with a compound of Formula (I) or a form thereof, wherein Formula (I) is:



(I),

wherein:

w_1 and w_5 are independently C-R_a or N;

w_2 is C-R_b or N;

w_3, w_4 and w_7 are independently C-R_1, C-R_2, C-R_a or N;

w_6 is C-R_1, C-R_2, C-R_c or N;

wherein one of w_3, w_4, w_6 and w_7 is C-R_1 and one other of w_3, w_4, w_6 and w_7 is C-R_2, provided that,

when w_3 is C-R_1, then w_6 is C-R_2 and w_4 and w_7 are independently C-R_a or N; or,

when w_3 is C-R_2, then w_6 is C-R_1 and w_4 and w_7 are independently C-R_a or N; or,

when w_4 is C-R_1, then w_7 is C-R_2 and w_3 is C-R_a or N and w_6 is C-R_c or N; or,

when w_4 is C-R_2, then w_7 is C-R_1 and w_3 is C-R_a or N and w_6 is C-R_c or N; and,

wherein any one, two or three of w_1, w_2, w_3, w_4, w_5, w_6 and w_7 may optionally be N;

R_1 is C_{1-8}alkyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino, C_{1-8}alkoxy-C_{1-8}alkyl-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, amino-C_{1-8}alkyl, C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, amino-C_{1-8}alkyl-amino, (amino-C_{1-8}alkyl)$_2$-amino, (amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, amino-C_{1-8}alkoxy, C_{1-8}alkyl-amino-C_{1-8}alkoxy, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkoxy, amino-C_{2-8}alkenyl,

C_{1-8}alkyl-amino-C_{2-8}alkenyl, (C_{1-8}alkyl)$_2$-amino-C_{2-8}alkenyl, amino-C_{2-8}alkynyl, C_{1-8}alkyl-amino-C_{2-8}alkynyl, (C_{1-8}alkyl)$_2$-amino-C_{2-8}alkynyl, halo-C_{1-8}alkyl-amino, (halo-C_{1-8}alkyl)$_2$-amino, (halo-C_{1-8}alkyl)(C_{1-8}alkyl)amino, hydroxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkoxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkoxy, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl-amino, [(hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, [(hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, heterocyclyl, heterocyclyl-C_{1-8}alkyl, heterocyclyl-C_{1-8}alkoxy, heterocyclyl-amino, (heterocyclyl)(C_{1-8}alkyl)amino, heterocyclyl-amino-C_{1-8}alkyl, heterocyclyl-C_{1-8}alkyl-amino, (heterocyclyl-C_{1-8}alkyl)$_2$-amino, (heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heterocyclyl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (heterocyclyl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heterocyclyl-oxy, heterocyclyl-carbonyl, heterocyclyl-carbonyl-oxy, C_{3-14}cycloalkyl, aryl-C_{1-8}alkyl-amino, (aryl-C_{1-8}alkyl)$_2$-amino, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, aryl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (aryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heteroaryl, heteroaryl-C_{1-8}alkyl, heteroaryl-C_{1-8}alkoxy, heteroaryl-amino, heteroaryl-C_{1-8}alkyl-amino, (heteroaryl-C_{1-8}alkyl)$_2$-amino, (heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heteroaryl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (heteroaryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl or (heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl;

wherein, each instance of heterocyclyl, C_{3-14}cycloalkyl, aryl and heteroaryl is optionally substituted with one, two or three R_3 substituents and optionally, with one additional R_4 substituent; or,

wherein, each instance of heterocyclyl, C_{3-14}cycloalkyl, aryl and heteroaryl is optionally substituted with one, two, three or four R_3 substituents;

R_2 is aryl, aryl-amino, aryl-amino-carbonyl, heterocyclyl, heteroaryl or heteroaryl-amino; wherein, each instance of aryl, heterocyclyl and heteroaryl is optionally substituted with one, two or three R_6 substituents and optionally, with one additional R_7 substituent;

R_a is, in each instance, independently selected from hydrogen, halogen, C_{1-8}alkyl or deuterium;

R_b is hydrogen, halogen, C_{1-8}alkyl, C_{1-8}alkoxy or deuterium;

R_c is hydrogen, halogen, C_{1-8}alkyl or deuterium;

R_3 is, in each instance, independently selected from cyano, halogen, hydroxy, oxo, C_{1-8}alkyl, halo-C_{1-8}alkyl, C_{1-8}alkyl-carbonyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl, C_{1-8}alkoxy-carbonyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino, amino-C_{1-8}alkyl, C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, amino-C_{1-8}alkyl-amino, C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl]$_2$-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, C_{1-8}alkoxy-C_{1-8}alkyl-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, C_{1-8}alkyl-carbonyl-amino, C_{1-8}alkoxy-carbonyl-amino, hydroxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkoxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino or (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino;

R_4 is C_{3-14}cycloalkyl, C_{3-14}cycloalkyl-C_{1-8}alkyl, C_{3-14}cycloalkyl-amino, aryl-C_{1-8}alkyl, aryl-C_{1-8}alkoxy-carbonyl, aryl-sulfonyloxy-C_{1-8}alkyl, heterocyclyl or heterocyclyl-C_{1-8}alkyl; wherein, each instance of C_{3-14}cycloalkyl, aryl and heterocyclyl is optionally substituted with one, two or three R_5 substituents;

R_5 is, in each instance, independently selected from halogen, hydroxy, cyano, nitro, C_{1-8}alkyl, halo-C_{1-8}alkyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino or C_{1-8}alkyl-thio;

R_6 is, in each instance, independently selected from halogen, hydroxy, cyano, nitro, C_{1-8}alkyl, C_{2-8}alkenyl, halo-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino or C_{1-8}alkyl-thio; and,

R_7 is C_{3-14}cycloalkyl, C_{3-14}cycloalkyl-oxy, aryl, heterocyclyl or heteroaryl.

[00137] In certain embodiments, the iREMS is an endogenous iREMS, and the RNA transcript is an RNA transcript of a gene that is selected from ABCA10, ABCB8, ABCC3, ACTA2, ADAL, ADAMTS1, ADCY3, ADD1, ADGRG6, ADH6, ADHFE1, AFF3, AGPAT4, AKAP3, ANK1, ANK3, ANKRA2, ANKRD33B, ANKRD36, AP4B1-AS1, APIP, ARHGAP1, ARHGAP12, ARHGEF16, ARID5B, ARL15, ARL9, ARMCX6, ASIC1, ATG5, ATP2A3, ATXN1, B3GALT2, B3GNT6, BCL2L15, BCYRN1, BECN1, BHMT2, BIN3-IT1, BIRC3, BIRC6, BTG2, BTN3A1, C10orf54, C11orf70, C11orf94, C12orf4, C12orf56, C14orf132, C19orf47, C1orf86, C3, C7orf31, C8orf34, C8orf44, C8orf44-SGK3, C8orf88, CA13, CA3, CACNA2D2, CACNB1, CADM1, CAND2, CASP7, CCDC122, CCDC79, CCER2, CCNF, CECR7, CELSR1, CEMIP, CENPI, CEP112, CEP170, CEP192, CFH, CHEK1, CIITA, CLDN23, CLTA, CMAHP, CNGA4, CNRIP1, CNTD1, COL11A1, COL14A1, COL15A1, COL5A1, COL5A3, COL6A6, COL8A1, COLEC12, COMP, CPA4, CPQ, CPSF4, CRISPLD2, CRLF1, CRYBG3, CRYL1, CSNK1E, CSNK1G1, CYB5R2, CYGB, CYP1B1, DAGLB, DCAF17, DCLK1, DCN, DDIT4L, DDX50, DEGS1, DEPTOR, DFNB59, DIRAS3, DLG5, DLGAP4, DNAH8, DNAJC13, DNAJC27, DNMBP, DOCK11, DYNC1I1, DYRK1A, DZIP1L, EFEMP1, EGR3, ELN, ELP4, EMX2OS, ENAH, ENPP1, EP300, ERCC1, ERCC8, ERGIC3, ERLIN2, ERRFI1, ESM1, EVC, EVC2, F2R, FAIM, FAM126A, FAM13A, FAM160A1, FAM162A, FAM174A, FAM20A, FAM46B, FAM65B, FAP, FARP1, FBLN2, FBN2, FBXL6, FCHO1, FGFR2, FGL2, FLT1, FRAS1, FSCN2, GAL3ST4, GALNT15, GATA6, GBGT1, GCNT1, GDF6, GGACT, GLCE, GNAQ, GPR183, GPR50, GPRC5A, GPRC5B, GRTP1, GUCA1B, GULP1, GXYLT1, HAPLN1, HAPLN2, HAS3, HAVCR2, HDAC5, HDX, HECTD2-AS1, HEPH, HEY1, HMGA2, HMGN3-AS1, HNMT, HOOK3, HPS1, HSPA1L, HTATIP2, IFT57, IGDCC4, IGF2R, IGFBP3, IL16, INA, INPP5K, INTU, IQCG, ITGA11, ITGA8, ITGB8, ITIH1, ITPKA, IVD, KAT6B, KCNS1, KCNS2, KDM6A, KDSR, KIAA1456, KIAA1462, KIAA1755, KIT, KLF17, KLRG1, KMT2D, KRT7, KRTAP1-1, KRTAP1-5, L3MBTL2, LAMB2P1, LETM2, LGI2, LGR4, LHX9, LINC00472, LINC00570, LINC00578, LINC00607, LINC00678, LINC00702, LINC00886, LINC00961, LINC01011, LINC01118, LINC01204, LMOD1, LOC400927, LRBA, LRP4, LRRC32, LRRC39, LRRC42, LSAMP, LUM, LYPD1, LYRM1, MAFB, MAMDC2, MAN2A1, MAN2C1, MAPK13, MASP1, MB, MB21D2, MC4R, MCM10, MED13L, MEGF6, MFN2, MIAT, MIR612, MLLT10, MMP10,

MMP24, MN1, MOXD1, MRPL45, MRPL55, MRPS28, MRVI1, MSH4, MTERF3, MXRA5, MYCBP2, NA, NAALADL2, NAE1, NAGS, NDNF, NGF, NGFR, NHLH1, NLN, NOTCH3, NOTUM, NOVA2, NOX4, NRROS, OCLN, OLR1, OSBPL10, OXCT1, OXCT2, PAIP2B, PBLD, PDE1C, PDE5A, PDGFD, PDGFRB, PDS5B, PEAR1, PHACTR3, PIGN, PIK3CD, PIK3R1, PIKFYVE, PIM2, PITPNM3, PLEK2, PLEKHA1, PLEKHA6, PLEKHH2, PLSCR1, PNISR, PODN, POLN, POLR1A, POMT2, PPARG, PPIP5K2, PPM1E, PPP1R26, PPP3CA, PRKCA, PRKG1, PRPF31, PRPH2, PRRG4, PRUNE2, PSMD6-AS2, PTGIS, PTX3, PXK, RAB30, RAB38, RAB44, RAD9B, RAF1, RAPGEF1, RARS, RARS2, RBBP8, RBKS, RDX, RERE, RFX3-AS1, RGCC, ROR1, ROR2, RPA1, RPS10, RPS6KB2, SAMD4A, SCARNA9, SEC24A, SENP6, SERGEF, SGK3, SH3YL1, SHROOM3, SIGLEC10, SKA2, SLC12A2, SLC24A3, SLC35F3, SLC39A10, SLC44A2, SLC46A2, SLC4A11, SLC6A15, SLC7A11, SLC9A3, SLIT3, SMG1P3, SMTN, SNED1, SNX7, SORBS2, SORCS2, SOX7, SPATA18, SPATA5, SPDYA, SPEF2, SPIDR, SPRYD7, SRGAP1, SRRM1, STAC2, STAT4, STK32B, STRN4, STS, STXBP6, SULF1, SVEP1, SYNGR2, SYNPO, SYNPO2, SYNPO2L, TAGLN3, TANGO6, TASP1, TCF12, TCF4, TGFA, TGFB2, TGFB3, TGM2, THBS2, TIAM1, TMC3, TMEM102, TMEM119, TMEM134, TMEM189-UBE2V1, TMEM214, TMEM256-PLSCR3, TMEM50B, TNFAIP8L3, TNFRSF14, TNRC18P1, TNRC6A, TNXB, TP53AIP1, TPRG1, TRIM66, TRPC4, TSHZ2, TSPAN11, TSPAN18, TSPAN7, TSSK3, TTC7B, TUBE1, TXNIP, TYW5, URGCP, USP27X, UVRAG, VAV2, VIM-AS1, VPS41, VSTM2L, VWF, WDR27, WDR91, WISP1, WNK1, WNT10B, YDJC, ZBTB26, ZCCHC5, ZCCHC8, ZFP82, ZMIZ1-AS1, ZNF138, ZNF212, ZNF232, ZNF350, ZNF431, ZNF660, ZNF680, ZNF79, or ZNF837.

[00138] In certain embodiments, the iREMS is an endogenous iREMS, and the RNA transcript is an RNA transcript of a gene that is selected from ABCB8, ABCC3, ADAM17, ADCY3, AGPAT4, ANKRA2, ANXA11, APIP, APLP2, APPL2, ARHGAP1, ARL15, ASAP1, ASPH, ATAD2B, ATXN1, AXIN1, BECN1, BHMT2, BICD1, BTN3A1, C11orf30, C11orf73, C12orf4, C14orf132, C8orf44, C8orf44-SGK3, C8orf88, CASC3, CASP7, CCDC122, CDH13, CECR7, CENPI, CEP112, CEP192, CHEK1, CMAHP, CNRIP1, COPS7B, CPSF4, CRISPLD2, CRYBG3, CSNK1E, CSNK1G1, DAGLB, DCAF17, DCUN1D4, DDX42, DENND1A, DENND5A, DGKA, DHFR, DIAPH3, DLGAP4, DNAJC13, DNMBP, DOCK1, DYRK1A, EIF2B3, ENAH, ENOX1, EP300, ERC1, ERCC1, ERGIC3, ERLIN2, ERRFI1, EVC, FAF1, FAIM, FAM126A, FAM13A, FAM162A, FAM174A, FAM198B, FBN2, FER, FHOD3,

FOCAD, GALC, GCFC2, GGACT, GGCT, GLCE, GOLGA4, GOLGB1, GPSM2, GULP1, GXYLT1, HAT1, HDX, HLTF, HMGA2, HNMT, HPS1, HSD17B12, HSD17B4, HTT, IFT57, INPP5K, IVD, KDM6A, KIAA1524, KIAA1715, LETM2, LOC400927, LRRC42, LUC7L3, LYRM1, MADD, MB21D2, MCM10, MED13L, MEDAG, MEMO1, MFN2, MMS19, MRPL45, MRPS28, MTERF3, MYCBP2, MYLK, MYOF, NGF, NREP, NSUN4, NT5C2, OSMR, OXCT1, PAPD4, PCM1, PDE7A, PDS5B, PDXDC1, PIGN, PIK3CD, PIK3R1, PIKFYVE, PITPNB, PLEKHA1, PLSCR1, PMS1, POMT2, PPARG, PPHLN1, PPIP5K2, PPP1R26, PRPF31, PRSS23, PRUNE2, PSMA4, PXK, RAF1, RAP1A, RAPGEF1, RARS2, RBKS, RERE, RFWD2, RNFT1, RPA1, RPS10, RPS6KB2, SAMD4A, SAR1A, SCO1, SEC24A, SENP6, SERGEF, SGK3, SH3YL1, SKA2, SLC12A2, SLC25A17, SLC44A2, SMYD3, SNAP23, SNHG16, SNX7, SOS2, SPATA18, SPATA5, SPIDR, SPRYD7, SRGAP1, SRRM1, STAT1, STRN3, STXBP6, SUPT20H, TAF2, TASP1, TBC1D15, TCF12, TCF4, TIAM1, TJP2, TMC3, TMEM189-UBE2V1, TMEM214, TNRC6A, TNS3, TOE1, TRAF3, TRIM65, TSPAN2, TTC7B, TUBE1, TYW5, UBAP2L, UBE2V1, URGCP, VAV2, VPS29, WDR27, WDR37, WDR91, WNK1, XRN2, ZCCHC8, ZFP82, ZNF138, ZNF232, ZNF37BP or ZNF680.

[00139] In certain embodiments, the iREMS is a non-endogenous iREMS. In a specific embodiment, the iREMS is a non-endogenous iREMS and the RNA transcript is an RNA transcript of a gene that is selected from ABCB8, ABCC3, ADAM17, ADCY3, AGPAT4, ANKRA2, ANXA11, APIP, APLP2, APPL2, ARHGAP1, ARL15, ASAP1, ASPH, ATAD2B, ATXN1, AXIN1, BECN1, BHMT2, BICD1, BTN3A1, C11orf30, C11orf73, C12orf4, C14orf132, C8orf44, C8orf44-SGK3, C8orf88, CASC3, CASP7, CCDC122, CDH13, CECR7, CENPI, CEP112, CEP192, CHEK1, CMAHP, CNRIP1, COPS7B, CPSF4, CRISPLD2, CRYBG3, CSNK1E, CSNK1G1, DAGLB, DCAF17, DCUN1D4, DDX42, DENND1A, DENND5A, DGKA, DHFR, DIAPH3, DLGAP4, DNAJC13, DNMBP, DOCK1, DYRK1A, EIF2B3, ENAH, ENOX1, EP300, ERC1, ERCC1, ERGIC3, ERLIN2, ERRFI1, EVC, FAF1, FAIM, FAM126A, FAM13A, FAM162A, FAM174A, FAM198B, FBN2, FER, FHOD3, FOCAD, GALC, GCFC2, GGACT, GGCT, GLCE, GOLGA4, GOLGB1, GPSM2, GULP1, GXYLT1, HAT1, HDX, HLTF, HMGA2, HNMT, HPS1, HSD17B12, HSD17B4, HTT, IFT57, INPP5K, IVD, KDM6A, KIAA1524, KIAA1715, LETM2, LOC400927, LRRC42, LUC7L3, LYRM1, MADD, MB21D2, MCM10, MED13L, MEDAG, MEMO1, MFN2, MMS19,

MRPL45, MRPS28, MTERF3, MYCBP2, MYLK, MYOF, NGF, NREP, NSUN4, NT5C2, OSMR, OXCT1, PAPD4, PCM1, PDE7A, PDS5B, PDXDC1, PIGN, PIK3CD, PIK3R1, PIKFYVE, PITPNB, PLEKHA1, PLSCR1, PMS1, POMT2, PPARG, PPHLN1, PPIP5K2, PPP1R26, PRPF31, PRSS23, PRUNE2, PSMA4, PXK, RAF1, RAP1A, RAPGEF1, RARS2, RBKS, RERE, RFWD2, RNFT1, RPA1, RPS10, RPS6KB2, SAMD4A, SAR1A, SCO1, SEC24A, SENP6, SERGEF, SGK3, SH3YL1, SKA2, SLC12A2, SLC25A17, SLC44A2, SMYD3, SNAP23, SNHG16, SNX7, SOS2, SPATA18, SPATA5, SPIDR, SPRYD7, SRGAP1, SRRM1, STAT1, STRN3, STXBP6, SUPT20H, TAF2, TASP1, TBC1D15, TCF12, TCF4, TIAM1, TJP2, TMC3, TMEM189-UBE2V1, TMEM214, TNRC6A, TNS3, TOE1, TRAF3, TRIM65, TSPAN2, TTC7B, TUBE1, TYW5, UBAP2L, UBE2V1, URGCP, VAV2, VPS29, WDR27, WDR37, WDR91, WNK1, XRN2, ZCCHC8, ZFP82, ZNF138, ZNF232, ZNF37BP or ZNF680.

[00140] In one aspect, provided herein is a method for producing a mature mRNA transcript comprising iExon from a pre-mRNA transcript, wherein the pre-mRNA transcript comprises two exons and an intron, wherein one exon is upstream of the intron and the other exon is downstream of the intron, wherein the intron comprises in 5' to 3' order: a first 5' splice site, a first branch point, a first 3' splice site, an endogenous or non-endogenous intronic recognition element for splicing modifier (iREMS), a second branch point, and a second 3' splice site, wherein the iREMS comprises an RNA sequence GAgurngn (SEQ ID NO: 2), wherein r is adenine or guanine and n is any nucleotide. In one embodiment, provided herein is a method for producing a mature mRNA transcript comprising an iExon, the method comprising contacting a pre-mRNA transcript with a compound described herein (e.g., a compound of Formula (I) or a form thereof), wherein the pre-mRNA transcript comprises two exons and an intron, wherein one exon is upstream of the intron and the other exon is downstream of the intron, wherein the intron comprises in 5' to 3' order: a first 5' splice site, a first branch point, a first 3' splice site, an endogenous or non-endogenous intronic recognition element for splicing modifier (iREMS), a second branch point, and a second 3' splice site, wherein the iREMS comprises an RNA sequence GAgurngn (SEQ ID NO: 2), wherein r is adenine or guanine and n is any nucleotide. In another embodiment, provided herein is a method for producing a mature mRNA transcript comprising an iExon, the method comprising contacting a cell or cell lysate containing a pre-mRNA transcript with a compound described herein (e.g., a compound of Formula (I) or a form

thereof), wherein the pre-mRNA transcript comprises two exons and an intron, wherein one exon is upstream of the intron and the other exon is downstream of the intron, wherein the intron comprises in 5' to 3' order: a first 5' splice site, a first branch point, a first 3' splice site, an endogenous or non-endogeous intronic recognition element for splicing modifier (iREMS), a second branch point, and a second 3' splice site, wherein the iREMS comprises an RNA sequence GAgurngn (SEQ ID NO: 2), wherein r is adenine or guanine and n is any nucleotide. In some embodiments, the pre-mRNA transcript is encoded by a gene disclosed herein (e.g., in a table herein).

[00141] In a particular embodiment, provided herein is a method for producing a mature mRNA transcript comprising an iExon, the method comprising contacting a pre-mRNA transcript with a compound described herein (e.g., a compound of Formula (I) or a form thereof), wherein the pre-mRNA transcript comprises two exons and an intron, wherein one exon is upstream of the intron and the other exon is downstream of the intron, wherein the intron comprises in 5' to 3' order: a first 5' splice site, a first branch point, a first 3' splice site, an endogenous intronic recognition element for splicing modifier (iREMS), a second branch point, and a second 3' splice site, wherein the iREMS comprises an RNA sequence GAgurngn (SEQ ID NO: 2), wherein r is adenine or guanine and n is any nucleotide, wherein the pre-mRNA transcript is a pre-mRNA transcript of a gene that is selected from ABCB8, ABCC3, ADAM17, ADCY3, AGPAT4, ANKRA2, ANXA11, APIP, APPL2, ARHGAP1, ARL15, ASAP1, ASPH, ATAD2B, ATXN1, BECN1, BHMT2, BICD1, BTN3A1, C11orf30, C11orf73, C12orf4, C14orf132, C8orf44, C8orf44-SGK3, C8orf88, CASC3, CASP7, CCDC122, CDH13, CECR7, CENPI, CEP112, CEP192, CHEK1, CMAHP, CNRIP1, COPS7B, CPSF4, CRISPLD2, CRYBG3, CSNK1E, CSNK1G1, DCAF17, DCUN1D4, DDX42, DENND1A, DENND5A, DGKA, DHFR, DIAPH3, DNAJC13, DNMBP, DOCK1, DYRK1A, EIF2B3, ENAH, ENOX1, EP300, ERC1, ERLIN2, ERRFI1, EVC, FAF1, FAIM, FAM126A, FAM13A, FAM162A, FAM174A, FBN2, FER, FHOD3, FOCAD, GALC, GCFC2, GGACT, GLCE, GOLGA4, GOLGB1, GPSM2, GULP1, GXYLT1, HDX, HLTF, HMGA2, HNMT, HSD17B12, HSD17B4, HTT, IFT57, IVD, KDM6A, KIAA1524, KIAA1715, LETM2, LOC400927, LRRC42, LUC7L3, LYRM1, MB21D2, MCM10, MED13L, MEDAG, MEMO1, MFN2, MMS19, MRPL45, MRPS28, MTERF3, MYCBP2, MYLK, MYOF, NGF, NREP, NSUN4, NT5C2, OSMR, OXCT1, PAPD4, PCM1, PDE7A, PDS5B, PDXDC1, PIGN, PIK3CD, PIK3R1, PIKFYVE,

PITPNB, PLEKHA1, PLSCR1, PMS1, POMT2, PPARG, PPIP5K2, PPP1R26, PRPF31, PRSS23, PSMA4, PXK, RAF1, RAPGEF1, RARS2, RBKS, RERE, RFWD2, RPA1, RPS10, SAMD4A, SAR1A, SCO1, SEC24A, SENP6, SERGEF, SGK3, SLC12A2, SLC25A17, SLC44A2, SMYD3, SNAP23, SNHG16, SNX7, SOS2, SPATA5, SPIDR, SPRYD7, SRGAP1, SRRM1, STAT1, STXBP6, SUPT20H, TAF2, TASP1, TBC1D15, TCF12, TCF4, TIAM1, TJP2, TMC3, TMEM214, TNRC6A, TNS3, TOE1, TRAF3, TSPAN2, TTC7B, TYW5, UBAP2L, URGCP, VAV2, WDR27, WDR37, WDR91, WNK1, XRN2, ZCCHC8, ZFP82, ZNF138, ZNF232 or ZNF37BP. In another particular embodiment, provided herein is a method for producing a mature mRNA transcript comprising an iExon, the method comprising contacting a cell or cell lysate containing a pre-mRNA transcript with a compound described herein (e.g., a compound of Formula (I) or a form thereof), wherein the pre-mRNA transcript comprises two exons and an intron, wherein one exon is upstream of the intron and the other exon is downstream of the intron, wherein the intron comprises in 5' to 3' order: a first 5' splice site, a first branch point, a first 3' splice site, an endogenous intronic recognition element for splicing modifier (iREMS), a second branch point, and a second 3' splice site, wherein the iREMS comprises an RNA sequence GAgurngn (SEQ ID NO: 2), wherein r is adenine or guanine and n is any nucleotide, wherein the pre-mRNA transcript is a pre-mRNA transcript of a gene that is selected from ABCB8, ABCC3, ADAM17, ADCY3, AGPAT4, ANKRA2, ANXA11, APIP, APPL2, ARHGAP1, ARL15, ASAP1, ASPH, ATAD2B, ATXN1, BECN1, BHMT2, BICD1, BTN3A1, C11orf30, C11orf73, C12orf4, C14orf132, C8orf44, C8orf44-SGK3, C8orf88, CASC3, CASP7, CCDC122, CDH13, CECR7, CENPI, CEP112, CEP192, CHEK1, CMAHP, CNRIP1, COPS7B, CPSF4, CRISPLD2, CRYBG3, CSNK1E, CSNK1G1, DCAF17, DCUN1D4, DDX42, DENND1A, DENND5A, DGKA, DHFR, DIAPH3, DNAJC13, DNMBP, DOCK1, DYRK1A, EIF2B3, ENAH, ENOX1, EP300, ERC1, ERLIN2, ERRFI1, EVC, FAF1, FAIM, FAM126A, FAM13A, FAM162A, FAM174A, FBN2, FER, FHOD3, FOCAD, GALC, GCFC2, GGACT, GLCE, GOLGA4, GOLGB1, GPSM2, GULP1, GXYLT1, HDX, HLTF, HMGA2, HNMT, HSD17B12, HSD17B4, HTT, IFT57, IVD, KDM6A, KIAA1524, KIAA1715, LETM2, LOC400927, LRRC42, LUC7L3, LYRM1, MB21D2, MCM10, MED13L, MEDAG, MEMO1, MFN2, MMS19, MRPL45, MRPS28, MTERF3, MYCBP2, MYLK, MYOF, NGF, NREP, NSUN4, NT5C2, OSMR, OXCT1, PAPD4, PCM1, PDE7A, PDS5B, PDXDC1, PIGN, PIK3CD, PIK3R1, PIKFYVE, PITPNB, PLEKHA1,

PLSCR1, PMS1, POMT2, PPARG, PPIP5K2, PPP1R26, PRPF31, PRSS23, PSMA4, PXK, RAF1, RAPGEF1, RARS2, RBKS, RERE, RFWD2, RPA1, RPS10, SAMD4A, SAR1A, SCO1, SEC24A, SENP6, SERGEF, SGK3, SLC12A2, SLC25A17, SLC44A2, SMYD3, SNAP23, SNHG16, SNX7, SOS2, SPATA5, SPIDR, SPRYD7, SRGAP1, SRRM1, STAT1, STXBP6, SUPT20H, TAF2, TASP1, TBC1D15, TCF12, TCF4, TIAM1, TJP2, TMC3, TMEM214, TNRC6A, TNS3, TOE1, TRAF3, TSPAN2, TTC7B, TYW5, UBAP2L, URGCP, VAV2, WDR27, WDR37, WDR91, WNK1, XRN2, ZCCHC8, ZFP82, ZNF138, ZNF232 or ZNF37BP.

[00142] In another aspect, provided herein is a method modulating the amount of a mature mRNA transcript produced by a pre-mRNA transcript, wherein the pre-mRNA transcript comprises two exons and an intron, wherein one exon is upstream of the intron and the other exon is downstream of the intron, wherein the intron comprises a RNA nucleotide sequence comprising in 5' to 3' order: an endogenous or non-endogenous intronic recognition element for splicing modifier (iREMS), a first branch point, and a first 3' splice site, wherein the iREMS comprises an RNA sequence GAgurngn (SEQ ID NO: 2), wherein r is adenine or guanine and n is any nucleotide. In one embodiment, provided herein is a method for modulating the amount of a mature mRNA transcript produced by a pre-mRNA transcript, the method comprising contacting the pre-mRNA transcript with a compound described herein (e.g., a compound of Formula (I) or a form thereof), wherein the pre-mRNA transcript comprises two exons and an intron, wherein one exon is upstream of the intron and the other exon is downstream of the intron, wherein the intron comprises a RNA nucleotide sequence comprising in 5' to 3' order: an endogenous or non-endogenous intronic recognition element for splicing modifier (iREMS), a first branch point, and a first 3' splice site, wherein the iREMS comprises an RNA sequence GAgurngn (SEQ ID NO: 2), wherein r is adenine or guanine and n is any nucleotide. In another embodiment, provided herein is a method for modulating the amount of a mature mRNA transcript produced by a pre-mRNA transcript, the method comprising contacting a cell or cell lysate containing the pre-mRNA transcript with a compound described herein (e.g., a compound of Formula (I) or a form thereof), wherein the pre-mRNA transcript comprises two exons and an intron, wherein one exon is upstream of the intron and the other exon is downstream of the intron, wherein the intron comprises a RNA nucleotide sequence comprising in 5' to 3' order: an endogenous or non-endogenous intronic recognition element for splicing modifier (iREMS), a first branch point, and a first 3' splice site, wherein the iREMS comprises an RNA sequence

GAgurngn (SEQ ID NO: 2), wherein r is adenine or guanine and n is any nucleotide. In some embodiments, the intron further comprises a first 5' splice site, a second branch point, and a second 3' splice site upstream of the iREMS. In some embodiments, the pre-mRNA transcript is encoded by a gene disclosed herein (e.g., in a table herein).

[00143] In a particular embodiment, provided herein is a method for modulating the amount of a mature mRNA transcript produced by a pre-mRNA transcript, the method comprising contacting the pre-mRNA transcript with a compound described herein (e.g., a compound of Formula (I) or a form thereof), wherein the pre-mRNA transcript comprises two exons and an intron, wherein one exon is upstream of the intron and the other exon is downstream of the intron, wherein the intron comprises a RNA nucleotide sequence comprising in 5' to 3' order: an endogenous intronic recognition element for splicing modifier (iREMS), a first branch point, and a first 3' splice site, wherein the iREMS comprises an RNA sequence GAgurngn (SEQ ID NO: 2), wherein r is adenine or guanine and n is any nucleotide, and wherein the pre-mRNA transcript is a pre-mRNA transcript of a gene that is selected from ABCA10, ABCB8, ABCC3, ACTA2, ADAL, ADAMTS1, ADCY3, ADD1, ADGRG6, ADH6, ADHFE1, AFF3, AGPAT4, AKAP3, ANK1, ANK3, ANKRA2, ANKRD33B, ANKRD36, AP4B1-AS1, APIP, ARHGAP1, ARHGAP12, ARHGEF16, ARID5B, ARL15, ARL9, ARMCX6, ASIC1, ATG5, ATP2A3, ATXN1, B3GALT2, B3GNT6, BCL2L15, BCYRN1, BECN1, BHMT2, BIN3-IT1, BIRC3, BIRC6, BTG2, BTN3A1, C10orf54, C11orf70, C11orf94, C12orf4, C12orf56, C14orf132, C19orf47, C1orf86, C3, C7orf31, C8orf34, C8orf44, C8orf44-SGK3, C8orf88, CA13, CA3, CACNA2D2, CACNB1, CADM1, CAND2, CASP7, CCDC122, CCDC79, CCER2, CCNF, CECR7, CELSR1, CEMIP, CENPI, CEP112, CEP170, CEP192, CFH, CHEK1, CIITA, CLDN23, CLTA, CMAHP, CNGA4, CNRIP1, CNTD1, COL11A1, COL14A1, COL15A1, COL5A1, COL5A3, COL6A6, COL8A1, COLEC12, COMP, CPA4, CPQ, CPSF4, CRISPLD2, CRLF1, CRYBG3, CRYL1, CSNK1E, CSNK1G1, CYB5R2, CYGB, CYP1B1, DAGLB, DCAF17, DCLK1, DCN, DDIT4L, DDX50, DEGS1, DEPTOR, DFNB59, DIRAS3, DLG5, DLGAP4, DNAH8, DNAJC13, DNAJC27, DNMBP, DOCK11, DYNC1I1, DYRK1A, DZIP1L, EFEMP1, EGR3, ELN, ELP4, EMX2OS, ENAH, ENPP1, EP300, ERCC1, ERCC8, ERGIC3, ERLIN2, ERRFI1, ESM1, EVC, EVC2, F2R, FAIM, FAM126A, FAM13A, FAM160A1, FAM162A, FAM174A, FAM20A, FAM46B, FAM65B, FAP, FARP1, FBLN2, FBN2, FBXL6, FCHO1, FGFR2, FGL2, FLT1, FRAS1, FSCN2, GAL3ST4, GALNT15, GATA6, GBGT1,

GCNT1, GDF6, GGACT, GLCE, GNAQ, GPR183, GPR50, GPRC5A, GPRC5B, GRTP1, GUCA1B, GULP1, GXYLT1, HAPLN1, HAPLN2, HAS3, HAVCR2, HDAC5, HDX, HECTD2-AS1, HEPH, HEY1, HMGA2, HMGN3-AS1, HNMT, HOOK3, HPS1, HSPA1L, HTATIP2, IFT57, IGDCC4, IGF2R, IGFBP3, IL16, INA, INPP5K, INTU, IQCG, ITGA11, ITGA8, ITGB8, ITIH1, ITPKA, IVD, KAT6B, KCNS1, KCNS2, KDM6A, KDSR, KIAA1456, KIAA1462, KIAA1755, KIT, KLF17, KLRG1, KMT2D, KRT7, KRTAP1-1, KRTAP1-5, L3MBTL2, LAMB2P1, LETM2, LGI2, LGR4, LHX9, LINC00472, LINC00570, LINC00578, LINC00607, LINC00678, LINC00702, LINC00886, LINC00961, LINC01011, LINC01118, LINC01204, LMOD1, LOC400927, LRBA, LRP4, LRRC32, LRRC39, LRRC42, LSAMP, LUM, LYPD1, LYRM1, MAFB, MAMDC2, MAN2A1, MAN2C1, MAPK13, MASP1, MB, MB21D2, MC4R, MCM10, MED13L, MEGF6, MFN2, MIAT, MIR612, MLLT10, MMP10, MMP24, MN1, MOXD1, MRPL45, MRPL55, MRPS28, MRVI1, MSH4, MTERF3, MXRA5, MYCBP2, NA, NAALADL2, NAE1, NAGS, NDNF, NGF, NGFR, NHLH1, NLN, NOTCH3, NOTUM, NOVA2, NOX4, NRROS, OCLN, OLR1, OSBPL10, OXCT1, OXCT2, PAIP2B, PBLD, PDE1C, PDE5A, PDGFD, PDGFRB, PDS5B, PEAR1, PHACTR3, PIGN, PIK3CD, PIK3R1, PIKFYVE, PIM2, PITPNM3, PLEK2, PLEKHA1, PLEKHA6, PLEKHH2, PLSCR1, PNISR, PODN, POLN, POLR1A, POMT2, PPARG, PPIP5K2, PPM1E, PPP1R26, PPP3CA, PRKCA, PRKG1, PRPF31, PRPH2, PRRG4, PRUNE2, PSMD6-AS2, PTGIS, PTX3, PXK, RAB30, RAB38, RAB44, RAD9B, RAF1, RAPGEF1, RARS, RARS2, RBBP8, RBKS, RDX, RERE, RFX3-AS1, RGCC, ROR1, ROR2, RPA1, RPS10, RPS6KB2, SAMD4A, SCARNA9, SEC24A, SENP6, SERGEF, SGK3, SH3YL1, SHROOM3, SIGLEC10, SKA2, SLC12A2, SLC24A3, SLC35F3, SLC39A10, SLC44A2, SLC46A2, SLC4A11, SLC6A15, SLC7A11, SLC9A3, SLIT3, SMG1P3, SMTN, SNED1, SNX7, SORBS2, SORCS2, SOX7, SPATA18, SPATA5, SPDYA, SPEF2, SPIDR, SPRYD7, SRGAP1, SRRM1, STAC2, STAT4, STK32B, STRN4, STS, STXBP6, SULF1, SVEP1, SYNGR2, SYNPO, SYNPO2, SYNPO2L, TAGLN3, TANGO6, TASP1, TCF12, TCF4, TGFA, TGFB2, TGFB3, TGM2, THBS2, TIAM1, TMC3, TMEM102, TMEM119, TMEM134, TMEM189-UBE2V1, TMEM214, TMEM256-PLSCR3, TMEM50B, TNFAIP8L3, TNFRSF14, TNRC18P1, TNRC6A, TNXB, TP53AIP1, TPRG1, TRIM66, TRPC4, TSHZ2, TSPAN11, TSPAN18, TSPAN7, TSSK3, TTC7B, TUBE1, TXNIP, TYW5, URGCP, USP27X, UVRAG, VAV2, VIM-AS1, VPS41, VSTM2L, VWF, WDR27, WDR91, WISP1, WNK1, WNT10B, YDJC, ZBTB26, ZCCHC5, ZCCHC8, ZFP82, ZMIZ1-

AS1, ZNF138, ZNF212, ZNF232, ZNF350, ZNF431, ZNF660, ZNF680, ZNF79, or ZNF837. In a particular embodiment, provided herein is a method for modulating the amount of a mature mRNA transcript produced by a pre-mRNA transcript, the method comprising contacting a cell or cell lysate containing the pre-mRNA transcript with a compound described herein (e.g., a compound of Formula (I) or a form thereof), wherein the pre-mRNA transcript comprises two exons and an intron, wherein one exon is upstream of the intron and the other exon is downstream of the intron, wherein the intron comprises a RNA nucleotide sequence comprising in 5' to 3' order: an endogenous intronic recognition element for splicing modifier (iREMS), a first branch point, and a first 3' splice site, wherein the iREMS comprises an RNA sequence GAgurngn (SEQ ID NO: 2), wherein r is adenine or guanine and n is any nucleotide, and wherein the pre-mRNA transcript is a pre-mRNA transcript of a gene that is selected from ABCA10, ABCB8, ABCC3, ACTA2, ADAL, ADAMTS1, ADCY3, ADD1, ADGRG6, ADH6, ADHFE1, AFF3, AGPAT4, AKAP3, ANK1, ANK3, ANKRA2, ANKRD33B, ANKRD36, AP4B1-AS1, APIP, ARHGAP1, ARHGAP12, ARHGEF16, ARID5B, ARL15, ARL9, ARMCX6, ASIC1, ATG5, ATP2A3, ATXN1, B3GALT2, B3GNT6, BCL2L15, BCYRN1, BECN1, BHMT2, BIN3-IT1, BIRC3, BIRC6, BTG2, BTN3A1, C10orf54, C11orf70, C11orf94, C12orf4, C12orf56, C14orf132, C19orf47, C1orf86, C3, C7orf31, C8orf34, C8orf44, C8orf44-SGK3, C8orf88, CA13, CA3, CACNA2D2, CACNB1, CADM1, CAND2, CASP7, CCDC122, CCDC79, CCER2, CCNF, CECR7, CELSR1, CEMIP, CENPI, CEP112, CEP170, CEP192, CFH, CHEK1, CIITA, CLDN23, CLTA, CMAHP, CNGA4, CNRIP1, CNTD1, COL11A1, COL14A1, COL15A1, COL5A1, COL5A3, COL6A6, COL8A1, COLEC12, COMP, CPA4, CPQ, CPSF4, CRISPLD2, CRLF1, CRYBG3, CRYL1, CSNK1E, CSNK1G1, CYB5R2, CYGB, CYP1B1, DAGLB, DCAF17, DCLK1, DCN, DDIT4L, DDX50, DEGS1, DEPTOR, DFNB59, DIRAS3, DLG5, DLGAP4, DNAH8, DNAJC13, DNAJC27, DNMBP, DOCK11, DYNC1I1, DYRK1A, DZIP1L, EFEMP1, EGR3, ELN, ELP4, EMX2OS, ENAH, ENPP1, EP300, ERCC1, ERCC8, ERGIC3, ERLIN2, ERRFI1, ESM1, EVC, EVC2, F2R, FAIM, FAM126A, FAM13A, FAM160A1, FAM162A, FAM174A, FAM20A, FAM46B, FAM65B, FAP, FARP1, FBLN2, FBN2, FBXL6, FCHO1, FGFR2, FGL2, FLT1, FRAS1, FSCN2, GAL3ST4, GALNT15, GATA6, GBGT1, GCNT1, GDF6, GGACT, GLCE, GNAQ, GPR183, GPR50, GPRC5A, GPRC5B, GRTP1, GUCA1B, GULP1, GXYLT1, HAPLN1, HAPLN2, HAS3, HAVCR2, HDAC5, HDX, HECTD2-AS1, HEPH, HEY1, HMGA2, HMGN3-AS1, HNMT, HOOK3,

HPS1, HSPA1L, HTATIP2, IFT57, IGDCC4, IGF2R, IGFBP3, IL16, INA, INPP5K, INTU, IQCG, ITGA11, ITGA8, ITGB8, ITIH1, ITPKA, IVD, KAT6B, KCNS1, KCNS2, KDM6A, KDSR, KIAA1456, KIAA1462, KIAA1755, KIT, KLF17, KLRG1, KMT2D, KRT7, KRTAP1-1, KRTAP1-5, L3MBTL2, LAMB2P1, LETM2, LGI2, LGR4, LHX9, LINC00472, LINC00570, LINC00578, LINC00607, LINC00678, LINC00702, LINC00886, LINC00961, LINC01011, LINC01118, LINC01204, LMOD1, LOC400927, LRBA, LRP4, LRRC32, LRRC39, LRRC42, LSAMP, LUM, LYPD1, LYRM1, MAFB, MAMDC2, MAN2A1, MAN2C1, MAPK13, MASP1, MB, MB21D2, MC4R, MCM10, MED13L, MEGF6, MFN2, MIAT, MIR612, MLLT10, MMP10, MMP24, MN1, MOXD1, MRPL45, MRPL55, MRPS28, MRVI1, MSH4, MTERF3, MXRA5, MYCBP2, NA, NAALADL2, NAE1, NAGS, NDNF, NGF, NGFR, NHLH1, NLN, NOTCH3, NOTUM, NOVA2, NOX4, NRROS, OCLN, OLR1, OSBPL10, OXCT1, OXCT2, PAIP2B, PBLD, PDE1C, PDE5A, PDGFD, PDGFRB, PDS5B, PEAR1, PHACTR3, PIGN, PIK3CD, PIK3R1, PIKFYVE, PIM2, PITPNM3, PLEK2, PLEKHA1, PLEKHA6, PLEKHH2, PLSCR1, PNISR, PODN, POLN, POLR1A, POMT2, PPARG, PPIP5K2, PPM1E, PPP1R26, PPP3CA, PRKCA, PRKG1, PRPF31, PRPH2, PRRG4, PRUNE2, PSMD6-AS2, PTGIS, PTX3, PXK, RAB30, RAB38, RAB44, RAD9B, RAF1, RAPGEF1, RARS, RARS2, RBBP8, RBKS, RDX, RERE, RFX3-AS1, RGCC, ROR1, ROR2, RPA1, RPS10, RPS6KB2, SAMD4A, SCARNA9, SEC24A, SENP6, SERGEF, SGK3, SH3YL1, SHROOM3, SIGLEC10, SKA2, SLC12A2, SLC24A3, SLC35F3, SLC39A10, SLC44A2, SLC46A2, SLC4A11, SLC6A15, SLC7A11, SLC9A3, SLIT3, SMG1P3, SMTN, SNED1, SNX7, SORBS2, SORCS2, SOX7, SPATA18, SPATA5, SPDYA, SPEF2, SPIDR, SPRYD7, SRGAP1, SRRM1, STAC2, STAT4, STK32B, STRN4, STS, STXBP6, SULF1, SVEP1, SYNGR2, SYNPO, SYNPO2, SYNPO2L, TAGLN3, TANGO6, TASP1, TCF12, TCF4, TGFA, TGFB2, TGFB3, TGM2, THBS2, TIAM1, TMC3, TMEM102, TMEM119, TMEM134, TMEM189-UBE2V1, TMEM214, TMEM256-PLSCR3, TMEM50B, TNFAIP8L3, TNFRSF14, TNRC18P1, TNRC6A, TNXB, TP53AIP1, TPRG1, TRIM66, TRPC4, TSHZ2, TSPAN11, TSPAN18, TSPAN7, TSSK3, TTC7B, TUBE1, TXNIP, TYW5, URGCP, USP27X, UVRAG, VAV2, VIM-AS1, VPS41, VSTM2L, VWF, WDR27, WDR91, WISP1, WNK1, WNT10B, YDJC, ZBTB26, ZCCHC5, ZCCHC8, ZFP82, ZMIZ1-AS1, ZNF138, ZNF212, ZNF232, ZNF350, ZNF431, ZNF660, ZNF680, ZNF79, or ZNF837. In some embodiments, the intron

further comprises a first 5' splice site, a second branch point, and a second 3' splice site upstream of the iREMS.

[00144] In one aspect, provided herein is a method for preventing, treating or preventing and treating a disease or disorder in which a change in the level of expression of one, two, three or more RNA isoforms encoded by a gene is beneficial to the prevention and/or treatment of the disease, the method comprising administering a compound described herein to a subject in need thereof, wherein the one, two, three or more RNA isoforms are produced from a pre-mRNA transcript comprising two exons and an intron, wherein one exon is upstream of the intron and the other exon is downstream of the intron, wherein the intron comprises in 5' to 3' order: a first 5' splice site, a first branch point, a first 3' splice site, an endogenous intronic recognition element for splicing modifier (iREMS), a second branch point, and a second 3' splice site, wherein the iREMS comprises an RNA sequence GAgurngn (SEQ ID NO: 2), wherein r is adenine or guanine and n is any nucleotide.

[00145] In one aspect, provided herein is a method for preventing, treating or preventing and treating a disease or disorder in which a change in the level of expression of one, two, three or more RNA isoforms encoded by a gene is beneficial to the prevention and/or treatment of the disease, the method comprising administering a compound described herein to a subject in need thereof, wherein the one, two, three or more RNA isoforms are produced from a pre-mRNA transcript comprising two exons and an intron, wherein one exon is upstream of the intron and the other exon is downstream of the intron, wherein the intron comprises in 5' to 3' order: an endogenous intronic recognition element for splicing modifier (iREMS), a first branch point, and a first 3' splice site, wherein the iREMS comprises an RNA sequence GAgurngn (SEQ ID NO: 2), wherein r is adenine or guanine and n is any nucleotide.

[00146] In another aspect, provided herein is an artificial gene construct comprising an RNA sequence comprising exons and one or more introns, wherein at least one intron comprises an iREMS that is downstream of a branch point and a 3' splice site, and wherein the iREMS comprises the sequence GAgurngn (SEQ ID NO: 2), wherein r is adenine or guanine and n is any nucleotide.

[00147] In another aspect, provided herein is an artificial gene construct comprising an RNA sequence comprising two exons and an intron, wherein one exon is upstream of the intron and the other exon is downstream of the intron, wherein the RNA nucleotide sequence of the intron

comprises in 5' to 3' order: a first 5' splice site, a first branch point, a first 3' splice site, an iREMS, a second branch point and a second 3' splice site, wherein the iREMS comprises an RNA sequence GAgurngn (SEQ ID NO: 2), wherein r is adenine or guanine and n is any nucleotide.

[00148] In another aspect, provide herein is an artificial gene construct comprising an RNA sequence comprising two exons and an intron, wherein one exon is upstream of the intron and the other exon is downstream of the intron, wherein the RNA nucleotide sequence of the intron comprises in 5' to 3' order: an iREMS, a first branch point and a first 3' splice site, wherein the iREMS comprises an RNA sequence GAgurngn (SEQ ID NO: 2), wherein r is adenine or guanine and n is any nucleotide.

[00149] In various embodiments of the aspects and embodiments described herein, the iREMS comprises an RNA sequence GAguragu, wherein r is adenine or guanine.

[00150] In various embodiments of the aspects and embodiments described herein, the iREMS comprises an RNA sequence NNGAgurngn (SEQ ID NO: 1), wherein r is adenine or guanine and n or N is any nucleotide. In a specific embodiment, the RNA sequence NNGAgurngn (SEQ ID NO: 1) is selected from the group consisting of ANGAgurngn (SEQ ID NO: 29), CNGAgurngn (SEQ ID NO: 35), GNGAgurngn (SEQ ID NO: 41), UNGAgurngn (SEQ ID NO: 47), NAGAgurngn (SEQ ID NO: 30), NCGAgurngn (SEQ ID NO: 36), NGGAgurngn (SEQ ID NO: 42), NUGAgurngn (SEQ ID NO: 48), AAGAgurngn (SEQ ID NO: 31), ACGAgurngn (SEQ ID NO: 37), AGGAgurngn (SEQ ID NO: 43), AUGAgurngn (SEQ ID NO: 49), CAGAgurngn (SEQ ID NO: 32), CCGAgurngn (SEQ ID NO: 38), CGGAgurngn (SEQ ID NO: 44), CUGAgurngn (SEQ ID NO: 50), GAGAgurngn (SEQ ID NO: 33), GCGAgurngn (SEQ ID NO: 39), GGGAgurngn (SEQ ID NO: 45), GUGAgurngn (SEQ ID NO: 51), UAGAgurngn (SEQ ID NO: 34), UCGAgurngn (SEQ ID NO: 40), UGGAgurngn (SEQ ID NO: 46) and UUGAgurngn (SEQ ID NO: 52), wherein r is adenine or guanine and n or N is any nucleotide.

[00151] In various embodiments of the aspects and embodiments described herein, the iREMS comprises an RNA sequence NNGAguragu (SEQ ID NO: 3862), wherein r is adenine or guanine

and N is any nucleotide. In a specific embodiment, the RNA sequence NNGAguragu (SEQ ID NO: 3862) is selected from the group consisting of ANGAguragu (SEQ ID NO: 437), CNGAguragu (SEQ ID NO: 443), GNGAguragu (SEQ ID NO: 449), UNGAguragu (SEQ ID NO: 455), NAGAguragu (SEQ ID NO: 438), NCGAguragu (SEQ ID NO: 444), NGGAguragu (SEQ ID NO: 450), NUGAguragu (SEQ ID NO: 456), AAGAguragu (SEQ ID NO: 439), ACGAguragu (SEQ ID NO: 445), AGGAguragu (SEQ ID NO: 451), AUGAguragu (SEQ ID NO: 457), CAGAguragu (SEQ ID NO: 440), CCGAguragu (SEQ ID NO: 446), CGGAguragu (SEQ ID NO: 452), CUGAguragu (SEQ ID NO: 458), GAGAguragu (SEQ ID NO: 441), GCGAguragu (SEQ ID NO: 447), GGGAguragu (SEQ ID NO: 453), GUGAguragu (SEQ ID NO: 459), UAGAguragu (SEQ ID NO: 442), UCGAguragu (SEQ ID NO: 448), UGGAguragu (SEQ ID NO: 454) and UUGAguragu (SEQ ID NO: 460), wherein r is adenine or guanine, and N is any nucleotide.

[00152] In various embodiments of the method for modulating the amount of an RNA transcript described herein, modulation of the amount of the RNA transcript is modulation of the amount of the RNA transcript in a cell or a lysate of the cell, and the method comprises contacting the compound of Formula (I) or a form thereof with the cell or cell lysate. In a specific embodiment, modulation of the amount of the RNA transcript is modulation of the amount of the RNA transcript in a cell, and the method comprises contacting the compound of Formula (I) or a form thereof with the cell. In a specific embodiment, the modulation modulates the amount and/or type of a protein translated from the RNA transcript and produced in the cell or lysate of the cell.

[00153] In various embodiments of the method for modulating the amount of an RNA transcript described herein, the RNA transcript encodes a detectable reporter protein.

[00154] In another aspect, provided herein is an artificial gene construct comprising a DNA sequence encoding exons and one or more introns, wherein the nucleotide sequence encoding at least one intron comprises an iREMS that is downstream of the nucleotide sequence encoding a branch point and the nucleotide sequence encoding a 3' splice site, and wherein the iREMS

comprises the sequence GAgtrngn (SEQ ID NO: 4), wherein r is adenine or guanine and n is any nucleotide.

[00155] In another aspect, provided herein is an artificial gene construct comprising a DNA sequence encoding two exons and an intron, wherein the nucleotide sequence encoding one exon is upstream of the nucleotide sequence encoding the intron and the nucleotide sequence encoding the other exon is downstream of the nucleotide sequence encoding the intron, wherein the nucleotide sequence encoding the intron comprises in 5' to 3' order: the nucleotide sequence encoding a first 5' splice site, the nucleotide sequence encoding a first branch point, the nucleotide sequence encoding a first 3' splice site, an iREMS, the nucleotide sequence encoding a second branch point and the nucleotide sequence encoding a second 3' splice site, wherein the iREMS comprises a DNA sequence GAgtrngn (SEQ ID NO: 4), wherein r is adenine or guanine and n is any nucleotide.

[00156] In another aspect, provide herein is an artificial gene construct comprising a DNA sequence encoding two exons and an intron, wherein the nucleotide sequence encoding one exon is upstream of the nucleotide sequence encoding the intron and the nucleotide sequence encoding the other exon is downstream of the nucleotide sequence encoding the intron, wherein the nucleotide sequence encoding the intron comprises in 5' to 3' order: an iREMS, the nucleotide sequence encoding a first branch point and the nucleotide sequence encoding a first 3' splice site, wherein the iREMS comprises an DNA sequence GAgtrngn (SEQ ID NO: 4), wherein r is adenine or guanine and n is any nucleotide.

[00157] In various embodiments of the aspects and embodiments described herein, the iREMS comprises a DNA sequence GAgtragt, wherein r is adenine or guanine.

[00158] In various embodiments of the aspects and embodiments described herein, the iREMS comprises a DNA sequence NNGAgtrngn (SEQ ID NO: 1), wherein r is adenine or guanine and n or N is any nucleotide. In a specific embodiment, the DNA sequence NNGAgtrngn (SEQ ID NO: 1) is selected from the group consisting of ANGAgtrngn (SEQ ID NO: 29), CNGAgtrngn (SEQ ID NO: 35), GNGAgtrngn (SEQ ID NO: 41), TNGAgtrngn (SEQ ID NO: 47), NAGAgtrngn (SEQ ID NO: 30), NCGAgtrngn (SEQ ID NO: 36), NGGAgtrngn (SEQ ID NO: 42), NTGAgtrngn (SEQ ID NO: 48), AAGAgtrngn (SEQ ID NO: 31), ACGAgtrngn (SEQ ID NO: 37),

AGGAgtrngn (SEQ ID NO: 43), ATGAgtrngn (SEQ ID NO: 49),
CAGAgtrngn (SEQ ID NO: 32), CCGAgtrngn (SEQ ID NO: 38),
CGGAgtrngn (SEQ ID NO: 44), CTGAgtrngn (SEQ ID NO: 50),
GAGAgtrngn (SEQ ID NO: 33), GCGAgtrngn (SEQ ID NO: 39),
GGGAgtrngn (SEQ ID NO: 45), GTGAgtrngn (SEQ ID NO: 51),
TAGAgtrngn (SEQ ID NO: 34), TCGAgtrngn (SEQ ID NO: 40),
TGGAgtrngn (SEQ ID NO: 46) and TTGAgtrngn (SEQ ID NO: 52), wherein r is adenine or guanine and n or N is any nucleotide.

[00159] In various embodiments of the aspects and embodiments described herein, the iREMS comprises a DNA sequence NNGAgtragt (SEQ ID NO: 3862), wherein r is adenine or guanine and N is any nucleotide. In a specific embodiment, the DNA sequence NNGAgtragt (SEQ ID NO: 3862) is selected from the group consisting of
ANGAgtragt (SEQ ID NO: 437), CNGAgtragt (SEQ ID NO: 443),
GNGAgtragt (SEQ ID NO: 449), TNGAgtragt (SEQ ID NO: 455),
NAGAgtragt (SEQ ID NO: 438), NCGAgtragt (SEQ ID NO: 444),
NGGAgtragt (SEQ ID NO: 450), NTGAgtragt (SEQ ID NO: 456),
AAGAgtragt (SEQ ID NO: 439), ACGAgtragt (SEQ ID NO: 445),
AGGAgtragt (SEQ ID NO: 451), ATGAgtragt (SEQ ID NO: 457),
CAGAgtragt (SEQ ID NO: 440), CCGAgtragt (SEQ ID NO: 446),
CGGAgtragt (SEQ ID NO: 452), CTGAgtragt (SEQ ID NO: 458),
GAGAgtragt (SEQ ID NO: 441), GCGAgtragt (SEQ ID NO: 447),
GGGAgtragt (SEQ ID NO: 453), GTGAgtragt (SEQ ID NO: 459),
TAGAgtragt (SEQ ID NO: 442), TCGAgtragt (SEQ ID NO: 448),
TGGAgtragt (SEQ ID NO: 454) and TTGAgtragt (SEQ ID NO: 460), wherein r is adenine or guanine, and N is any nucleotide.

BRIEF DESCRIPTION OF THE DRAWINGS

[00160] **Figures 1A-1C.** Representative schematics of intronic exon splicing mediated by an intronic REMS, where 5'ss represents a 5' splice site, 3'ss represents a 3' splice site and BP represents a splicing branch point. Exon 1e and Exon 2e represent extended exons. iExon 1a

represents an intronic exon. Splicing events mediated by an intronic REMS in the absence of a compound described herein are illustrated by solid lines, splicing events mediated by an intronic REMS in the presence of a compound described herein are illustrated by dashed lines.

[00161] **Figures 2A-2D, 3, 4, 5, 6A.** The dose dependent production of iExons for certain genes (as specified in the figures) in the presence of certain compounds or control (DMSO) are shown, each of which represent aspects of the operation of an intronic REMS and compounds as described herein. Compounds used in the experiments depicted in Figures 3, 4, 5, and 6A are described herein. Compound 774 was used for the experiments depicted in Figures 2A-2D.

[00162] **Figures 6B and 6C.** Figure 6B illustrates the production of exon isoforms with control (DMSO). Figure 6C illustrates the production of certain intronic Exon isoforms for ELMO2 in the presence of a compound described herein, each of which represent aspects of the interactions of an intronic REMS, one or more branch points, one or more 3' splice sites and compounds as described herein.

DETAILED DESCRIPTION

INTRONIC RECOGNITION ELEMENT FOR SPLICING MODIFIER (REMS)

[00163] In one aspect, provided herein is an intronic recognition element for splicing modifier (otherwise referred to as "iREMS") recognized by a small molecule splicing modifier, whereby elements of the associated iREMS complex affect interactions with the spliceosome as further described herein. In a specific embodiment, the intronic REMS has the nucleotide sequence GAgurngn (SEQ ID NO: 2) at the RNA level, wherein r is A or G (*i.e.*, a purine nucleotide adenine or guanine) and n is any nucleotide. In another specific embodiment, the intronic REMS has the nucleotide sequence GAguragu (SEQ ID NO: 3866) at the RNA level, wherein r is adenine or guanine. In one or more of such specific embodiments provided herein, n is adenine or guanine. In a more specific embodiment, the intronic REMS has the nucleotide sequence NNGAgurngn (SEQ ID NO: 1) at the RNA level, wherein r is A or G (*i.e.*, a purine nucleotide adenine or guanine) and n or N is any nucleotide. In another more specific embodiment, the intronic REMS has the nucleotide sequence NNGAguragu (SEQ ID NO: 3862) at the RNA level, wherein r is adenine or guanine and N is any nucleotide. In one or more of such more specific embodiments provided herein, N is adenine or guanine.

[00164] In another specific embodiment, the intronic REMS is downstream of an intronic branch point and a functional intronic 3' splice site, wherein the intronic REMS comprises a nucleotide sequence selected from the group consisting of ANGAgurngn (SEQ ID NO: 29), CNGAgurngn (SEQ ID NO: 35), GNGAgurngn (SEQ ID NO: 41), UNGAgurngn (SEQ ID NO: 47), NAGAgurngn (SEQ ID NO: 30), NCGAgurngn (SEQ ID NO: 36), NGGAgurngn (SEQ ID NO: 42), NUGAgurngn (SEQ ID NO: 48), AAGAgurngn (SEQ ID NO: 31), ACGAgurngn (SEQ ID NO: 37), AGGAgurngn (SEQ ID NO: 43), AUGAgurngn (SEQ ID NO: 49), CAGAgurngn (SEQ ID NO: 32), CCGAgurngn (SEQ ID NO: 38), CGGAgurngn (SEQ ID NO: 44), CUGAgurngn (SEQ ID NO: 50), GAGAgurngn (SEQ ID NO: 33), GCGAgurngn (SEQ ID NO: 39), GGGAgurngn (SEQ ID NO: 45), GUGAgurngn (SEQ ID NO: 51), UAGAgurngn (SEQ ID NO: 34), UCGAgurngn (SEQ ID NO: 40), UGGAgurngn (SEQ ID NO: 46) and UUGAgurngn (SEQ ID NO: 52) at the RNA level, wherein r is A or G (*i.e.*, a purine nucleotide adenine or guanine) and n or N is any nucleotide, by which the intronic REMS, in the presence of a compound described herein, functions as an intronic 5' splice site, causing the NNGA (SEQ ID NO: 3863) nucleotides of the REMS and the intronic nucleotide sequence between the intronic 3' splice site down to and including the NNGA (SEQ ID NO: 3863) nucleotides to be spliced into the mature RNA as an intronic exon to provide a non-wild-type, nonfunctional mRNA.

[00165] In a preferred embodiment, the REMS has a nucleotide sequence selected from the group consisting of ANGAguragu (SEQ ID NO: 437), CNGAguragu (SEQ ID NO: 443), GNGAguragu (SEQ ID NO: 449), UNGAguragu (SEQ ID NO: 455), NAGAguragu (SEQ ID NO: 438), NCGAguragu (SEQ ID NO: 444), NGGAguragu (SEQ ID NO: 450), NUGAguragu (SEQ ID NO: 456), AAGAguragu (SEQ ID NO: 439), ACGAguragu (SEQ ID NO: 445), AGGAguragu (SEQ ID NO: 451), AUGAguragu (SEQ ID NO: 457), CAGAguragu (SEQ ID NO: 440), CCGAguragu (SEQ ID NO: 446), CGGAguragu (SEQ ID NO: 452), CUGAguragu (SEQ ID NO: 458), GAGAguragu (SEQ ID NO: 441), GCGAguragu (SEQ ID NO: 447),

GGGAguragu (SEQ ID NO: 453), GUGAguragu (SEQ ID NO: 459), UAGAguragu (SEQ ID NO: 442), UCGAguragu (SEQ ID NO: 448), UGGAguragu (SEQ ID NO: 454) and UUGAguragu (SEQ ID NO: 460) at the RNA level, wherein r is A or G (*i.e.*, a purine nucleotide adenine or guanine) and N is any nucleotide. In one or more embodiments provided herein, N is A or G.

[00166] In the context of DNA, in a specific embodiment, the nucleotide sequence encoding an intronic REMS has the sequence GAgtrngn (SEQ ID NO: 4), wherein r is A or G (*i.e.*, a purine nucleotide adenine or guanine) and n is any nucleotide. In another specific embodiment, in the context of DNA, the nucleotide sequence encoding an intronic REMS has the sequence GAgtragt (SEQ ID NO: 3865), wherein r is A or G. In a specific embodiment, in the context of DNA, the nucleotide sequence encoding an intronic REMS has the sequence NNGAgtrngn (SEQ ID NO: 3), wherein r is A or G (*i.e.*, a purine nucleotide adenine or guanine) and n or N is any nucleotide. In another specific embodiment, in the context of DNA, the nucleotide sequence encoding an intronic REMS has the sequence NNGAgtragt (SEQ ID NO: 3864), wherein r is A or G and N is any nucleotide.

[00167] In a specific embodiment, in the context of DNA, the nucleotide sequence encoding an intronic REMS comprises a sequence selected from the group consisting of ANGAgtrngn (SEQ ID NO: 1829), CNGAgtrngn (SEQ ID NO: 1835), GNGAgtrngn (SEQ ID NO: 1841), TNGAgtrngn (SEQ ID NO: 1847), NAGAgtrngn (SEQ ID NO: 1830), NCGAgtrngn (SEQ ID NO: 1836), NGGAgtrngn (SEQ ID NO: 1842), NTGAgtrngn (SEQ ID NO: 1848), AAGAgtrngn (SEQ ID NO: 1831), ACGAgtrngn (SEQ ID NO: 1837), AGGAgtrngn (SEQ ID NO: 1843), ATGAgtrngn (SEQ ID NO: 1849), CAGAgtrngn (SEQ ID NO: 1832), CCGAgtrngn (SEQ ID NO: 1838), CGGAgtrngn (SEQ ID NO: 1844), CTGAgtrngn (SEQ ID NO: 1850), GAGAgtrngn (SEQ ID NO: 1833), GCGAgtrngn (SEQ ID NO: 1839), GGGAgtrngn (SEQ ID NO: 1845), GTGAgtrngn (SEQ ID NO: 1851), TAGAgtrngn (SEQ ID NO: 1834), TCGAgtrngn (SEQ ID NO: 1840), TGGAgtrngn (SEQ ID NO: 1846) and TTGAgtrngn (SEQ ID NO: 1852), wherein r is A or G (*i.e.*, a purine nucleotide adenine or guanine) and n or N is any nucleotide.

[00168] In a preferred embodiment, in the context of DNA, the nucleotide sequence encoding the intronic REMS comprises a sequence selected from the group consisting of ANGAgtragt (SEQ ID NO: 2237), CNGAgtragt (SEQ ID NO: 2243), GNGAgtragt (SEQ ID NO: 2249), TNGAgtragt (SEQ ID NO: 2255), NAGAgtragt (SEQ ID NO: 2238), NCGAgtragt (SEQ ID NO: 2244), NGGAgtragt (SEQ ID NO: 2250), NTGAgtragt (SEQ ID NO: 2256), AAGAgtragt (SEQ ID NO: 2239), ACGAgtragt (SEQ ID NO: 2245), AGGAgtragt (SEQ ID NO: 2251), ATGAgtragt (SEQ ID NO: 2257), CAGAgtragt (SEQ ID NO: 2240), CCGAgtragt (SEQ ID NO: 2246), CGGAgtragt (SEQ ID NO: 2252), CTGAgtragt (SEQ ID NO: 2258), GAGAgtragt (SEQ ID NO: 2241), GCGAgtragt (SEQ ID NO: 2247), GGGAgtragt (SEQ ID NO: 2253), GTGAgtragt (SEQ ID NO: 2259), TAGAgtragt (SEQ ID NO: 2242), TCGAgtragt (SEQ ID NO: 2248), TGGAgtragt (SEQ ID NO: 2254) and TTGAgtragt (SEQ ID NO: 2260), wherein r is A or G and N is any nucleotide. In one or more embodiments provided herein, N is A or G.

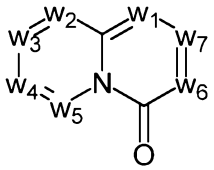
[00169] An intronic REMS can be part of an endogenous RNA or can be introduced into an RNA sequence that does not naturally contain the intronic REMS sequence (in which case, the introduced intronic REMS is a non-endogenous intronic REMS, i.e., an intronic REMS not naturally present in the corresponding RNA. A nucleotide sequence encoding an intronic REMS can also be part of an endogenous DNA sequence, or a nucleotide sequence encoding the intronic REMS can be introduced into a DNA sequence that does not naturally contain the nucleotide sequence encoding an intronic REMS.

[00170] In a specific embodiment, the intronic REMS is located in an intron which further comprises is downstream of a branch point and a functional 3' splice site which, in the presence of a small molecule splicing modifier, enables the REMS to function as a 5' splice site. In a specific embodiment, the intronic REMS is located in an intron and is downstream of a branch point and a functional 3' splice site which, in the presence of a small molecule splicing modifier, enables the REMS to function as a 5' splice site. Without being bound by any theory or mechanism, the small molecule compounds described herein have been shown to increase the affinity of the interaction between the U1 snRNP, as well as other components of the pre-mRNA splicing machinery, and the nucleotides NNGA (SEQ ID NO: 3863) of the REMS whereby, in

the presence of the compound, the intronic REMS functions as a U1 snRNP binding site, causing the intronic nucleotides to be spliced as an intronic exon.

COMPOUNDS

[00171] Provided herein are compounds of Formula (I) for use in the methods described herein:



(I)

[00172] or a form thereof, wherein:

[00173] w_1 and w_5 are independently C-R_a or N;

[00174] w_2 is C-R_b or N;

[00175] w_3, w_4 and w_7 are independently C-R_1, C-R_2, C-R_a or N;

[00176] w_6 is C-R_1, C-R_2, C-R_c or N;

[00177] wherein one of w_3, w_4, w_6 and w_7 is C-R_1 and one other of w_3, w_4, w_6 and w_7 is C-R_2, provided that,

[00178] when w_3 is C-R_1, then w_6 is C-R_2 and w_4 and w_7 are independently C-R_a or N; or,

[00179] when w_3 is C-R_2, then w_6 is C-R_1 and w_4 and w_7 are independently C-R_a or N; or,

[00180] when w_4 is C-R_1, then w_7 is C-R_2 and w_3 is C-R_a or N and w_6 is C-R_c or N; or,

[00181] when w_4 is C-R_2, then w_7 is C-R_1 and w_3 is C-R_a or N and w_6 is C-R_c or N; and,

[00182] wherein any one, two or three of w_1, w_2, w_3, w_4, w_5, w_6 and w_7 may optionally be N;

[00183] R_1 is C_{1-8}alkyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino, C_{1-8}alkoxy-C_{1-8}alkyl-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, amino-C_{1-8}alkyl, C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, amino-C_{1-8}alkyl-amino, (amino-C_{1-8}alkyl)$_2$-amino, (amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, amino-C_{1-8}alkoxy, C_{1-8}alkyl-amino-C_{1-8}alkoxy,

$(C_{1-8}alkyl)_2$-amino-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkoxy, amino-C_{2-8}alkenyl, C_{1-8}alkyl-amino-C_{2-8}alkenyl, $(C_{1-8}alkyl)_2$-amino-C_{2-8}alkenyl, amino-C_{2-8}alkynyl, C_{1-8}alkyl-amino-C_{2-8}alkynyl, $(C_{1-8}alkyl)_2$-amino-C_{2-8}alkynyl, halo-C_{1-8}alkyl-amino, (halo-C_{1-8}alkyl)$_2$-amino, (halo-C_{1-8}alkyl)(C_{1-8}alkyl)amino, hydroxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkoxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkoxy, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl-amino, [(hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, [(hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, heterocyclyl, heterocyclyl-C_{1-8}alkyl, heterocyclyl-C_{1-8}alkoxy, heterocyclyl-amino, (heterocyclyl)(C_{1-8}alkyl)amino, heterocyclyl-amino-C_{1-8}alkyl, heterocyclyl-C_{1-8}alkyl-amino, (heterocyclyl-C_{1-8}alkyl)$_2$-amino, (heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heterocyclyl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (heterocyclyl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heterocyclyl-oxy, heterocyclyl-carbonyl, heterocyclyl-carbonyl-oxy, C_{3-14}cycloalkyl, aryl-C_{1-8}alkyl-amino, (aryl-C_{1-8}alkyl)$_2$-amino, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, aryl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (aryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heteroaryl, heteroaryl-C_{1-8}alkyl, heteroaryl-C_{1-8}alkoxy, heteroaryl-amino, heteroaryl-C_{1-8}alkyl-amino, (heteroaryl-C_{1-8}alkyl)$_2$-amino, (heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heteroaryl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (heteroaryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl or (heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl;

[00184] wherein, each instance of heterocyclyl, C_{3-14}cycloalkyl, aryl and heteroaryl is optionally substituted with one, two or three R_3 substituents and optionally, with one additional R_4 substituent; or,

[00185] wherein, each instance of heterocyclyl, C_{3-14}cycloalkyl, aryl and heteroaryl is optionally substituted with one, two, three or four R_3 substituents;

[00186] R_2 is aryl, aryl-amino, aryl-amino-carbonyl, heterocyclyl, heteroaryl or heteroaryl-amino;

[00187] wherein, each instance of aryl, heterocyclyl and heteroaryl is optionally substituted with one, two or three R_6 substituents and optionally, with one additional R_7 substituent;

[00188] R_a is, in each instance, independently selected from hydrogen, halogen, C_{1-8}alkyl or deuterium;

[00189] R_b is hydrogen, halogen, C_{1-8}alkyl, C_{1-8}alkoxy or deuterium;

[00190] R_c is hydrogen, halogen, C_{1-8}alkyl or deuterium;

[00191] R_3 is, in each instance, independently selected from cyano, halogen, hydroxy, oxo, C_{1-8}alkyl, halo-C_{1-8}alkyl, C_{1-8}alkyl-carbonyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl, C_{1-8}alkoxy-carbonyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino, amino-C_{1-8}alkyl, C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, amino-C_{1-8}alkyl-amino, C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl]$_2$-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, C_{1-8}alkoxy-C_{1-8}alkyl-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, C_{1-8}alkyl-carbonyl-amino, C_{1-8}alkoxy-carbonyl-amino, hydroxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkoxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino or (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino;

[00192] R_4 is C_{3-14}cycloalkyl, C_{3-14}cycloalkyl-C_{1-8}alkyl, C_{3-14}cycloalkyl-amino, aryl-C_{1-8}alkyl, aryl-C_{1-8}alkoxy-carbonyl, aryl-sulfonyloxy-C_{1-8}alkyl, heterocyclyl or heterocyclyl-C_{1-8}alkyl; wherein, each instance of C_{3-14}cycloalkyl, aryl and heterocyclyl is optionally substituted with one, two or three R_5 substituents;

[00193] R_5 is, in each instance, independently selected from halogen, hydroxy, cyano, nitro, C_{1-8}alkyl, halo-C_{1-8}alkyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino or C_{1-8}alkyl-thio;

[00194] R_6 is, in each instance, independently selected from halogen, hydroxy, cyano, nitro, C_{1-8}alkyl, C_{2-8}alkenyl, halo-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino or C_{1-8}alkyl-thio; and,

[00195] R_7 is C_{3-14}cycloalkyl, C_{3-14}cycloalkyl-oxy, aryl, heterocyclyl or heteroaryl.

[00196] In one embodiment of the use of a compound of Formula (I), w_1 is C-R_a.

[00197] In another embodiment of the use of a compound of Formula (I), w_1 is N.

[00198] In one embodiment of the use of a compound of Formula (I), w_2 is C-R_b.

[00199] In another embodiment of the use of a compound of Formula (I), w_2 is N.

[00200] In one embodiment of the use of a compound of Formula (I), w_3 is C-R_a.

[00201] In another embodiment of the use of a compound of Formula (I), w_3 is N.

[00202] In one embodiment of the use of a compound of Formula (I), w_4 is C-R_a.

[00203] In another embodiment of the use of a compound of Formula (I), w_4 is N.

[00204] In one embodiment of the use of a compound of Formula (I), w_5 is C-R_a.

[00205] In another embodiment of the use of a compound of Formula (I), w_5 is N.

[00206] In one embodiment of the use of a compound of Formula (I), w_6 is C-R_c.

[00207] In another embodiment of the use of a compound of Formula (I), w_6 is N.

[00208] In one embodiment of the use of a compound of Formula (I), w_7 is C-R_a.

[00209] In another embodiment of the use of a compound of Formula (I), w_7 is N.

[00210] In one embodiment of the use of a compound of Formula (I), w_3 is C-R_1 and w_6 is C-R_2.

[00211] In another embodiment of the use of a compound of Formula (I), w_3 is C-R_2 and w_6 is C-R_1.

[00212] In one embodiment of the use of a compound of Formula (I), w_4 is C-R_1 and w_7 is C-R_2.

[00213] In another embodiment of the use of a compound of Formula (I), w_4 is C-R_2 and w_7 is C-R_1.

[00214] In one embodiment of the use of a compound of Formula (I), w_3 is C-R_1, w_6 is C-R_2 and w_1, w_4, w_5 and w_7 are independently C-R_a or N and w_2 is C-R_b or N.

[00215] In another embodiment of the use of a compound of Formula (I), w_3 is C-R_2, w_6 is C-R_1 and w_1, w_4, w_5 and w_7 are independently C-R_a or N and w_2 is C-R_b or N.

[00216] In one embodiment of the use of a compound of Formula (I), w_4 is C-R_1, w_7 is C-R_2, w_1, w_3 and w_5 are independently C-R_a or N, w_2 is C-R_b or N and w_6 is C-R_c or N.

[00217] In another embodiment of the use of a compound of Formula (I), w_4 is C-R_2, w_7 is C-R_1, w_1, w_3 and w_5 are independently C-R_a or N, w_2 is C-R_b or N and w_6 is C-R_c or N.

[00218] In one embodiment of the use of a compound of Formula (I), w_1 and w_2 are N.

[00219] In one embodiment of the use of a compound of Formula (I), w_1 and w_3 are N.

[00220] In one embodiment of the use of a compound of Formula (I), w_1 and w_4 are N.

[00221] In one embodiment of the use of a compound of Formula (I), w_1 and w_5 are N.

[00222] In one embodiment of the use of a compound of Formula (I), w_1 and w_6 are N.

[00223] In one embodiment of the use of a compound of Formula (I), w_1 and w_7 are N.

[00224] In one embodiment of the use of a compound of Formula (I),

[00225] R_1 is C_{1-8}alkyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino, C_{1-8}alkoxy-C_{1-8}alkyl-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, amino-C_{1-8}alkyl, C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, amino-C_{1-8}alkyl-amino, (amino-C_{1-8}alkyl)$_2$-amino, (amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, amino-C_{1-8}alkoxy, C_{1-8}alkyl-amino-C_{1-8}alkoxy, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkoxy, amino-C_{2-8}alkenyl, C_{1-8}alkyl-amino-C_{2-8}alkenyl, (C_{1-8}alkyl)$_2$-amino-C_{2-8}alkenyl, amino-C_{2-8}alkynyl, C_{1-8}alkyl-amino-C_{2-8}alkynyl, (C_{1-8}alkyl)$_2$-amino-C_{2-8}alkynyl, halo-C_{1-8}alkyl-amino, (halo-C_{1-8}alkyl)$_2$-amino, (halo-C_{1-8}alkyl)(C_{1-8}alkyl)amino, hydroxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkoxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkoxy, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl-amino, [(hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino,

[(hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, heterocyclyl, heterocyclyl-C_{1-8}alkyl, heterocyclyl-C_{1-8}alkoxy, heterocyclyl-amino, (heterocyclyl)(C_{1-8}alkyl)amino, heterocyclyl-amino-C_{1-8}alkyl, heterocyclyl-C_{1-8}alkyl-amino, (heterocyclyl-C_{1-8}alkyl)$_2$-amino, (heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heterocyclyl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (heterocyclyl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heterocyclyl-oxy, heterocyclyl-carbonyl, heterocyclyl-carbonyl-oxy, C_{3-14}cycloalkyl, aryl-C_{1-8}alkyl-amino, (aryl-C_{1-8}alkyl)$_2$-amino, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, aryl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (aryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heteroaryl, heteroaryl-C_{1-8}alkyl, heteroaryl-C_{1-8}alkoxy, heteroaryl-amino, heteroaryl-C_{1-8}alkyl-amino, (heteroaryl-C_{1-8}alkyl)$_2$-amino, (heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heteroaryl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (heteroaryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl or (heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl; wherein, each instance of heterocyclyl, C_{3-14}cycloalkyl, aryl and heteroaryl is optionally substituted with R_3 and R_4 substituents.

[00226] In another embodiment of the use of a compound of Formula (I),

[00227] R_1 is amino, (C_{1-8}alkyl)$_2$-amino, C_{1-8}alkoxy-C_{1-8}alkyl-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino, amino-C_{1-8}alkyl, C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, amino-C_{1-8}alkyl-amino, (amino-C_{1-8}alkyl)$_2$-amino, (amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, amino-C_{1-8}alkoxy, C_{1-8}alkyl-amino-C_{1-8}alkoxy, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkoxy, amino-C_{2-8}alkenyl, C_{1-8}alkyl-amino-C_{2-8}alkenyl, (C_{1-8}alkyl)$_2$-amino-C_{2-8}alkenyl, amino-C_{2-8}alkynyl, C_{1-8}alkyl-amino-C_{2-8}alkynyl, (C_{1-8}alkyl)$_2$-amino-C_{2-8}alkynyl, halo-C_{1-8}alkyl-amino, (halo-C_{1-8}alkyl)$_2$-amino, (halo-C_{1-8}alkyl)(C_{1-8}alkyl)amino, hydroxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkoxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl,

(hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkoxy, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl-amino, [(hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, [(hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, heterocyclyl, heterocyclyl-C_{1-8}alkyl, heterocyclyl-C_{1-8}alkoxy, heterocyclyl-amino, (heterocyclyl)(C_{1-8}alkyl)amino, heterocyclyl-amino-C_{1-8}alkyl, heterocyclyl-C_{1-8}alkyl-amino, (heterocyclyl-C_{1-8}alkyl)$_2$-amino, (heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heterocyclyl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (heterocyclyl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heterocyclyl-oxy, heterocyclyl-carbonyl, heterocyclyl-carbonyl-oxy, C_{3-14}cycloalkyl, aryl-C_{1-8}alkyl-amino, (aryl-C_{1-8}alkyl)$_2$-amino, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, aryl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (aryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heteroaryl, heteroaryl-C_{1-8}alkyl, heteroaryl-C_{1-8}alkoxy, heteroaryl-C_{1-8}alkyl-amino, (heteroaryl-C_{1-8}alkyl)$_2$-amino, (heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heteroaryl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (heteroaryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl or (heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl; wherein, each instance of heterocyclyl, C_{3-14}cycloalkyl, aryl and heteroaryl is optionally substituted with R_3 and R_4 substituents.

[00228] In another embodiment of the use of a compound of Formula (I),

[00229] R_1 is C_{1-8}alkyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino, C_{1-8}alkoxy-C_{1-8}alkyl-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, amino-C_{1-8}alkyl, C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, amino-C_{1-8}alkyl-amino, (amino-C_{1-8}alkyl)$_2$-amino, (amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, amino-C_{1-8}alkoxy, C_{1-8}alkyl-amino-C_{1-8}alkoxy,

(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkoxy, amino-C_{2-8}alkenyl, C_{1-8}alkyl-amino-C_{2-8}alkenyl, (C_{1-8}alkyl)$_2$-amino-C_{2-8}alkenyl, amino-C_{2-8}alkynyl, C_{1-8}alkyl-amino-C_{2-8}alkynyl, (C_{1-8}alkyl)$_2$-amino-C_{2-8}alkynyl, halo-C_{1-8}alkyl-amino, (halo-C_{1-8}alkyl)$_2$-amino, (halo-C_{1-8}alkyl)(C_{1-8}alkyl)amino, hydroxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkoxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkoxy, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl-amino, [(hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino or [(hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl](C_{1-8}alkyl)amino.

[00230] In another embodiment of the use of a compound of Formula (I),

[00231] R_1 is heterocyclyl, heterocyclyl-C_{1-8}alkyl, heterocyclyl-C_{1-8}alkoxy, heterocyclyl-amino, (heterocyclyl)(C_{1-8}alkyl)amino, heterocyclyl-amino-C_{1-8}alkyl, heterocyclyl-C_{1-8}alkyl-amino, (heterocyclyl-C_{1-8}alkyl)$_2$-amino, (heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heterocyclyl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (heterocyclyl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heterocyclyl-oxy, heterocyclyl-carbonyl, heterocyclyl-carbonyl-oxy, C_{3-14}cycloalkyl, aryl-C_{1-8}alkyl-amino, (aryl-C_{1-8}alkyl)$_2$-amino, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, aryl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (aryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heteroaryl, heteroaryl-C_{1-8}alkyl, heteroaryl-C_{1-8}alkoxy, heteroaryl-amino, heteroaryl-C_{1-8}alkyl-amino, (heteroaryl-C_{1-8}alkyl)$_2$-amino, (heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heteroaryl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (heteroaryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl or (heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl; wherein, each instance of heterocyclyl, C_{3-14}cycloalkyl, aryl and heteroaryl is optionally substituted with R_3 and R_4 substituents.

[00232] In another embodiment of the use of a compound of Formula (I),

[00233] R_1 is heterocyclyl, heterocyclyl-C_{1-8}alkyl, heterocyclyl-C_{1-8}alkoxy, heterocyclyl-amino, (heterocyclyl)(C_{1-8}alkyl)amino, heterocyclyl-amino-C_{1-8}alkyl, heterocyclyl-C_{1-8}alkyl-amino, (heterocyclyl-C_{1-8}alkyl)$_2$-amino, (heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heterocyclyl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (heterocyclyl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heterocyclyl-oxy, heterocyclyl-carbonyl or heterocyclyl-carbonyl-oxy; wherein, each instance of heterocyclyl is optionally substituted with R_3 and R_4 substituents.

[00234] In another embodiment of the use of a compound of Formula (I), R_1 is heterocyclyl optionally substituted with R_3 and R_4 substituents.

[00235] In another embodiment of the use of a compound of Formula (I), R_1 is C_{3-14}cycloalkyl optionally substituted with R_3 and R_4 substituents.

[00236] In another embodiment of the use of a compound of Formula (I),

[00237] R_1 is aryl-C_{1-8}alkyl-amino, (aryl-C_{1-8}alkyl)$_2$-amino, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, aryl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (aryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl or (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl; wherein, each instance of aryl is optionally substituted with R_3 and R_4 substituents.

[00238] In another embodiment of the use of a compound of Formula (I), R_1 is aryl-C_{1-8}alkyl-amino optionally substituted with R_3 and R_4 substituents.

[00239] In another embodiment of the use of a compound of Formula (I),

[00240] R_1 is heteroaryl, heteroaryl-C_{1-8}alkyl, heteroaryl-C_{1-8}alkoxy, heteroaryl-amino, heteroaryl-C_{1-8}alkyl-amino, (heteroaryl-C_{1-8}alkyl)$_2$-amino, (heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heteroaryl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (heteroaryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl or (heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl; wherein, each instance of heterocyclyl, C_{3-14}cycloalkyl, aryl and heteroaryl is optionally substituted with R_3 and R_4 substituents.

[00241] In another embodiment of the use of a compound of Formula (I), R_1 is heteroaryl optionally substituted with R_3 and R_4 substituents.

[00242] In one embodiment of the use of a compound of Formula (I),

[00243] R_1 is heterocyclyl selected from azetidinyl, tetrahydrofuranyl, pyrrolidinyl, piperidinyl, piperazinyl, 1,4-diazepanyl, 1,2,5,6-tetrahydropyridinyl, 1,2,3,6-tetrahydropyridinyl,

hexahydropyrrolo[3,4-*b*]pyrrol-(1*H*)-yl, (3a*S*,6a*S*)-hexahydropyrrolo[3,4-*b*]pyrrol-(1*H*)-yl, (3a*R*,6a*R*)-hexahydropyrrolo[3,4-*b*]pyrrol-(1*H*)-yl, hexahydropyrrolo[3,4-*b*]pyrrol-(2*H*)-yl, (3a*S*,6a*S*)-hexahydropyrrolo[3,4-*b*]pyrrol-(2*H*)-yl, hexahydropyrrolo[3,4-*c*]pyrrol-(1*H*)-yl, (3a*R*,6a*S*)-hexahydropyrrolo[3,4-*c*]pyrrol-(1*H*)-yl, octahydro-5*H*-pyrrolo[3,2-*c*]pyridinyl, octahydro-6*H*-pyrrolo[3,4-*b*]pyridinyl, (4a*R*,7a*R*)-octahydro-6*H*-pyrrolo[3,4-*b*]pyridinyl, (4a*S*,7a*S*)-octahydro-6*H*-pyrrolo[3,4-*b*]pyridinyl, hexahydropyrrolo[1,2-*a*]pyrazin-(2*H*)-one, hexahydropyrrolo[1,2-*a*]pyrazin-(1*H*)-yl, (7*R*,8a*S*)-hexahydropyrrolo[1,2-*a*]pyrazin-(1*H*)-yl, (8a*S*)-hexahydropyrrolo[1,2-*a*]pyrazin-(1*H*)-yl, (8a*R*)-hexahydropyrrolo[1,2-*a*]pyrazin-(1*H*)-yl, (8a*S*)-octahydropyrrolo[1,2-*a*]pyrazin-(1*H*)-yl, (8a*R*)-octahydropyrrolo[1,2-*a*]pyrazin-(1*H*)-yl, octahydro-2H-pyrido[1,2-*a*]pyrazinyl, 3-azabicyclo[3.1.0]hexyl, (1*R*,5*S*)-3-azabicyclo[3.1.0]hexyl, 8-azabicyclo[3.2.1]octyl, (1*R*,5*S*)-8-azabicyclo[3.2.1]octyl, 8-azabicyclo[3.2.1]oct-2-enyl, (1*R*,5*S*)-8-azabicyclo[3.2.1]oct-2-enyl, 9-azabicyclo[3.3.1]nonyl, (1*R*,5*S*)-9-azabicyclo[3.3.1]nonyl, 2,5-diazabicyclo[2.2.1]heptyl, (1*S*,4*S*)-2,5-diazabicyclo[2.2.1]heptyl, 2,5-diazabicyclo[2.2.2]octyl, 3,8-diazabicyclo[3.2.1]octyl, (1*R*,5*S*)-3,8-diazabicyclo[3.2.1]octyl, 1,4-diazabicyclo[3.2.2]nonyl, azaspiro[3.3]heptyl, 2,6-diazaspiro[3.3]heptyl, 2,7-diazaspiro[3.5]nonyl, 5,8-diazaspiro[3.5]nonyl, 2,7-diazaspiro[4.4]nonyl or 6,9-diazaspiro[4.5]decyl; wherein, each instance of heterocyclyl is optionally substituted with R_3 and R_4 substituents.

[00244] In another embodiment of the use of a compound of Formula (I),

[00245] R_1 is heterocyclyl selected from azetidin-1-yl, tetrahydrofuran-3-yl, pyrrolidin-1-yl, piperidin-1-yl, piperidin-4-yl, piperazin-1-yl, 1,4-diazepan-1-yl, 1,2,5,6-tetrahydropyridin-5-yl, 1,2,3,6-tetrahydropyridin-4-yl, hexahydropyrrolo[3,4-*b*]pyrrol-1(2*H*)-yl, (3a*S*,6a*S*)-hexahydropyrrolo[3,4-*b*]pyrrol-1(2*H*)-yl, (3a*S*,6a*S*)-hexahydropyrrolo[3,4-*b*]pyrrol-5(1*H*)-yl, (3a*R*,6a*R*)-hexahydropyrrolo[3,4-*b*]pyrrol-5(1*H*)-yl, hexahydropyrrolo[3,4-*c*]pyrrol-2(1*H*)-yl, (3a*R*,6a*S*)-hexahydropyrrolo[3,4-*c*]pyrrol-2(1*H*)-yl, octahydro-5*H*-pyrrolo[3,2-*c*]pyridin-5-yl, octahydro-6*H*-pyrrolo[3,4-*b*]pyridin-6-yl, (4a*R*,7a*R*)-octahydro-6*H*-pyrrolo[3,4-*b*]pyridin-6-yl, (4a*S*,7a*S*)-octahydro-6*H*-pyrrolo[3,4-*b*]pyridin-6-yl, hexahydropyrrolo[1,2-*a*]pyrazin-6(2*H*)-one, hexahydropyrrolo[1,2-*a*]pyrazin-2(1*H*)-yl, (7*R*,8a*S*)-hexahydropyrrolo[1,2-*a*]pyrazin-2(1*H*)-yl, (8a*S*)-hexahydropyrrolo[1,2-*a*]pyrazin-2(1*H*)-yl, (8a*R*)-hexahydropyrrolo[1,2-*a*]pyrazin-2(1*H*)-yl,

(8a*S*)-octahydropyrrolo[1,2-*a*]pyrazin-2(1*H*)-yl, (8a*R*)-octahydropyrrolo[1,2-*a*]pyrazin-2(1*H*)-yl, octahydro-2H-pyrido[1,2-*a*]pyrazin-2-yl, 3-azabicyclo[3.1.0]hex-3-yl, 8-azabicyclo[3.2.1]oct-3-yl, (1R,5S)-8-azabicyclo[3.2.1]oct-3-yl, 8-azabicyclo[3.2.1]oct-2-en-3-yl, (1*R*,5*S*)-8-azabicyclo[3.2.1]oct-2-en-3-yl, 9-azabicyclo[3.3.1]non-3-yl, (1*R*,5*S*)-9-azabicyclo[3.3.1]non-3-yl, 2,5-diazabicyclo[2.2.1]hept-2-yl, (1*S*,4*S*)-2,5-diazabicyclo[2.2.1]hept-2-yl, 2,5-diazabicyclo[2.2.2]oct-2-yl, 3,8-diazabicyclo[3.2.1]oct-3-yl, (1*R*,5*S*)-3,8-diazabicyclo[3.2.1]oct-3-yl, 1,4-diazabicyclo[3.2.2]non-4-yl, azaspiro[3.3]hept-2-yl, 2,6-diazaspiro[3.3]hept-2-yl, 2,7-diazaspiro[3.5]non-7-yl, 5,8-diazaspiro[3.5]non-8-yl, 2,7-diazaspiro[4.4]non-2-yl or 6,9-diazaspiro[4.5]dec-9-yl; wherein, each instance of heterocyclyl is optionally substituted with R_3 and R_4 substituents.

[00246] In another embodiment of the use of a compound of Formula (I),

[00247] R_1 is substituted heterocyclyl selected from 4-methyl-1,4-diazepan-1-yl, (3a*S*,6a*S*)-1-methylhexahydropyrrolo[3,4-*b*]pyrrol-5(1*H*)-yl, (3a*S*,6a*S*)-5-methylhexahydropyrrolo[3,4-*b*]pyrrol-1(2*H*)-yl, (3a*R*,6a*R*)-1-methylhexahydropyrrolo[3,4-*b*]pyrrol-5(1*H*)-yl, (3a*R*,6a*S*)-5-methylhexahydropyrrolo[3,4-*c*]pyrrol-2(1*H*)-yl, (3a*R*,6a*S*)-5-(2-hydroxyethyl)hexahydropyrrolo[3,4-*c*]pyrrol-2(1*H*)-yl, (3a*R*,6a*S*)-5-(propan-2-yl)hexahydropyrrolo[3,4-*c*]pyrrol-2(1*H*)-yl, (3a*R*,6a*S*)-5-ethylhexahydropyrrolo[3,4-*c*]pyrrol-2(1*H*)-yl, (4a*R*,7a*R*)-1-methyloctahydro-6*H*-pyrrolo[3,4-*b*]pyridin-6-yl, (4a*R*,7a*R*)-1-ethyloctahydro-6*H*-pyrrolo[3,4-*b*]pyridin-6-yl, (4a*R*,7a*R*)-1-(2-hydroxyethyl)octahydro-6*H*-pyrrolo[3,4-*b*]pyridin-6-yl, (4a*S*,7a*S*)-1-methyloctahydro-6*H*-pyrrolo[3,4-*b*]pyridin-6-yl, (4a*S*,7a*S*)-1-(2-hydroxyethyl)octahydro-6*H*-pyrrolo[3,4-*b*]pyridin-6-yl, (7*R*,8a*S*)-7-hydroxyhexahydropyrrolo[1,2-*a*]pyrazin-2(1*H*)-yl, (8a*S*)-8a-methyloctahydropyrrolo[1,2-*a*]pyrazin-2(1*H*)-yl, (8a*R*)-8a-methyloctahydropyrrolo[1,2-*a*]pyrazin-2(1*H*)-yl, (1*R*,5*S*,6s)-6-(dimethylamino)-3-azabicyclo[3.1.0]hex-3-yl, (1*R*,5*S*)-8-methyl-8-azabicyclo[3.2.1]oct-3-yl, 9-methyl-9-azabicyclo[3.3.1]non-3-yl, (3-exo)-9-methyl-9-azabicyclo[3.3.1]non-3-yl, (1*R*,5*S*)-9-methyl-9-azabicyclo[3.3.1]non-3-yl,

(1*S*,4*S*)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl or
(1*S*,4*S*)-5-ethyl-2,5-diazabicyclo[2.2.1]hept-2-yl.

[00248] In one embodiment of the use of a compound of Formula (I), R_1 is heterocyclyl-C_{1-8}alkyl, wherein heterocyclyl is selected from morpholinyl, piperidinyl, piperazinyl, imidazolyl or pyrrolidinyl; and, wherein, each instance of heterocyclyl is optionally substituted with R_3 and R_4 substituents.

[00249] In another embodiment of the use of a compound of Formula (I), R_1 is heterocyclyl-C_{1-8}alkyl selected from morpholin-4-yl-methyl, morpholin-4-yl-ethyl, morpholin-4-yl-propyl, piperidin-1-yl-methyl, piperazin-1-yl-methyl, piperazin-1-yl-ethyl, piperazin-1-yl-propyl, piperazin-1-yl-butyl, imidazol-1-yl-methyl, imidazol-1-yl-ethyl, imidazol-1-yl-propyl, imidazol-1-yl-butyl, pyrrolidin-1-yl-methyl, pyrrolidin-1-yl-ethyl, pyrrolidin-1-yl-propyl or pyrrolidin-1-yl-butyl; wherein, each instance of heterocyclyl is optionally substituted with R_3 and R_4 substituents.

[00250] In one embodiment of the use of a compound of Formula (I), R_1 is heterocyclyl-C_{1-8}alkoxy, wherein heterocyclyl is selected from pyrrolidinyl, piperidinyl or morpholinyl; and, wherein, each instance of heterocyclyl is optionally substituted with R_3 and R_4 substituents.

[00251] In another embodiment of the use of a compound of Formula (I), R_1 is heterocyclyl-C_{1-8}alkoxy selected from pyrrolidin-2-yl-methoxy, pyrrolidin-2-yl-ethoxy, pyrrolidin-1-yl-methoxy, pyrrolidin-1-yl-ethoxy, piperidin-1-yl-methoxy, piperidin-1-yl-ethoxy, morpholin-4-yl-methoxy or morpholin-4-yl-ethoxy; wherein, each instance of heterocyclyl is optionally substituted with R_3 and R_4 substituents.

[00252] In one embodiment of the use of a compound of Formula (I), R_1 is heterocyclyl-amino, wherein heterocyclyl is selected from azetidinyl, pyrrolidinyl, piperidinyl, 9-azabicyclo[3.3.1]nonyl or (1*R*,5*S*)-9-azabicyclo[3.3.1]nonyl; and, wherein, each instance of heterocyclyl is optionally substituted with R_3 and R_4 substituents.

[00253] In another embodiment of the use of a compound of Formula (I), R_1 is heterocyclyl-amino selected from azetidin-3-yl-amino, pyrrolidin-3-yl-amino, piperidin-4-yl-amino, 9-azabicyclo[3.3.1]non-3-yl-amino, (1*R*,5*S*)-9-azabicyclo[3.3.1]non-3-yl-amino, 9-methyl-9-azabicyclo[3.3.1]non-3-yl-amino, (3-exo)-9-methyl-9-azabicyclo[3.3.1]non-3-yl-amino or (1*R*,5*S*)-9-methyl-9-

azabicyclo[3.3.1]non-3-yl-amino; wherein, each instance of heterocyclyl is optionally substituted with R_3 and R_4 substituents.

[00254] In one embodiment of the use of a compound of Formula (I), R_1 is (heterocyclyl)(C_{1-8}alkyl)amino, wherein heterocyclyl is selected from pyrrolidinyl or piperidinyl; and, wherein, each instance of heterocyclyl is optionally substituted with R_3 and R_4 substituents.

[00255] In another embodiment of the use of a compound of Formula (I), R_1 is (heterocyclyl)(C_{1-8}alkyl)amino selected from (pyrrolidin-3-yl)(methyl)amino or (piperidin-4-yl)(methyl)amino; wherein, each instance of heterocyclyl is optionally substituted with R_3 and R_4 substituents.

[00256] In one embodiment of the use of a compound of Formula (I), R_1 is heterocyclyl-amino-C_{1-8}alkyl, wherein heterocyclyl is selected from tetrahydrofuranyl; and, wherein, each instance of heterocyclyl is optionally substituted with R_3 and R_4 substituents.

[00257] In another embodiment of the use of a compound of Formula (I), R_1 is heterocyclyl-amino-C_{1-8}alkyl, selected from 3-(tetrahydrofuran-3-yl-amino)propyl; wherein, each instance of heterocyclyl is optionally substituted with R_3 and R_4 substituents.

[00258] In one embodiment of the use of a compound of Formula (I), R_1 is heterocyclyl-C_{1-8}alkyl-amino-C_{1-8}alkyl, wherein heterocyclyl is selected from tetrahydrofuranyl, thienyl or pyridinyl; and, wherein, each instance of heterocyclyl is optionally substituted with R_3 and R_4 substituents.

[00259] In another embodiment of the use of a compound of Formula (I), R_1 is heterocyclyl-C_{1-8}alkyl-amino-C_{1-8}alkyl, selected from 3-[(tetrahydrofuran-2-ylmethyl)amino]propyl, 3-[(thienyl-3-ylmethyl)amino]propyl, 3-[(pyridin-2-ylmethyl)amino]propyl or 3-[(pyridin-4-ylmethyl)amino]propyl; wherein, each instance of heterocyclyl is optionally substituted with R_3 and R_4 substituents.

[00260] In one embodiment of the use of a compound of Formula (I), R_1 is heterocyclyl-oxy, wherein heterocyclyl is selected from pyrrolidinyl or piperidinyl; and, wherein, each instance of heterocyclyl is optionally substituted with R_3 and R_4 substituents.

[00261] In another embodiment of the use of a compound of Formula (I), R_1 is heterocyclyl-oxy selected from pyrrolidin-3-yl-oxy or piperidin-4-yl-oxy; wherein, each instance of heterocyclyl is optionally substituted with R_3 and R_4 substituents.

[00262] In one embodiment of the use of a compound of Formula (I), R_1 is heterocyclyl-carbonyl, wherein heterocyclyl is selected from piperazinyl; and, wherein, each instance of heterocyclyl is optionally substituted with R_3 and R_4 substituents.

[00263] In another embodiment of the use of a compound of Formula (I), R_1 is heterocyclyl-carbonyl selected from piperazin-1-yl-carbonyl; wherein, each instance of heterocyclyl is optionally substituted with R_3 and R_4 substituents.

[00264] In one embodiment of the use of a compound of Formula (I), R_1 is heterocyclyl-carbonyl-oxy, wherein heterocyclyl is selected from piperazinyl; and, wherein, each instance of heterocyclyl is optionally substituted with R_3 and R_4 substituents.

[00265] In another embodiment of the use of a compound of Formula (I), R_1 is heterocyclyl-carbonyl-oxy selected from piperazin-1-yl-carbonyl-oxy; wherein, each instance of heterocyclyl is optionally substituted with R_3 and R_4 substituents.

[00266] In one embodiment of the use of a compound of Formula (I), R_1 is C_{3-14}cycloalkyl selected from cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, cyclohexenyl or cycloheptyl; wherein, each instance of C_{3-14}cycloalkyl is optionally substituted with R_3 and R_4 substituents.

[00267] In another embodiment of the use of a compound of Formula (I), R_1 is C_{3-8}cycloalkyl selected from cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, cyclohexenyl or cycloheptyl; wherein, each instance of C_{3-8}cycloalkyl is optionally substituted with R_3 and R_4 substituents.

[00268] In one embodiment of the use of a compound of Formula (I), R_1 is aryl-C_{1-8}alkyl-amino-C_{1-8}alkyl, wherein aryl is selected from phenyl; and, wherein, each instance of aryl is optionally substituted with R_3 and R_4 substituents.

[00269] In another embodiment of the use of a compound of Formula (I), R_1 is aryl-C_{1-8}alkyl-amino-C_{1-8}alkyl selected from 3-(benzylamino)propyl; wherein, each instance of aryl is optionally substituted with R_3 and R_4 substituents.

[00270] In one embodiment of the use of a compound of Formula (I), R_1 is heteroaryl, wherein heteroaryl is selected from pyridinyl; and, wherein, each instance of heteroaryl is optionally substituted with R_3 and R_4 substituents.

[00271] In another embodiment of the use of a compound of Formula (I), R_1 is heteroaryl selected from pyridin-4-yl; wherein, each instance of heteroaryl is optionally substituted with R_3 and R_4 substituents.

[00272] In one embodiment of the use of a compound of Formula (I), R_1 is heteroaryl-C_{1-8}alkyl, wherein heteroaryl is selected from 1*H*-imidazolyl; and, wherein, each instance of heteroaryl is optionally substituted with R_3 and R_4 substituents.

[00273] In another embodiment of the use of a compound of Formula (I), R_1 is heteroaryl-C_{1-8}alkyl selected from 1*H*-imidazol-1-yl-methyl; wherein, each instance of heteroaryl is optionally substituted with R_3 and R_4 substituents.

[00274] In one embodiment of the use of a compound of Formula (I), R_1 is (heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, wherein heteroaryl is selected from pyridinyl; and, wherein, each instance of heteroaryl is optionally substituted with R_3 and R_4 substituents.

[00275] In another embodiment of the use of a compound of Formula (I), R_1 is (heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino selected from (pyridin-3-ylmethyl)(methyl)amino; wherein, each instance of heteroaryl is optionally substituted with R_3 and R_4 substituents.

[00276] In one embodiment of the use of a compound of Formula (I), R_1 is heteroaryl-C_{1-8}alkyl-amino-C_{1-8}alkyl, wherein heteroaryl is selected from thienyl or pyridinyl; and, wherein, each instance of heteroaryl is optionally substituted with R_3 and R_4 substituents.

[00277] In another embodiment of the use of a compound of Formula (I), R_1 is heteroaryl-C_{1-8}alkyl-amino-C_{1-8}alkyl selected from thien-3-yl-methyl-amino-propyl, pyridin-2-yl-methyl-amino-propyl, pyridin-3-yl-methyl-amino-propyl or pyridin-4-yl-methyl-amino-propyl; wherein, each instance of heteroaryl is optionally substituted with R_3 and R_4 substituents.

[00278] In one embodiment of the use of a compound of Formula (I), R_3 is selected from cyano, halogen, hydroxy, oxo, C_{1-8}alkyl, halo-C_{1-8}alkyl, C_{1-8}alkyl-carbonyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl, C_{1-8}alkoxy-carbonyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino, amino-C_{1-8}alkyl, C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, amino-C_{1-8}alkyl-amino, C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, C_{1-8}alkoxy-C_{1-8}alkyl-amino, C_{1-8}alkyl-carbonyl-amino, C_{1-8}alkoxy-carbonyl-amino, hydroxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkoxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino or (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino.

[00279] In another embodiment of the use of a compound of Formula (I), R_3 is selected from cyano, halogen, hydroxy, oxo, C_{1-8}alkyl, halo-C_{1-8}alkyl, C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl, C_{1-8}alkoxy-carbonyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino, amino-C_{1-8}alkyl,

C_{1-8}alkyl-amino-C_{1-8}alkyl, $(C_{1-8}alkyl)_2$-amino-C_{1-8}alkyl, C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, C_{1-8}alkoxy-C_{1-8}alkyl-amino, C_{1-8}alkoxy-carbonyl-amino, hydroxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkoxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino, $(hydroxy\text{-}C_{1-8}alkyl)_2$-amino or (hydroxy-$C_{1-8}$alkyl)($C_{1-8}$alkyl)amino.

[00280] In one embodiment of the use of a compound of Formula (I), R_3 is C_{1-8}alkyl selected from methyl, ethyl, propyl, isopropyl or tert-butyl.

[00281] In another embodiment of the use of a compound of Formula (I), R_3 is C_{1-8}alkyl selected from ethyl, propyl, isopropyl or tert-butyl.

[00282] In one embodiment of the use of a compound of Formula (I), R_3 is halo-C_{1-8}alkyl selected from trihalo-methyl, dihalo-methyl, halo-methyl, trihalo-ethyl, dihalo-ethyl, halo-ethyl, trihalo-propyl, dihalo-propyl or halo-propyl; wherein, halo is selected from fluoro, chloro, bromo or iodo.

[00283] In another embodiment of the use of a compound of Formula (I), R_3 is halo-C_{1-8}alkyl selected from trihalo-methyl, dihalo-methyl, halo-methyl, trihalo-ethyl, dihalo-ethyl, trihalo-propyl or dihalo-propyl; wherein, halo is selected from fluoro, chloro, bromo or iodo.

[00284] In one embodiment of the use of a compound of Formula (I), R_3 is hydroxy-C_{1-8}alkyl selected from hydroxy-methyl, hydroxy-ethyl, hydroxy-propyl, dihydroxy-propyl, hydroxy-butyl or dihydroxy-butyl.

[00285] In another embodiment of the use of a compound of Formula (I), R_3 is hydroxy-C_{1-8}alkyl selected from hydroxy-methyl, dihydroxy-propyl, hydroxy-butyl or dihydroxy-butyl.

[00286] In one embodiment of the use of compound of Formula (I), R_3 is C_{1-8}alkoxy selected from methoxy, ethoxy, propoxy or isopropoxy.

[00287] In one embodiment of the use of a compound of Formula (I), R_3 is halo-C_{1-8}alkoxy selected from trihalo-methoxy, dihalo-methoxy, halo-methoxy, trihalo-ethoxy, dihalo-ethoxy, halo-ethoxy, trihalo-propoxy, dihalo-propoxy or halo-propoxy; wherein, halo is selected from fluoro, chloro, bromo or iodo.

[00288] In one embodiment of the use of a compound of Formula (I), R_3 is C_{1-8}alkoxy-carbonyl-amino selected from methoxy-carbonyl-amino, ethoxy-carbonyl-amino, propoxy-carbonyl-amino, isopropoxy-carbonyl-amino, tert-butoxy-carbonyl-amino.

[00289] In one embodiment of the use of a compound of Formula (I), R_a is, in each instance, independently selected from hydrogen, halogen, C_{1-8}alkyl.

[00290] In one embodiment of the use of a compound of Formula (I), R_a is, in each instance, optionally and independently deuterium.

[00291] In one embodiment of the use of a compound of Formula (I), R_b is hydrogen, halogen, C_{1-8}alkyl, C_{1-8}alkoxy.

[00292] In one embodiment of the use of a compound of Formula (I), R_c is, in each instance, independently selected from hydrogen, halogen, C_{1-8}alkyl.

[00293] In one embodiment of the use of a compound of Formula (I), R_c is, in each instance, optionally and independently deuterium.

[00294] In one embodiment of the use of a compound of Formula (I), R_b is deuterium.

[00295] In one embodiment of the use of a compound of Formula (I), R_4 is C_{3-14}cycloalkyl selected from cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl or cycloheptyl; wherein, each instance of C_{3-14}cycloalkyl is optionally substituted with R_5 substituents.

[00296] In another embodiment of the use of a compound of Formula (I), R_4 is C_{3-8}cycloalkyl selected from cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl or cycloheptyl; wherein, each instance of C_{3-8}cycloalkyl is optionally substituted with R_5 substituents.

[00297] In one embodiment of the use of a compound of Formula (I), R_4 is C_{3-14}cycloalkyl-C_{1-8}alkyl, wherein C_{3-14}cycloalkyl is selected from cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl or cycloheptyl; and, wherein, each instance of C_{3-14}cycloalkyl is optionally substituted with R_5 substituents.

[00298] In another embodiment of the use of a compound of Formula (I), R_4 is C_{3-8}cycloalkyl-C_{1-8}alkyl, wherein C_{3-8}cycloalkyl is selected from cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl or cycloheptyl; and, wherein, each instance of C_{3-8}cycloalkyl is optionally substituted with R_5 substituents.

[00299] In one embodiment of the use of a compound of Formula (I), R_4 is C_{3-14}cycloalkyl-amino, wherein C_{3-14}cycloalkyl is selected from cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl or cycloheptyl; and, wherein, each instance of C_{3-14}cycloalkyl is optionally substituted with R_5 substituents.

[00300] In another embodiment of the use of a compound of Formula (I), R_4 is C_{3-8}cycloalkyl-amino, wherein C_{3-8}cycloalkyl is selected from cyclopropyl, cyclobutyl,

cyclopentyl, cyclohexyl or cycloheptyl; and, wherein, each instance of C_{3-8}cycloalkyl is optionally substituted with R_5 substituents.

[00301] In one embodiment of the use of a compound of Formula (I), R_4 is aryl-C_{1-8}alkyl, aryl-C_{1-8}alkoxy-carbonyl or aryl-sulfonyloxy-C_{1-8}alkyl, wherein aryl is selected from phenyl; and, wherein, each instance of aryl is optionally substituted with R_5 substituents.

[00302] In another embodiment of the use of a compound of Formula (I), R_4 is aryl-C_{1-8}alkyl or aryl-C_{1-8}alkoxy-carbonyl, wherein each instance of aryl is optionally substituted with R_5 substituents.

[00303] In one embodiment of the use of a compound of Formula (I), R_4 is heterocyclyl selected from oxetanyl, pyrrolidinyl, piperidinyl, piperazinyl, 1,3-dioxanyl or morpholinyl, wherein each instance of heterocyclyl is optionally substituted with R_5 substituents.

[00304] In another embodiment of the use of a compound of Formula (I), R_4 is heterocyclyl selected from oxetan-3-yl, pyrrolidin-1-yl, piperidin-1-yl, piperazin-1-yl, 1,3-dioxan-5-yl or morpholin-4-yl, wherein each instance of heterocyclyl is optionally substituted with R_5 substituents.

[00305] In one embodiment of the use of a compound of Formula (I), R_4 is heterocyclyl-C_{1-8}alkyl, wherein each instance of heterocyclyl is selected from pyrrolidinyl or piperidinyl; and, wherein, each instance of heterocyclyl is optionally substituted with R_5 substituents.

[00306] In another embodiment of the use of a compound of Formula (I), R_4 is heterocyclyl-C_{1-8}alkyl selected from pyrrolidin-1-yl-C_{1-8}alkyl or piperidin-1-yl-C_{1-8}alkyl, wherein each instance of heterocyclyl is optionally substituted with R_5 substituents.

[00307] In one embodiment of the use of a compound of Formula (I), R_5 is selected from halogen, hydroxy, cyano, nitro, halo-C_{1-8}alkyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, amino, C_{1-8}alkyl-amino, $(C_{1-8}\text{alkyl})_2$-amino or C_{1-8}alkyl-thio; wherein, halogen and halo is selected from fluoro, chloro, bromo or iodo.

[00308] In one embodiment of the use of a compound of Formula (I), R_5 is hydroxy.

[00309] In one embodiment of the use of a compound of Formula (I), R_5 is C_{1-8}alkyl selected from methyl, ethyl, propyl, isopropyl, n-butyl or tert-butyl.

[00310] In another embodiment of the use of a compound of Formula (I), R_5 is C_{1-8}alkyl selected from ethyl, propyl, isopropyl or tert-butyl.

[00311] In one embodiment of the use of a compound of Formula (I), R_5 is halo-C_{1-8}alkyl selected from trihalo-methyl, dihalo-methyl, halo-methyl, trihalo-ethyl, dihalo-ethyl, halo-ethyl, trihalo-propyl, dihalo-propyl or halo-propyl; wherein, halo is selected from fluoro, chloro, bromo or iodo.

[00312] In one embodiment of the use of a compound of Formula (I), R_5 is C_{1-8}alkoxy selected from methoxy, ethoxy, propoxy or isopropoxy.

[00313] In one embodiment of the use of a compound of Formula (I), R_5 is halo-C_{1-8}alkoxy selected from trihalo-methoxy, dihalo-methoxy, halo-methoxy, trihalo-ethoxy, dihalo-ethoxy, halo-ethoxy, trihalo-propoxy, dihalo-propoxy or halo-propoxy; wherein, halo is selected from fluoro, chloro, bromo or iodo.

[00314] In one embodiment of the use of a compound of Formula (I), R_2 is aryl selected from phenyl optionally substituted with R_6 and R_7 substituents.

[00315] In one embodiment of the use of a compound of Formula (I), R_2 is aryl-amino, wherein aryl is selected from phenyl; and, wherein, each instance of aryl is optionally substituted with R_6 and R_7 substituents.

[00316] In another embodiment of the use of a compound of Formula (I), R_2 is aryl-amino selected from phenyl-amino; wherein, each instance of aryl is optionally substituted with R_6 and R_7 substituents.

[00317] In one embodiment of the use of a compound of Formula (I), R_2 is aryl-amino-carbonyl, wherein aryl is selected from phenyl; and, wherein, each instance of aryl is optionally substituted with R_6 and R_7 substituents.

[00318] In another embodiment of the use of a compound of Formula (I), R_2 is aryl-amino-carbonyl selected from phenyl-amino-carbonyl; wherein, each instance of aryl is optionally substituted with R_6 and R_7 substituents.

[00319] In one embodiment of the use of a compound of Formula (I),

[00320] R_2 is heterocyclyl selected from 1,2,3,6-tetrahydropyridinyl, 1,3-benzodioxolyl or 2,3-dihydro-1,4-benzodioxinyl; wherein, each instance of heterocyclyl is optionally substituted with R_6 and R_7 substituents.

[00321] In another embodiment of the use of a compound of Formula (I),

[00322] R_2 is heterocyclyl selected from 1,2,3,6-tetrahydropyridin-4-yl, 1,3-benzodioxol-5-yl or 2,3-dihydro-1,4-benzodioxin-6-yl; wherein, each instance of heterocyclyl is optionally substituted with R_6 and R_7 substituents.

[00323] In one embodiment of the use of a compound of Formula (I),

[00324] R_2 is heteroaryl selected from thienyl, 1*H*-pyrazolyl, 1*H*-imidazolyl, 1,3-thiazolyl, 1,2,4-oxadiazolyl, 1,3,4-oxadiazolyl, pyridinyl, pyrimidinyl, 1*H*-indolyl, 2*H*-indolyl, 1*H*-indazolyl, 2*H*-indazolyl, indolizinyl, benzofuranyl, benzothienyl, 1*H*-benzimidazolyl, 1,3-benzothiazolyl, 1,3-benzoxazolyl, 9*H*-purinyl, furo[3,2-*b*]pyridinyl, furo[3,2-*c*]pyridinyl, furo[2,3-*c*]pyridinyl, thieno[3,2-*c*]pyridinyl, thieno[2,3-*d*]pyrimidinyl, 1*H*-pyrrolo[2,3-*b*]pyridinyl, 1*H*-pyrrolo[2,3-*c*]pyridinyl, pyrrolo[1,2-*a*]pyrimidinyl, pyrrolo[1,2-*a*]pyrazinyl, pyrrolo[1,2-*b*]pyridazinyl, pyrazolo[1,5-*a*]pyridinyl, pyrazolo[1,5-*a*]pyrazinyl, imidazo[1,2-*a*]pyridinyl, imidazo[1,2-*a*]pyrimidinyl, imidazo[1,2-*c*]pyrimidinyl, imidazo[1,2-*b*]pyridazinyl, imidazo[1,2-*a*]pyrazinyl, imidazo[2,1-*b*][1,3]thiazolyl, imidazo[2,1-*b*][1,3,4]thiadiazolyl, [1,3]oxazolo[4,5-*b*]pyridinyl or quinoxalinyl; wherein, each instance of heteroaryl is optionally substituted with R_6 and R_7 substituents.

[00325] In another embodiment of the use of a compound of Formula (I),

[00326] R_2 is heteroaryl selected from thien-2-yl, thien-3-yl, 1*H*-pyrazol-3-yl, 1*H*-pyrazol-4-yl, 1*H*-pyrazol-5-yl, 1*H*-imidazol-1-yl, 1*H*-imidazol-4-yl, 1,3-thiazol-2-yl, 1,2,4-oxadiazol-3-yl, 1,3,4-oxadiazol-2-yl, pyridin-2-yl, pyridin-3-yl, pyridin-4-yl, pyrimidin-4-yl, 1*H*-indol-3-yl, 1*H*-indol-4-yl, 1*H*-indol-5-yl, 1*H*-indol-6-yl, 1*H*-indazol-5-yl, 2*H*-indazol-5-yl, indolizin-2-yl, benzofuran-2-yl, benzofuran-5-yl, benzothien-2-yl, benzothien-3-yl, 1*H*-benzimidazol-2-yl, 1*H*-benzimidazol-6-yl, 1,3-benzoxazol-2-yl, 1,3-benzoxazol-5-yl, 1,3-benzoxazol-6-yl, 1,3-benzothiazol-2-yl, 1,3-benzothiazol-5-yl, 1,3-benzothiazol-6-yl, 9*H*-purin-8-yl, furo[3,2-*b*]pyridin-2-yl, furo[3,2-*c*]pyridin-2-yl, furo[2,3-*c*]pyridin-2-yl, thieno[3,2-*c*]pyridin-2-yl, thieno[2,3-*d*]pyrimidin-6-yl, 1*H*-pyrrolo[2,3-*b*]pyridin-5-yl, 1*H*-pyrrolo[2,3-*c*]pyridin-4-yl, pyrrolo[1,2-*a*]pyrimidin-7-yl, pyrrolo[1,2-*a*]pyrazin-7-yl, pyrrolo[1,2-*b*]pyridazin-2-yl, pyrazolo[1,5-*a*]pyridin-2-yl, pyrazolo[1,5-*a*]pyrazin-2-yl, imidazo[1,2-*a*]pyridin-2-yl, imidazo[1,2-*a*]pyridin-6-yl, imidazo[1,2-*a*]pyrimidin-2-yl, imidazo[1,2-*a*]pyrimidin-6-yl, imidazo[1,2-*c*]pyrimidin-2-yl, imidazo[1,2-*b*]pyridazin-2-yl, imidazo[1,2-*a*]pyrazin-2-yl, imidazo[2,1-*b*][1,3]thiazol-6-yl,

imidazo[2,1-*b*][1,3,4]thiadiazol-6-yl, [1,3]oxazolo[4,5-*b*]pyridin-2-yl or quinoxalin-2-yl; wherein, each instance of heteroaryl is optionally substituted with R_6 and R_7 substituents.

[00327] In another embodiment of the use of a compound of Formula (I),

[00328] R_2 is substituted heteroaryl selected from 4-methylthien-2-yl, 1-methyl-1*H*-pyrazol-3-yl, 4-methyl-1*H*-pyrazol-3-yl, 1-phenyl-1*H*-pyrazol-3-yl, 1-phenyl-1*H*-imidazol-4-yl, 2-methyl-1-(pyridin-2-yl)-1*H*-imidazol-4-yl, 4-methyl-1,3-thiazol-2-yl, 4-(trifluoromethyl)-1,3-thiazol-2-yl, 4-phenyl-1,3-thiazol-2-yl, 5-phenyl-1,2,4-oxadiazol-3-yl, 3-fluoropyridin-4-yl, 6-fluoropyridin-2-yl, 2-chloropyridin-4-yl, 4-chloropyridin-3-yl, 5-chloropyridin-2-yl, 6-methylpyridin-3-yl, 2-(trifluoromethyl)pyridin-3-yl, 4-(trifluoromethyl)pyridin-2-yl, 6-(trifluoromethyl)pyridin-2-yl, 2-methoxypyridin-4-yl, 4-methoxypyridin-3-yl, 6-methoxypyridin-2-yl, 2-ethoxypyridin-3-yl, 6-ethoxypyridin-2-yl, 6-(propan-2-yloxy)pyridin-2-yl, 6-(dimethylamino)pyridin-3-yl, 6-(methylsulfanyl)pyridin-2-yl, 6-(cyclobutyloxy)pyridin-2-yl, 6-(pyrrolidin-1-yl)pyridin-2-yl, 2-methylpyrimidin-4-yl, 2-(propan-2-yl)pyrimidin-4-yl, 2-cyclopropylpyrimidin-4-yl, 1-methyl-1H-indol-3-yl, 2-methyl-2*H*-indazol-5-yl, 2-methyl-1-benzofuran-5-yl, 1-methyl-1*H*-benzimidazol-2-yl, 4-methyl-1*H*-benzimidazol-2-yl 5-fluoro-1*H*-benzimidazol-2-yl, 4-fluoro-1,3-benzoxazol-2-yl, 5-fluoro-1,3-benzoxazol-2-yl, 4-chloro-1,3-benzoxazol-2-yl, 4-iodo-1,3-benzoxazol-2-yl, 2-methyl-1,3-benzoxazol-6-yl, 4-methyl-1,3-benzoxazol-2-yl, 4-(trifluoromethyl)-1,3-benzoxazol-2-yl, 7-(trifluoromethyl)-1,3-benzoxazol-2-yl, 2-methyl-1,3-benzothiazol-2-yl, 2-methyl-1,3-benzothiazol-5-yl, 2-methyl-1,3-benzothiazol-6-yl, 4-chloro-1,3-benzothiazol-2-yl, 7-chloro-1,3-benzothiazol-2-yl, 4-(trifluoromethyl)-1,3-benzothiazol-2-yl, 5-methylfuro[3,2-*b*]pyridin-2-yl, 4,6-dimethylfuro[3,2-*c*]pyridin-2-yl, 5,7-dimethylfuro[2,3-*c*]pyridin-2-yl, 4,6-dimethylthieno[3,2-*c*]pyridin-2-yl, 2,4-dimethylthieno[2,3-*d*]pyrimidin-6-yl, 1-methylpyrrolo[1,2-*a*]pyrazin-7-yl, 3-methylpyrrolo[1,2-*a*]pyrazin-7-yl, 1,3-dimethylpyrrolo[1,2-*a*]pyrazin-7-yl, 2-methylpyrrolo[1,2-*b*]pyridazin-2-yl, 4,6-dimethylpyrazolo[1,5-*a*]pyrazin-2-yl, 5-methylpyrazolo[1,5-*a*]pyridin-2-yl, 4,6-dimethylpyrazolo[1,5-*a*]pyrazin-2-yl, 2-chloroimidazo[2,1-*b*][1,3]thiazol-6-yl, 2-methylimidazo[2,1-*b*][1,3]thiazol-6-yl, 3-methylimidazo[2,1-*b*][1,3]thiazol-6-yl, 2-ethylimidazo[2,1-*b*][1,3]thiazol-6-yl, 2-methylimidazo[2,1-*b*][1,3,4]thiadiazol-6-yl, 6-cyanoimidazo[1,2-*a*]pyridin-2-yl (also referred to as 2-imidazo[1,2-*a*]pyridine-6-carbonitrile),

6-fluoroimidazo[1,2-*a*]pyridin-2-yl, 8-fluoroimidazo[1,2-*a*]pyridin-2-yl, 6,8-difluoroimidazo[1,2-*a*]pyridin-2-yl, 7-(trifluoromethyl)imidazo[1,2-*a*]pyridin-2-yl, 8-(trifluoromethyl)imidazo[1,2-*a*]pyridin-2-yl, 6-chloroimidazo[1,2-*a*]pyridin-2-yl, 7-chloroimidazo[1,2-*a*]pyridin-2-yl, 8-chloroimidazo[1,2-*a*]pyridin-2-yl, 8-bromoimidazo[1,2-*a*]pyridin-2-yl, 2-methylimidazo[1,2-*a*]pyridin-2-yl, 5-methylimidazo[1,2-*a*]pyridin-2-yl, 6-methylimidazo[1,2-*a*]pyridin-2-yl, 7-methylimidazo[1,2-*a*]pyridin-2-yl, 8-methylimidazo[1,2-*a*]pyridin-2-yl, 7-ethylimidazo[1,2-*a*]pyridin-2-yl, 8-ethylimidazo[1,2-*a*]pyridin-2-yl, 6,8-dimethylimidazo[1,2-*a*]pyridin-2-yl, 8-ethyl-6-methylimidazo[1,2-*a*]pyridin-2-yl, 7-methoxyimidazo[1,2-*a*]pyridin-2-yl, 8-methoxyimidazo[1,2-*a*]pyridin-2-yl, 6-fluoro-8-methylimidazo[1,2-*a*]pyridin-2-yl, 8-fluoro-6-methylimidazo[1,2-*a*]pyridin-2-yl, 8-chloro-6-methylimidazo[1,2-*a*]pyridin-2-yl, 6-methyl-8-nitroimidazo[1,2-*a*]pyridin-2-yl, 8-cyclopropylimidazo[1,2-*a*]pyridin-2-yl, 2-methylimidazo[1,2-*a*]pyridin-6-yl, 2-ethylimidazo[1,2-*a*]pyridin-6-yl, 2,3-dimethylimidazo[1,2-*a*]pyridin-6-yl, 2,8-dimethylimidazo[1,2-*a*]pyridin-6-yl, 2-(trifluoromethyl)imidazo[1,2-*a*]pyridin-6-yl, 8-chloro-2-methylimidazo[1,2-*a*]pyridin-6-yl, 8-fluoro-2-methylimidazo[1,2-*a*]pyridin-6-yl, 6-fluoroimidazo[1,2-*a*]pyrimidin-2-yl, 6-chloroimidazo[1,2-*a*]pyrimidin-2-yl, 6-methylimidazo[1,2-*a*]pyrimidin-2-yl, 7-methylimidazo[1,2-*a*]pyrimidin-2-yl, 2-methylimidazo[1,2-*a*]pyrimidin-6-yl, 6-methylimidazo[1,2-*b*]pyridazin-2-yl, 2-methyl-3-(1,2,3,6-tetrahydropyridin-4-yl)imidazo[1,2-*b*]pyridazin-6-yl, 6-methylimidazo[1,2-*a*]pyrazin-2-yl, 8-methylimidazo[1,2-*a*]pyrazin-2-yl, 6,8-dimethylimidazo[1,2-*a*]pyrazin-2-yl, 6-chloro-8-methylimidazo[1,2-*a*]pyrazin-2-yl, 6-methyl-8-(trifluoromethyl)imidazo[1,2-*a*]pyrazin-2-yl, 8-(methylsulfanyl)imidazo[1,2-*a*]pyrazin-2-yl, 2-methylimidazo[2,1-*b*][1,3]thiazol-6-yl, 3-methylimidazo[2,1-*b*][1,3]thiazol-6-yl or 2-methylimidazo[2,1-*b*][1,3,4]thiadiazol-6-yl.

[00329] In another embodiment of the use of a compound of Formula (I),

[00330] R_2 is heteroaryl selected from thienyl, 1*H*-pyrazolyl, 1*H*-imidazolyl, 1,3-thiazolyl, 1,2,4-oxadiazolyl, 1,3,4-oxadiazolyl, pyridinyl, pyrimidinyl, 1*H*-indolyl, 2*H*-indolyl, 1*H*-indazolyl, 2*H*-indazolyl, indolizinyl, benzofuranyl, benzothienyl, 1*H*-benzimidazolyl, 1,3-benzothiazolyl, 1,3-benzoxazolyl, 9*H*-purinyl; wherein, each instance of heteroaryl is optionally substituted with R_6 and R_7 substituents.

[00331] In another embodiment of the use of a compound of Formula (I),

[00332] R_2 is heteroaryl selected from furo[3,2-*b*]pyridinyl, furo[3,2-*c*]pyridinyl, furo[2,3-*c*]pyridinyl, thieno[3,2-*c*]pyridinyl, thieno[2,3-*d*]pyrimidinyl, 1*H*-pyrrolo[2,3-*b*]pyridinyl, 1*H*-pyrrolo[2,3-*c*]pyridinyl, pyrrolo[1,2-*a*]pyrimidinyl, pyrrolo[1,2-*a*]pyrazinyl, pyrrolo[1,2-*b*]pyridazinyl, pyrazolo[1,5-*a*]pyridinyl, pyrazolo[1,5-*a*]pyrazinyl, imidazo[1,2-*a*]pyridinyl, imidazo[1,2-*a*]pyrimidinyl, imidazo[1,2-*c*]pyrimidinyl, imidazo[1,2-*b*]pyridazinyl, imidazo[1,2-*a*]pyrazinyl, imidazo[2,1-*b*][1,3]thiazolyl, imidazo[2,1-*b*][1,3,4]thiadiazolyl, [1,3]oxazolo[4,5-*b*]pyridinyl or quinoxalinyl; wherein, each instance of heteroaryl is optionally substituted with R_6 and R_7 substituents.

[00333] In one embodiment of the use of a compound of Formula (I), R_2 is heteroaryl-amino, wherein heteroaryl is selected from pyridinyl or pyrimidinyl; and, wherein, each instance of heteroaryl is optionally substituted with R_6 and R_7 substituents.

[00334] In another embodiment of the use of a compound of Formula (I), R_2 is heteroaryl-amino selected from pyridin-2-yl-amino, pyridin-3-yl-amino or pyrimidin-2-yl-amino; wherein, each instance of heteroaryl is optionally substituted with R_6 and R_7 substituents.

[00335] In one embodiment of the use of a compound of Formula (I), R_6 is selected from halogen, hydroxy, cyano, nitro, C_{1-8}alkyl, halo-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl, (C_{1-8}alkyl)$_2$-amino or C_{1-8}alkyl-thio; wherein, halogen and halo is selected from fluoro, chloro, bromo or iodo.

[00336] In one embodiment of the use of a compound of Formula (I), R_6 is C_{1-8}alkyl selected from methyl, ethyl, propyl, isopropyl or tert-butyl.

[00337] In another embodiment of the use of a compound of Formula (I), R_6 is C_{1-8}alkyl selected from ethyl, propyl, isopropyl or tert-butyl.

[00338] In one embodiment of the use of a compound of Formula (I), R_6 is C_{2-8}alkenyl selected from ethenyl, allyl or buta-1,3-dienyl.

[00339] In another embodiment of the use of a compound of Formula (I), R_6 is C_{2-8}alkenyl selected from ethenyl or allyl.

[00340] In one embodiment of the use of a compound of Formula (I), R_6 is halo-C_{1-8}alkyl selected from trihalo-methyl, dihalo-methyl, halo-methyl, trihalo-ethyl, dihalo-ethyl, halo-ethyl,

trihalo-propyl, dihalo-propyl or halo-propyl; wherein, halo is selected from fluoro, chloro, bromo or iodo.

[00341] In one embodiment of the use of a compound of Formula (I), R_6 is hydroxy-C_{1-8}alkyl selected from hydroxy-methyl, hydroxy-ethyl, hydroxy-propyl, dihydroxy-propyl, hydroxy-butyl or dihydroxy-butyl.

[00342] In another embodiment of the use of a compound of Formula (I), R_6 is hydroxy-C_{1-8}alkyl selected from hydroxy-methyl, dihydroxy-propyl, hydroxy-butyl or dihydroxy-butyl.

[00343] In one embodiment of the use of a compound of Formula (I), R_6 is C_{1-8}alkoxy selected from methoxy, ethoxy, propoxy or isopropoxy.

[00344] In one embodiment of the use of a compound of Formula (I), R_6 is halo-C_{1-8}alkoxy selected from trihalo-methoxy, dihalo-methoxy, halo-methoxy, trihalo-ethoxy, dihalo-ethoxy, halo-ethoxy, trihalo-propoxy, dihalo-propoxy or halo-propoxy; wherein, halo is selected from fluoro, chloro, bromo or iodo.

[00345] In one embodiment of the use of a compound of Formula (I), R_7 is C_{3-14}cycloalkyl, C_{3-14}cycloalkyl-oxy, aryl, heterocyclyl or heteroaryl; wherein C_{3-14}cycloalkyl is selected from cyclopropyl or cyclobutoxy; wherein aryl is selected from phenyl; wherein heterocyclyl is selected from oxetanyl, pyrrolidinyl or 1,2,3,6-tetrahydropyridinyl; and, wherein heteroaryl is selected from thienyl or pyridinyl.

[00346] In another embodiment of the use of a compound of Formula (I), R_7 is C_{3-14}cycloalkyl or C_{3-14}cycloalkyl-oxy, wherein each instance of C_{3-14}cycloalkyl is selected from cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl or cycloheptyl.

[00347] In another embodiment of the use of a compound of Formula (I), R_7 is C_{3-8}cycloalkyl or C_{3-8}cycloalkyl-oxy, wherein each instance of C_{3-8}cycloalkyl is selected from cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl or cycloheptyl.

[00348] In one embodiment of the use of a compound of Formula (I), R_7 is aryl selected from phenyl.

[00349] In one embodiment of the use of a compound of Formula (I), R_7 is heterocyclyl selected from oxetanyl, pyrrolidinyl or 1,2,3,6-tetrahydropyridinyl.

[00350] In another embodiment of the use of a compound of Formula (I), R_7 is heterocyclyl selected from oxetan-3-yl, pyrrolidin-1-yl or 1,2,3,6-tetrahydropyridin-4-yl.

[00351] In one embodiment of the use of a compound of Formula (I), R_7 is heteroaryl selected from thienyl or pyridinyl.

[00352] In another embodiment of the use of a compound of Formula (I), R_7 is heteroaryl selected from pyridinyl.

[00353] In one embodiment of the use of a compound of Formula (I), R_7 is heteroaryl selected from thien-2-yl or pyridin-2-yl.

[00354] In another embodiment of the use of a compound of Formula (I), R_7 is heteroaryl selected from pyridin-2-yl.

[00355] In one embodiment of the use of a compound of Formula (I), R_c is hydrogen or C_{1-8}alkyl.

[00356] In another embodiment of the use of a compound of Formula (I),

[00357] R_1 is heterocyclyl, heterocyclyl-C_{1-8}alkyl, heterocyclyl-C_{1-8}alkoxy, heterocyclyl-amino, (heterocyclyl)(C_{1-8}alkyl)amino, heterocyclyl-amino-C_{1-8}alkyl, heterocyclyl-C_{1-8}alkyl-amino, (heterocyclyl-C_{1-8}alkyl)$_2$-amino, (heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heterocyclyl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (heterocyclyl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heterocyclyl-oxy, heterocyclyl-carbonyl, heterocyclyl-carbonyl-oxy, C_{3-14}cycloalkyl, aryl-C_{1-8}alkyl-amino, (aryl-C_{1-8}alkyl)$_2$-amino, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, aryl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (aryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heteroaryl, heteroaryl-C_{1-8}alkyl, heteroaryl-C_{1-8}alkoxy, heteroaryl-amino, heteroaryl-C_{1-8}alkyl-amino, (heteroaryl-C_{1-8}alkyl)$_2$-amino, (heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heteroaryl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (heteroaryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl or (heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl; wherein, each instance of heterocyclyl, C_{3-14}cycloalkyl, aryl and heteroaryl is optionally substituted with R_3 and R_4 substituents; and,

[00358] wherein, heterocyclyl is selected from azetidinyl, tetrahydrofuranyl, pyrrolidinyl, piperidinyl, piperazinyl, 1,4-diazepanyl, 1,2,5,6-tetrahydropyridinyl, 1,2,3,6-tetrahydropyridinyl, hexahydropyrrolo[3,4-*b*]pyrrol-(1*H*)-yl, (3a*S*,6a*S*)-hexahydropyrrolo[3,4-*b*]pyrrol-(1*H*)-yl, (3a*R*,6a*R*)-hexahydropyrrolo[3,4-*b*]pyrrol-(1*H*)-yl, hexahydropyrrolo[3,4-*b*]pyrrol-(2*H*)-yl, (3a*S*,6a*S*)-hexahydropyrrolo[3,4-*b*]pyrrol-(2*H*)-yl, hexahydropyrrolo[3,4-*c*]pyrrol-(1*H*)-yl, (3a*R*,6a*S*)-hexahydropyrrolo[3,4-*c*]pyrrol-(1*H*)-yl, octahydro-5*H*-pyrrolo[3,2-*c*]pyridinyl,

octahydro-6*H*-pyrrolo[3,4-*b*]pyridinyl, (4a*R*,7a*R*)-octahydro-6*H*-pyrrolo[3,4-*b*]pyridinyl, (4a*S*,7a*S*)-octahydro-6*H*-pyrrolo[3,4-*b*]pyridinyl, hexahydropyrrolo[1,2-*a*]pyrazin-(2*H*)-one, hexahydropyrrolo[1,2-*a*]pyrazin-(1*H*)-yl, (7*R*,8a*S*)-hexahydropyrrolo[1,2-*a*]pyrazin-(1*H*)-yl, (8a*S*)-hexahydropyrrolo[1,2-*a*]pyrazin-(1*H*)-yl, (8a*R*)-hexahydropyrrolo[1,2-*a*]pyrazin-(1*H*)-yl, (8a*S*)-octahydropyrrolo[1,2-*a*]pyrazin-(1*H*)-yl, (8a*R*)-octahydropyrrolo[1,2-*a*]pyrazin-(1*H*)-yl, octahydro-2H-pyrido[1,2-*a*]pyrazinyl, 3-azabicyclo[3.1.0]hexyl, (1*R*,5*S*)-3-azabicyclo[3.1.0]hexyl, 8-azabicyclo[3.2.1]octyl, (1*R*,5*S*)-8-azabicyclo[3.2.1]octyl, 8-azabicyclo[3.2.1]oct-2-enyl, (1*R*,5*S*)-8-azabicyclo[3.2.1]oct-2-enyl, 9-azabicyclo[3.3.1]nonyl, (1*R*,5*S*)-9-azabicyclo[3.3.1]nonyl, 2,5-diazabicyclo[2.2.1]heptyl, (1*S*,4*S*)-2,5-diazabicyclo[2.2.1]heptyl, 2,5-diazabicyclo[2.2.2]octyl, 3,8-diazabicyclo[3.2.1]octyl, (1*R*,5*S*)-3,8-diazabicyclo[3.2.1]octyl, 1,4-diazabicyclo[3.2.2]nonyl, azaspiro[3.3]heptyl, 2,6-diazaspiro[3.3]heptyl, 2,7-diazaspiro[3.5]nonyl, 5,8-diazaspiro[3.5]nonyl, 2,7-diazaspiro[4.4]nonyl or 6,9-diazaspiro[4.5]decyl.

[00359] In another embodiment of the use of a compound of Formula (I),

[00360] R_2 is aryl, aryl-amino, aryl-amino-carbonyl, heterocyclyl, heteroaryl or heteroaryl-amino;

[00361] wherein, aryl is phenyl;

[00362] wherein, heterocyclyl is selected from 1,2,3,6-tetrahydropyridinyl, 1,3-benzodioxolyl or 2,3-dihydro-1,4-benzodioxinyl;

[00363] wherein, heteroaryl is selected from thienyl, 1*H*-pyrazolyl, 1*H*-imidazolyl, 1,3-thiazolyl, 1,2,4-oxadiazolyl, 1,3,4-oxadiazolyl, pyridinyl, pyrimidinyl, 1*H*-indolyl, 2*H*-indolyl, 1*H*-indazolyl, 2*H*-indazolyl, indolizinyl, benzofuranyl, benzothienyl, 1*H*-benzimidazolyl, 1,3-benzothiazolyl, 1,3-benzoxazolyl, 9*H*-purinyl, furo[3,2-*b*]pyridinyl, furo[3,2-*c*]pyridinyl, furo[2,3-*c*]pyridinyl, thieno[3,2-*c*]pyridinyl, thieno[2,3-*d*]pyrimidinyl, 1*H*-pyrrolo[2,3-*b*]pyridinyl, 1*H*-pyrrolo[2,3-*c*]pyridinyl, pyrrolo[1,2-*a*]pyrimidinyl, pyrrolo[1,2-*a*]pyrazinyl, pyrrolo[1,2-*b*]pyridazinyl, pyrazolo[1,5-*a*]pyridinyl, pyrazolo[1,5-*a*]pyrazinyl, imidazo[1,2-*a*]pyridinyl, imidazo[1,2-*a*]pyrimidinyl, imidazo[1,2-*c*]pyrimidinyl, imidazo[1,2-*b*]pyridazinyl, imidazo[1,2-*a*]pyrazinyl, imidazo[2,1-*b*][1,3]thiazolyl, imidazo[2,1-*b*][1,3,4]thiadiazolyl, [1,3]oxazolo[4,5-*b*]pyridinyl or quinoxalinyl; and, wherein, each instance of aryl, heterocyclyl and heteroaryl is optionally substituted with R_6 and R_7 substituents.

[00364] In another embodiment of the use of a compound of Formula (I),

[00365] R_1 is heterocyclyl, heterocyclyl-C_{1-8}alkyl, heterocyclyl-C_{1-8}alkoxy, heterocyclyl-amino, (heterocyclyl)(C_{1-8}alkyl)amino, heterocyclyl-amino-C_{1-8}alkyl, heterocyclyl-C_{1-8}alkyl-amino, (heterocyclyl-C_{1-8}alkyl)$_2$-amino, (heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heterocyclyl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (heterocyclyl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heterocyclyl-oxy, heterocyclyl-carbonyl, heterocyclyl-carbonyl-oxy, C_{3-14}cycloalkyl, aryl-C_{1-8}alkyl-amino, (aryl-C_{1-8}alkyl)$_2$-amino, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, aryl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (aryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heteroaryl, heteroaryl-C_{1-8}alkyl, heteroaryl-C_{1-8}alkoxy, heteroaryl-amino, heteroaryl-C_{1-8}alkyl-amino, (heteroaryl-C_{1-8}alkyl)$_2$-amino, (heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heteroaryl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (heteroaryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl or (heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl;

[00366] wherein, heterocyclyl is selected from azetidinyl, tetrahydrofuranyl, pyrrolidinyl, piperidinyl, piperazinyl, 1,4-diazepanyl, 1,2,5,6-tetrahydropyridinyl, 1,2,3,6-tetrahydropyridinyl, hexahydropyrrolo[3,4-*b*]pyrrol-(1*H*)-yl, (3a*S*,6a*S*)-hexahydropyrrolo[3,4-*b*]pyrrol-(1*H*)-yl, (3a*R*,6a*R*)-hexahydropyrrolo[3,4-*b*]pyrrol-(1*H*)-yl, hexahydropyrrolo[3,4-*b*]pyrrol-(2*H*)-yl, (3a*S*,6a*S*)-hexahydropyrrolo[3,4-*b*]pyrrol-(2*H*)-yl, hexahydropyrrolo[3,4-*c*]pyrrol-(1*H*)-yl, (3a*R*,6a*S*)-hexahydropyrrolo[3,4-*c*]pyrrol-(1*H*)-yl, octahydro-5*H*-pyrrolo[3,2-*c*]pyridinyl, octahydro-6*H*-pyrrolo[3,4-*b*]pyridinyl, (4a*R*,7a*R*)-octahydro-6*H*-pyrrolo[3,4-*b*]pyridinyl, (4a*S*,7a*S*)-octahydro-6*H*-pyrrolo[3,4-*b*]pyridinyl, hexahydropyrrolo[1,2-*a*]pyrazin-(2*H*)-one, hexahydropyrrolo[1,2-*a*]pyrazin-(1*H*)-yl, (7*R*,8a*S*)-hexahydropyrrolo[1,2-*a*]pyrazin-(1*H*)-yl, (8a*S*)-hexahydropyrrolo[1,2-*a*]pyrazin-(1*H*)-yl, (8a*R*)-hexahydropyrrolo[1,2-*a*]pyrazin-(1*H*)-yl, (8a*S*)-octahydropyrrolo[1,2-*a*]pyrazin-(1*H*)-yl, (8a*R*)-octahydropyrrolo[1,2-*a*]pyrazin-(1*H*)-yl, octahydro-2H-pyrido[1,2-*a*]pyrazinyl, 3-azabicyclo[3.1.0]hexyl, (1*R*,5*S*)-3-azabicyclo[3.1.0]hexyl, 8-azabicyclo[3.2.1]octyl, (1*R*,5*S*)-8-azabicyclo[3.2.1]octyl, 8-azabicyclo[3.2.1]oct-2-enyl, (1*R*,5*S*)-8-azabicyclo[3.2.1]oct-2-enyl, 9-azabicyclo[3.3.1]nonyl, (1*R*,5*S*)-9-azabicyclo[3.3.1]nonyl, 2,5-diazabicyclo[2.2.1]heptyl, (1*S*,4*S*)-2,5-diazabicyclo[2.2.1]heptyl, 2,5-diazabicyclo[2.2.2]octyl, 3,8-diazabicyclo[3.2.1]octyl, (1*R*,5*S*)-3,8-diazabicyclo[3.2.1]octyl, 1,4-diazabicyclo[3.2.2]nonyl, azaspiro[3.3]heptyl,

2,6-diazaspiro[3.3]heptyl, 2,7-diazaspiro[3.5]nonyl, 5,8-diazaspiro[3.5]nonyl, 2,7-diazaspiro[4.4]nonyl or 6,9-diazaspiro[4.5]decyl; and, wherein, each instance of heterocyclyl, C_{3-14}cycloalkyl, aryl and heteroaryl is optionally substituted with R_3 and R_4 substituents; and

[00367] R_2 is aryl, aryl-amino, aryl-amino-carbonyl, heterocyclyl, heteroaryl or heteroaryl-amino;

[00368] wherein, heterocyclyl is selected from 1,2,3,6-tetrahydropyridin-4-yl, 1,3-benzodioxol-5-yl or 2,3-dihydro-1,4-benzodioxin-6-yl;

[00369] wherein, heteroaryl is selected from thienyl, 1*H*-pyrazolyl, 1*H*-imidazolyl, 1,3-thiazolyl, 1,2,4-oxadiazolyl, 1,3,4-oxadiazolyl, pyridinyl, pyrimidinyl, 1*H*-indolyl, 2*H*-indolyl, 1*H*-indazolyl, 2*H*-indazolyl, indolizinyl, benzofuranyl, benzothienyl, 1*H*-benzimidazolyl, 1,3-benzothiazolyl, 1,3-benzoxazolyl, 9*H*-purinyl, furo[3,2-*b*]pyridinyl, furo[3,2-*c*]pyridinyl, furo[2,3-*c*]pyridinyl, thieno[3,2-*c*]pyridinyl, thieno[2,3-*d*]pyrimidinyl, 1*H*-pyrrolo[2,3-*b*]pyridinyl, 1*H*-pyrrolo[2,3-*c*]pyridinyl, pyrrolo[1,2-*a*]pyrimidinyl, pyrrolo[1,2-*a*]pyrazinyl, pyrrolo[1,2-*b*]pyridazinyl, pyrazolo[1,5-*a*]pyridinyl, pyrazolo[1,5-*a*]pyrazinyl, imidazo[1,2-*a*]pyridinyl, imidazo[1,2-*a*]pyrimidinyl, imidazo[1,2-*c*]pyrimidinyl, imidazo[1,2-*b*]pyridazinyl, imidazo[1,2-*a*]pyrazinyl, imidazo[2,1-*b*][1,3]thiazolyl, imidazo[2,1-*b*][1,3,4]thiadiazolyl, [1,3]oxazolo[4,5-*b*]pyridinyl or quinoxalinyl; and, wherein, each instance of heterocyclyl and heteroaryl is optionally substituted with R_6 and R_7 substituents.

[00370] In another embodiment of the use of a compound of Formula (I),

[00371] R_1 is C_{1-8}alkyl, amino, C_{1-8}alkyl-amino, $(C_{1-8}alkyl)_2$-amino, C_{1-8}alkoxy-C_{1-8}alkyl-amino, $(C_{1-8}alkoxy\text{-}C_{1-8}alkyl)_2$-amino, $(C_{1-8}alkoxy\text{-}C_{1-8}alkyl)(C_{1-8}alkyl)$amino, amino-$C_{1-8}$alkyl, C_{1-8}alkyl-amino-C_{1-8}alkyl, $(C_{1-8}alkyl)_2$-amino-C_{1-8}alkyl, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkyl, $(C_{1-8}alkoxy\text{-}C_{1-8}alkyl)_2$-amino-$C_{1-8}$alkyl, $(C_{1-8}alkoxy\text{-}C_{1-8}alkyl)(C_{1-8}alkyl)$amino-$C_{1-8}$alkyl, amino-$C_{1-8}$alkyl-amino, $(amino\text{-}C_{1-8}alkyl)_2$-amino, $(amino\text{-}C_{1-8}alkyl)(C_{1-8}alkyl)$amino, C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, $(C_{1-8}alkyl\text{-}amino\text{-}C_{1-8}alkyl)_2$-amino, $(C_{1-8}alkyl\text{-}amino\text{-}C_{1-8}alkyl)(C_{1-8}alkyl)$amino, $(C_{1-8}alkyl)_2$-amino-C_{1-8}alkyl-amino, $[(C_{1-8}alkyl)_2\text{-}amino\text{-}C_{1-8}alkyl](C_{1-8}alkyl)$amino, amino-$C_{1-8}$alkoxy, C_{1-8}alkyl-amino-C_{1-8}alkoxy, $(C_{1-8}alkyl)_2$-amino-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy,

(C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkoxy, amino-C_{2-8}alkenyl, C_{1-8}alkyl-amino-C_{2-8}alkenyl, (C_{1-8}alkyl)$_2$-amino-C_{2-8}alkenyl, amino-C_{2-8}alkynyl, C_{1-8}alkyl-amino-C_{2-8}alkynyl, (C_{1-8}alkyl)$_2$-amino-C_{2-8}alkynyl, halo-C_{1-8}alkyl-amino, (halo-C_{1-8}alkyl)$_2$-amino, (halo-C_{1-8}alkyl)(C_{1-8}alkyl)amino, hydroxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkoxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkoxy, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl-amino, [(hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino or [(hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl](C_{1-8}alkyl)amino; and

[00372] R_2 is aryl, aryl-amino, aryl-amino-carbonyl, heterocyclyl, heteroaryl or heteroaryl-amino, wherein, each instance of aryl, heterocyclyl and heteroaryl is optionally substituted with R_6 and R_7 substituents.

[00373] In another embodiment of the use of a compound of Formula (I),

[00374] R_1 is heterocyclyl, heterocyclyl-C_{1-8}alkyl, heterocyclyl-C_{1-8}alkoxy, heterocyclyl-amino, (heterocyclyl)(C_{1-8}alkyl)amino, heterocyclyl-amino-C_{1-8}alkyl, heterocyclyl-C_{1-8}alkyl-amino, (heterocyclyl-C_{1-8}alkyl)$_2$-amino, (heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heterocyclyl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (heterocyclyl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heterocyclyl-oxy, heterocyclyl-carbonyl, heterocyclyl-carbonyl-oxy, C_{3-14}cycloalkyl, aryl-C_{1-8}alkyl-amino, (aryl-C_{1-8}alkyl)$_2$-amino, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, aryl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (aryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heteroaryl, heteroaryl-C_{1-8}alkyl, heteroaryl-C_{1-8}alkoxy, heteroaryl-amino, heteroaryl-C_{1-8}alkyl-amino, (heteroaryl-C_{1-8}alkyl)$_2$-amino, (heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heteroaryl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (heteroaryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl or

(heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl; wherein, each instance of heterocyclyl, C_{3-14}cycloalkyl, aryl and heteroaryl is optionally substituted with R_3 and R_4 substituents; and

[00375] R_2 is aryl, aryl-amino, aryl-amino-carbonyl, heterocyclyl, heteroaryl or heteroaryl-amino, wherein, each instance of aryl, heterocyclyl and heteroaryl is optionally substituted with R_6 and R_7 substituents.

[00376] In another embodiment of the use of a compound of Formula (I),

[00377] R_1 is heterocyclyl, heterocyclyl-C_{1-8}alkyl, heterocyclyl-C_{1-8}alkoxy, heterocyclyl-amino, (heterocyclyl)(C_{1-8}alkyl)amino, heterocyclyl-amino-C_{1-8}alkyl, heterocyclyl-C_{1-8}alkyl-amino, (heterocyclyl-C_{1-8}alkyl)$_2$-amino, (heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heterocyclyl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (heterocyclyl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heterocyclyl-oxy, heterocyclyl-carbonyl or heterocyclyl-carbonyl-oxy; wherein, each instance of heterocyclyl is optionally substituted with R_3 and R_4 substituents; and

[00378] R_2 is aryl, aryl-amino, aryl-amino-carbonyl, heterocyclyl, heteroaryl or heteroaryl-amino, wherein, each instance of aryl, heterocyclyl and heteroaryl is optionally substituted with R_6 and R_7 substituents.

[00379] In another embodiment of the use of a compound of Formula (I),

[00380] R_1 is heterocyclyl optionally substituted with R_3 and R_4 substituents; and

[00381] R_2 is aryl, aryl-amino, aryl-amino-carbonyl, heterocyclyl, heteroaryl or heteroaryl-amino, wherein, each instance of aryl, heterocyclyl and heteroaryl is optionally substituted with R_6 and R_7 substituents.

[00382] In another embodiment of the use of a compound of Formula (I),

[00383] R_1 is C_{3-14}cycloalkyl optionally substituted with R_3 and R_4 substituents; and

[00384] R_2 is aryl, aryl-amino, aryl-amino-carbonyl, heterocyclyl, heteroaryl or heteroaryl-amino, wherein, each instance of aryl, heterocyclyl and heteroaryl is optionally substituted with R_6 and R_7 substituents.

[00385] In another embodiment of the use of a compound of Formula (I),

[00386] R_1 is aryl-C_{1-8}alkyl-amino, (aryl-C_{1-8}alkyl)$_2$-amino, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, aryl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (aryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl or (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl; wherein, each instance of aryl is optionally substituted with R_3 and R_4 substituents; and

[00387] R_2 is aryl, aryl-amino, aryl-amino-carbonyl, heterocyclyl, heteroaryl or heteroaryl-amino, wherein, each instance of aryl, heterocyclyl and heteroaryl is optionally substituted with R_6 and R_7 substituents.

[00388] In another embodiment of the use of a compound of Formula (I),

[00389] R_1 is aryl-C_{1-8}alkyl-amino optionally substituted with R_3 and R_4 substituents; and

[00390] R_2 is aryl, aryl-amino, aryl-amino-carbonyl, heterocyclyl, heteroaryl or heteroaryl-amino, wherein, each instance of aryl, heterocyclyl and heteroaryl is optionally substituted with R_6 and R_7 substituents.

[00391] In another embodiment of the use of a compound of Formula (I),

[00392] R_1 is heteroaryl, heteroaryl-C_{1-8}alkyl, heteroaryl-C_{1-8}alkoxy, heteroaryl-amino, heteroaryl-C_{1-8}alkyl-amino, (heteroaryl-C_{1-8}alkyl)$_2$-amino, (heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heteroaryl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (heteroaryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl or (heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl; wherein, each instance of heterocyclyl, C_{3-14}cycloalkyl, aryl and heteroaryl is optionally substituted with R_3 and R_4 substituents; and

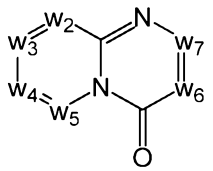
[00393] R_2 is aryl, aryl-amino, aryl-amino-carbonyl, heterocyclyl, heteroaryl or heteroaryl-amino, wherein, each instance of aryl, heterocyclyl and heteroaryl is optionally substituted with R_6 and R_7 substituents.

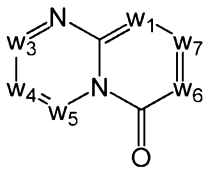
[00394] In another embodiment of the use of a compound of Formula (I),

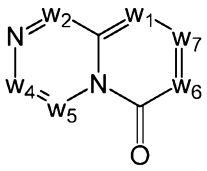
[00395] R_1 is heteroaryl optionally substituted with R_3 and R_4 substituents; and

[00396] R_2 is aryl, aryl-amino, aryl-amino-carbonyl, heterocyclyl, heteroaryl or heteroaryl-amino, wherein, each instance of aryl, heterocyclyl and heteroaryl is optionally substituted with R_6 and R_7 substituents.

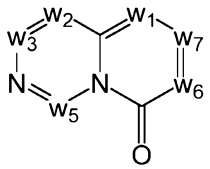
[00397] In one embodiment, the compound of Formula (I), used in a method disclosed herein, is a compound selected from Formula (II), Formula (III), Formula (IV), Formula (V), Formula (VI), Formula (VII), Formula (VIII), Formula (IX), Formula (X), Formula (XI), Formula (XII), Formula (XIII) or Formula (XIV):



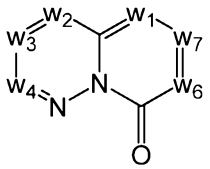




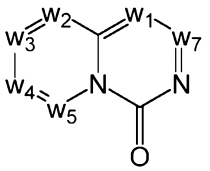
(II),



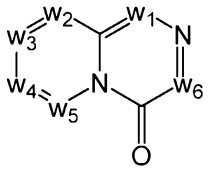
(III),



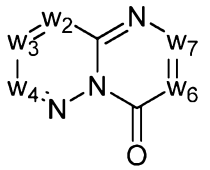
(IV),



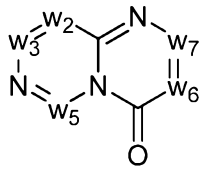
(V),



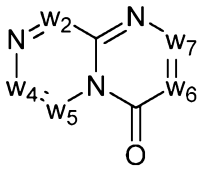
(VI),



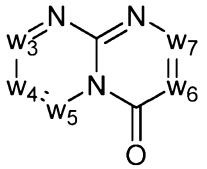
(VII),



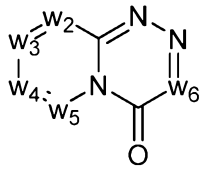
(VIII),



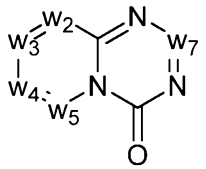
(IX),



(X),



(XI),



(XII),

(XIII), or

(XIV)

[00398] or a form thereof.

[00399] In an embodiment of the use of the compound of Formula (I), w_3 is C-R_1, w_6 is C-R_2, w_1, w_4, w_5 and w_7 are independently C-R_a or N and w_2 is C-R_b or N.

[00400] In another embodiment of the use of the compound of Formula (I), w_3 is C-R_2, w_6 is C-R_1, w_1, w_4, w_5 and w_7 are independently C-R_a or N and w_2 is C-R_b or N.

[00401] In another embodiment of the use of the compound of Formula (I), w_4 is C-R_1, w_7 is C-R_2, w_1, w_3 and w_5 are independently C-R_a or N, w_2 is C-R_b or N and w_6 is C-R_c or N.

[00402] In another embodiment of the use of the compound of Formula (I), w_4 is C-R_2, w_7 is C-R_1, w_1, w_3 and w_5 are independently C-R_a or N, w_2 is C-R_b or N and w_6 is C-R_c or N.

[00403] In an embodiment of the use of the compound of Formula (II), w_3 is C-R_1, w_6 is C-R_2, w_4, w_5 and w_7 are independently C-R_a or N and w_2 is C-R_b or N.

[00404] In another embodiment of the use of the compound of Formula (II), w_3 is C-R_2, w_6 is C-R_1, w_4, w_5 and w_7 are independently C-R_a or N and w_2 is C-R_b or N.

[00405] In another embodiment of the use of the compound of Formula (II), w_4 is C-R_1, w_7 is C-R_2, w_3 and w_5 are independently C-R_a or N, w_2 is C-R_b or N and w_6 is C-R_c or N.

[00406] In another embodiment of the use of the compound of Formula (II), w_4 is C-R_2, w_7 is C-R_1, w_3 and w_5 are independently C-R_a or N, w_2 is C-R_b or N and w_6 is C-R_c or N.

[00407] In an embodiment of the use of the compound of Formula (III), w_3 is C-R_1, w_6 is C-R_2 and w_1, w_4, w_5 and w_7 are independently C-R_a or N.

[00408] In another embodiment of the use of the compound of Formula (III), w_3 is C-R_2, w_6 is C-R_1 and w_1, w_4, w_5 and w_7 are independently C-R_a or N.

[00409] In another embodiment of the use of the compound of Formula (III), w_4 is C-R_1, w_7 is C-R_2, w_1, w_3 and w_5 are independently C-R_a or N and w_6 is C-R_c or N.

[00410] In another embodiment of the use of the compound of Formula (III), w_4 is C-R_2, w_7 is C-R_1, w_1, w_3 and w_5 are independently C-R_a or N and w_6 is C-R_c or N.

[00411] In an embodiment of the use of the compound of Formula (IV), w_4 is C-R_1, w_7 is C-R_2, w_1 and w_5 are independently C-R_a or N, w_2 is C-R_b or N and w_6 is C-R_c or N.

[00412] In another embodiment of the use of the compound of Formula (IV), w_4 is C-R_2, w_7 is C-R_1, w_1 and w_5 are independently C-R_a or N, w_2 is C-R_b or N and w_6 is C-R_c or N.

[00413] In an embodiment of the use of the compound of Formula (V), w_3 is C-R_1, w_6 is C-R_2, w_1, w_5 and w_7 are independently C-R_a or N and w_2 is C-R_b or N.

[00414] In another embodiment of the use of the compound of Formula (V), w_3 is C-R_2, w_6 is C-R_1, w_1, w_5 and w_7 are independently C-R_a or N and w_2 is C-R_b or N.

[00415] In an embodiment of the use of the compound of Formula (VI), w_3 is C-R_1, w_6 is C-R_2, w_1, w_4 and w_7 are independently C-R_a or N and w_2 is C-R_b or N.

[00416] In another embodiment of the use of the compound of Formula (VI), w_3 is C-R_2, w_6 is C-R_1, w_1, w_4 and w_7 are independently C-R_a or N and w_2 is C-R_b or N.

[00417] In another embodiment of the use of the compound of Formula (VI), w_4 is C-R_1, w_7 is C-R_2, w_1 and w_3 are independently C-R_a or N, w_2 is C-R_b or N and w_6 is C-R_c or N.

[00418] In another embodiment of the use of the compound of Formula (VI), w_4 is C-R_2, w_7 is C-R_1, w_1 and w_3 are independently C-R_a or N, w_2 is C-R_b or N and w_6 is C-R_c or N.

[00419] In another embodiment of the use of the compound of Formula (VII), w_4 is C-R_1, w_7 is C-R_2, w_1, w_3 and w_5 are C-R_a or N and w_2 is C-R_b or N.

[00420] In another embodiment of the use of the compound of Formula (VII), w_4 is C-R_2, w_7 is C-R_1, w_1, w_3 and w_5 are C-R_a or N and w_2 is C-R_b or N.

[00421] In another embodiment of the use of the compound of Formula (VIII), w_3 is C-R_1, w_6 is C-R_2, w_1, w_4 and w_5 are C-R_a or N and w_2 is C-R_b or N.

[00422] In another embodiment of the use of the compound of Formula (VIII), w_3 is C-R_2, w_6 is C-R_1, w_1, w_4 and w_5 are C-R_a or N and w_2 is C-R_b or N.

[00423] In an embodiment of the use of the compound of Formula (IX), w_3 is C-R_1, w_6 is C-R_2, w_4 and w_7 are independently C-R_a or N and w_2 is C-R_b or N.

[00424] In another embodiment of the use of the compound of Formula (IX), w_3 is C-R_2, w_6 is C-R_1, w_4 and w_7 are independently C-R_a or N and w_2 is C-R_b or N.

[00425] In another embodiment of the use of the compound of Formula (IX), w_4 is C-R_1, w_7 is C-R_2, w_2 is C-R_b or N, w_3 is C-R_a or N and w_6 is C-R_c or N.

[00426] In another embodiment of the use of the compound of Formula (IX), w_4 is C-R_2, w_7 is C-R_1, w_2 is C-R_b or N, w_3 is C-R_a or N and w_6 is C-R_c or N.

[00427] In an embodiment of the use of the compound of Formula (X), w_3 is C-R_1, w_6 is C-R_2, w_2 is C-R_b or N and w_5 and w_7 are independently C-R_a or N.

[00428] In another embodiment of the use of the compound of Formula (X), w_3 is C-R_2, w_6 is C-R_1, w_2 is C-R_b or N and w_5 and w_7 are independently C-R_a or N.

[00429] In an embodiment of the use of the compound of Formula (XI), w_4 is C-R_1, w_7 is C-R_2, w_2 is C-R_b or N, w_5 is C-R_a or N and w_6 is C-R_c or N.

[00430] In another embodiment of the use of the compound of Formula (XI), w_4 is C-R_2, w_7 is C-R_1, w_2 is C-R_b or N, w_5 is C-R_a or N and w_6 is C-R_c or N.

[00431] In an embodiment of the use of the compound of Formula (XII), w_3 is C-R_1, w_6 is C-R_2 and w_4, w_5 and w_7 are independently C-R_a or N.

[00432] In another embodiment of the use of the compound of Formula (XII), w_3 is C-R_2, w_6 is C-R_1 and w_4, w_5 and w_7 are independently C-R_a or N.

[00433] In another embodiment of the use of the compound of Formula (XII), w_4 is C-R_1, w_7 is C-R_2, w_3 and w_5 are independently C-R_a or N and w_6 is C-R_c or N.

[00434] In another embodiment of the use of the compound of Formula (XII), w_4 is C-R_2, w_7 is C-R_1, w_3 and w_5 are independently C-R_a or N and w_6 is C-R_c or N.

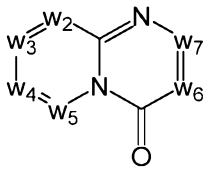
[00435] In an embodiment of the use of the compound of Formula (XIII), w_3 is C-R_1, w_6 is C-R_2, w_2 is C-R_b or N and w_4 and w_5 are independently C-R_a or N.

[00436] In another embodiment of the use of the compound of Formula (XIII), w_3 is C-R_2, w_6 is C-R_1, w_2 is C-R_b or N and w_4 and w_5 are independently C-R_a or N.

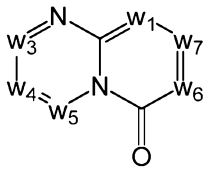
[00437] In an embodiment of the use of the compound of Formula (XIV), w_4 is C-R_1, w_7 is C-R_2, w_2 is C-R_b or N and w_3 and w_5 are independently C-R_a or N.

[00438] In another embodiment of the use of the compound of Formula (XIV), w_4 is C-R_2, w_7 is C-R_1, w_2 is C-R_b or N and w_3 and w_5 are independently C-R_a or N.

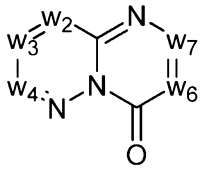
[00439] In another embodiment, the compound of Formula (I) used in a method disclosed herein is a compound selected from Formula (II), Formula (III), Formula (IX), Formula (XI) or Formula (XII):



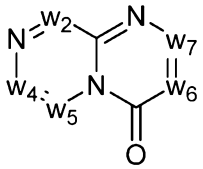
(II),



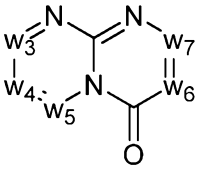
(III),



(IX),



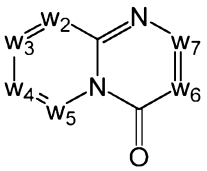
(XI), or



(XII)

[00440] or a form thereof.

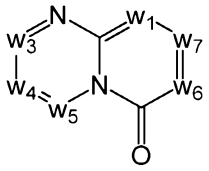
[00441] In another embodiment, the compound of Formula (I) used in a method disclosed herein is a compound of Formula (II):



(II)

[00442] or a form thereof.

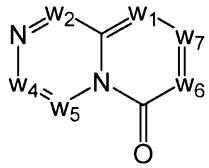
[00443] In another embodiment, the compound of Formula (I) used in a method disclosed herein is a compound of Formula (III):



(III)

[00444] or a form thereof.

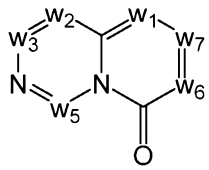
[00445] In another embodiment, the compound of Formula (I) used in a method disclosed herein is a compound of Formula (IV):



(IV)

[00446] or a form thereof.

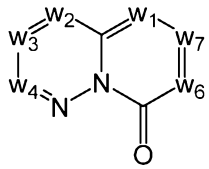
[00447] In another embodiment, the compound of Formula (I) used in a method disclosed herein is a compound of Formula (V):



(V)

[00448] or a form thereof.

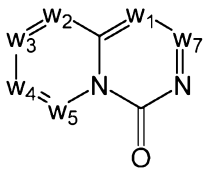
[00449] In another embodiment, the compound of Formula (I) used in a method disclosed herein is a compound of Formula (VI):



(VI)

[00450] or a form thereof.

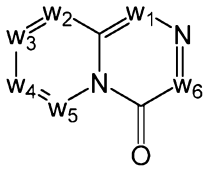
[00451] In another embodiment, the compound of Formula (I) used in a method disclosed herein is a compound of Formula (VII):



(VII)

[00452] or a form thereof.

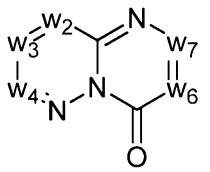
[00453] In another embodiment, the compound of Formula (I) used in a method disclosed herein is a compound of Formula (VIII):



(VIII)

[00454] or a form thereof.

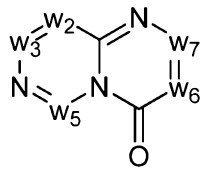
[00455] In another embodiment, the compound of Formula (I) used in a method disclosed herein is a compound of Formula (IX):



(IX)

[00456] or a form thereof.

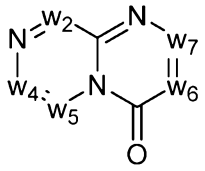
[00457] In another embodiment, the compound of Formula (I) used in a method disclosed herein is a compound of Formula (X):



(X)

[00458] or a form thereof.

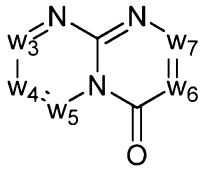
[00459] In another embodiment, the compound of Formula (I) used in a method disclosed herein is a compound of Formula (XI):



(XI)

[00460] or a form thereof.

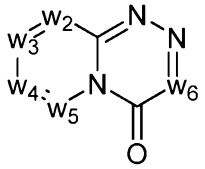
[00461] In another embodiment, the compound of Formula (I) used in a method disclosed herein is a compound of Formula (XII):



(XII)

[00462] or a form thereof.

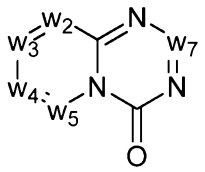
[00463] In another embodiment, the compound of Formula (I) used in a method disclosed herein is a compound of Formula (XIII):



(XIII)

[00464] or a form thereof.

[00465] In another embodiment, the compound of Formula (I) used in a method disclosed herein is a compound of Formula (XIV):

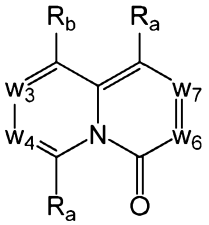


(XIV)

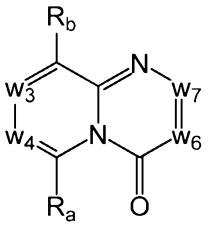
[00466] or a form thereof.

[00467] In one embodiment, the compound of Formula (I), Formula (II), Formula (III), Formula (IV), Formula (V), Formula (VI), Formula (VII), Formula (VIII), Formula (IX), Formula (X), Formula (XI), Formula (XII), Formula (XIII) or Formula (XIV) used in a method disclosed herein is a compound selected from Formula (Ia), Formula (IIa), Formula (IIIa),

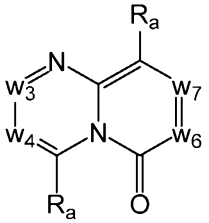
Formula (IVa), Formula (Va), Formula (VIa), Formula (VIIa), Formula (VIIIa), Formula (IXa), Formula (Xa), Formula (XIa), Formula (XIIa), Formula (XIIIa) or Formula (XIVa), respectively:



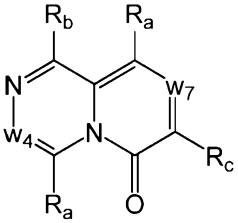
(Ia),



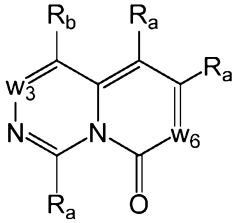
(IIa),



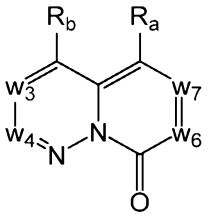
(IIIa),



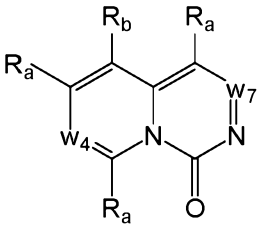
(IVa),



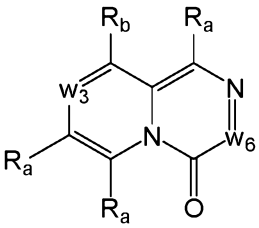
(Va),



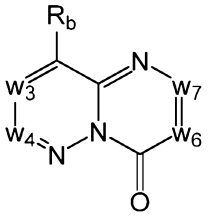
(VIa),



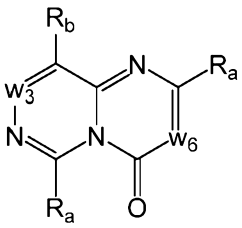
(VIIa),



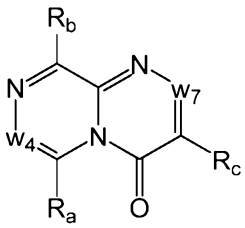
(VIIIa),



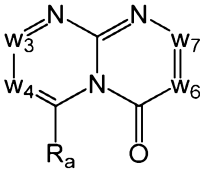
(IXa),



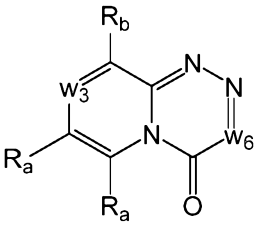
(Xa),



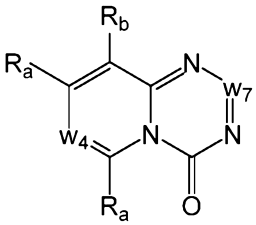
(XIa),



(XIIa),



(XIIIa), or



(XIVa)

[00468] or a form thereof.

[00469] In an embodiment of the use of the compound of Formula (Ia), one of w_3, w_4, w_6 and w_7 is C-R_1 and one other of w_3, w_4, w_6 and w_7 is C-R_2, provided that,

[00470] when w_3 is C-R_1, then w_6 is C-R_2 and w_4 and w_7 are independently C-R_a or N; or,

[00471] when w_3 is C-R_2, then w_6 is C-R_1 and w_4 and w_7 are independently C-R_a or N; or,

[00472] when w_4 is C-R_1, then w_7 is C-R_2 and w_3 is C-R_a or N and w_6 is C-R_c or N; or,

[00473] when w_4 is C-R_2, then w_7 is C-R_1 and w_3 is C-R_a or N and w_6 is C-R_c or N.

[00474] In an embodiment of the use of the compound of Formula (IIa), one of w_3, w_4, w_6 and w_7 is C-R_1 and one other of w_3, w_4, w_6 and w_7 is C-R_2, provided that,

[00475] when w_3 is C-R_1, then w_6 is C-R_2 and w_4 and w_7 are independently C-R_a or N; or,

[00476] when w_3 is C-R_2, then w_6 is C-R_1 and w_4 and w_7 are independently C-R_a or N; or,

[00477] when w_4 is C-R_1, then w_7 is C-R_2 and w_3 is C-R_a or N and w_6 is C-R_c or N; or,

[00478] when w_4 is C-R_2, then w_7 is C-R_1 and w_3 is C-R_a or N and w_6 is C-R_c or N.

[00479] In an embodiment of the use of the compound of Formula (IIIa), one of w_3, w_4, w_6 and w_7 is C-R_1 and one other of w_3, w_4, w_6 and w_7 is C-R_2, provided that,

[00480] when w_3 is C-R_1, then w_6 is C-R_2 and w_4 and w_7 are independently C-R_a or N; or,

[00481] when w_3 is C-R_2, then w_6 is C-R_1 and w_4 and w_7 are independently C-R_a or N; or,

[00482] when w_4 is C-R_1, then w_7 is C-R_2 and w_3 is C-R_a or N and w_6 is C-R_c or N; or,

[00483] when w_4 is C-R_2, then w_7 is C-R_1 and w_3 is C-R_a or N and w_6 is C-R_c or N.

[00484] In an embodiment of the use of the compound of Formula (IVa), one of w_4 and w_7 is C-R_1 and the other is C-R_2, provided that, when w_4 is C-R_1, then w_7 is C-R_2; or, when w_4 is C-R_2, then w_7 is C-R_1.

[00485] In an embodiment of the use of the compound of Formula (Va), one of w_3 and w_6 is C-R_1 and the other is C-R_2, provided that, when w_3 is C-R_1, then w_6 is C-R_2; or, when w_3 is C-R_2, then w_6 is C-R_1.

[00486] In an embodiment of the use of the compound of Formula (VIa), one of w_3, w_4, w_6 and w_7 is C-R_1 and one other of w_3, w_4, w_6 and w_7 is C-R_2, provided that,

[00487] when w_3 is C-R_1, then w_6 is C-R_2 and w_4 and w_7 are independently C-R_a or N; or,

[00488] when w_3 is C-R_2, then w_6 is C-R_1 and w_4 and w_7 are independently C-R_a or N; or,

[00489] when w_4 is C-R_1, then w_7 is C-R_2 and w_3 is C-R_a or N and w_6 is C-R_c or N; or,

[00490] when w_4 is C-R_2, then w_7 is C-R_1 and w_3 is C-R_a or N and w_6 is C-R_c or N.

[00491] In an embodiment of the use of the compound of Formula (VIIa), one of w_4 and w_7 is C-R_1 and the other is C-R_2, provided that, when w_4 is C-R_1, then w_7 is C-R_2; or, when w_4 is C-R_2, then w_7 is C-R_1.

[00492] In an embodiment of the use of the compound of Formula (VIIIa), one of w_3 and w_6 is C-R_1 and the other is C-R_2, provided that, when w_3 is C-R_1, then w_6 is C-R_2; or, when w_3 is C-R_2, then w_6 is C-R_1.

[00493] In an embodiment of the use of the compound of Formula (IXa), one of w_3, w_4, w_6 and w_7 is C-R_1 and one other of w_3, w_4, w_6 and w_7 is C-R_2, provided that,

[00494] when w_3 is C-R_1, then w_6 is C-R_2 and w_4 and w_7 are independently C-R_a or N; or,

[00495] when w_3 is C-R_2, then w_6 is C-R_1 and w_4 and w_7 are independently C-R_a or N; or,

[00496] when w_4 is C-R_1, then w_7 is C-R_2 and w_3 is C-R_a or N and w_6 is C-R_c or N; or,

[00497] when w_4 is C-R_2, then w_7 is C-R_1 and w_3 is C-R_a or N and w_6 is C-R_c or N.

[00498] In an embodiment of the use of the compound of Formula (Xa), one of w_3 and w_6 is C-R_1 and the other is C-R_2, provided that, when w_3 is C-R_1, then w_6 is C-R_2; or, when w_3 is C-R_2, then w_6 is C-R_1.

[00499] In an embodiment of the use of the compound of Formula (XIa), one of w_4 and w_7 is C-R_1 and the other is C-R_2, provided that, when w_4 is C-R_1, then w_7 is C-R_2; or, when w_4 is C-R_2, then w_7 is C-R_1.

[00500] In an embodiment of the use of the compound of Formula (XIIa), one of w_3, w_4, w_6 and w_7 is C-R_1 and one other of w_3, w_4, w_6 and w_7 is C-R_2, provided that,

[00501] when w_3 is C-R_1, then w_6 is C-R_2 and w_4 and w_7 are independently C-R_a or N; or,

[00502] when w_3 is C-R_2, then w_6 is C-R_1 and w_4 and w_7 are independently C-R_a or N; or,

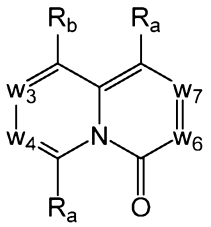
[00503] when w_4 is C-R_1, then w_7 is C-R_2 and w_3 is C-R_a or N and w_6 is C-R_c or N; or,

[00504] when w_4 is C-R_2, then w_7 is C-R_1 and w_3 is C-R_a or N and w_6 is C-R_c or N.

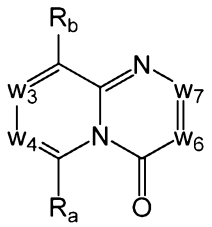
[00505] In an embodiment of the use of the compound of Formula (XIIIa), one of w_3 and w_6 is C-R_1 and the other is C-R_2, provided that, when w_3 is C-R_1, then w_6 is C-R_2; or, when w_3 is C-R_2, then w_6 is C-R_1.

[00506] In an embodiment of the use of the compound of Formula (XIVa), one of w_4 and w_7 is C-R_1 and the other is C-R_2, provided that, when w_4 is C-R_1, then w_7 is C-R_2; or, when w_4 is C-R_2, then w_7 is C-R_1.

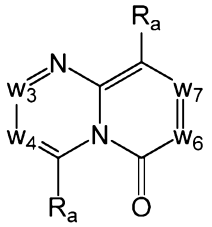
[00507] In another embodiment, the compound of Formula (I), Formula (II), Formula (III), Formula (IX), Formula (XI) or Formula (XII), used in a method disclosed herein, is a compound selected from Formula (Ia), Formula (IIa), Formula (IIIa), Formula (IXa), Formula (XIa) or Formula (XIIa), respectively:



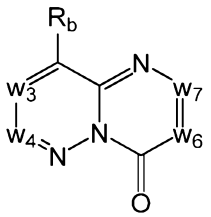
(Ia),



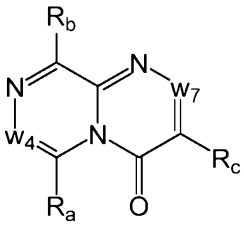
(IIa),



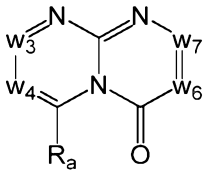
(IIIa),



(IXa),



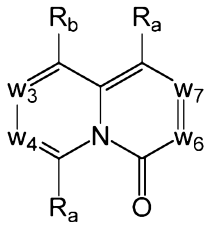
(XIa), or



(XIIa)

[00508] or a form thereof.

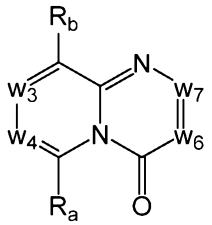
[00509] In another embodiment, the compound of Formula (I) used in a method disclosed herein is a compound of Formula (Ia):



(Ia)

[00510] or a form thereof.

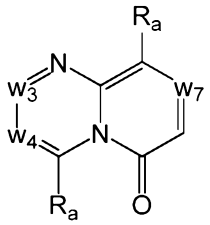
[00511] In another embodiment, the compound of Formula (II) used in a method disclosed herein is a compound of Formula (IIa):



(IIa)

[00512] or a form thereof.

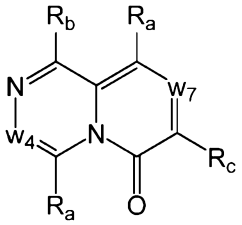
[00513] In another embodiment, the compound of Formula (III) used in a method disclosed herein is a compound of Formula (IIIa):



(IIIa)

[00514] or a form thereof.

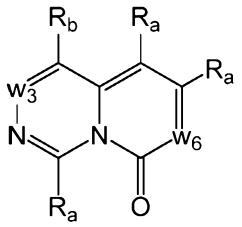
[00515] In another embodiment, the compound of Formula (IV) used in a method disclosed herein is a compound of Formula (IVa):



(IVa)

[00516] or a form thereof.

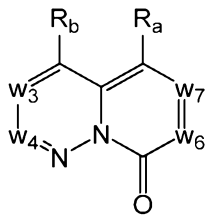
[00517] In another embodiment, the compound of Formula (V) used in a method disclosed herein is a compound of Formula (Va):



(Va)

[00518] or a form thereof.

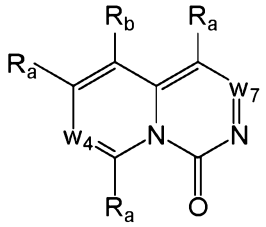
[00519] In another embodiment, the compound of Formula (VI) used in a method disclosed herein is a compound of Formula (VIa):



(VIa)

[00520] or a form thereof.

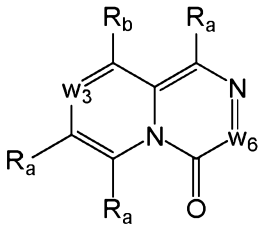
[00521] In another embodiment, the compound of Formula (VII) used in a method disclosed herein is a compound of Formula (VIIa):



(VIIa)

[00522] or a form thereof.

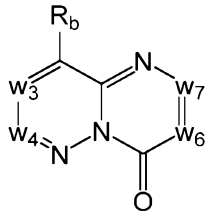
[00523] In another embodiment, the compound of Formula (VIII) used in a method disclosed herein is a compound of Formula (VIIIa):



(VIIIa)

[00524] or a form thereof.

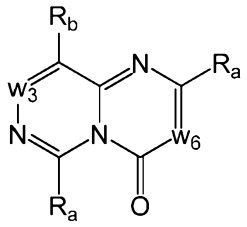
[00525] In another embodiment, the compound of Formula (IX) used in a method disclosed herein is a compound of Formula (IXa):



(IXa)

[00526] or a form thereof.

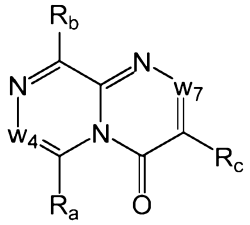
[00527] In another embodiment, the compound of Formula (X) used in a method disclosed herein is a compound of Formula (Xa):



(Xa)

[00528] or a form thereof.

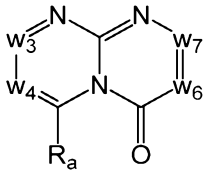
[00529] In another embodiment, the compound of Formula (XI) used in a method disclosed herein is a compound of Formula (XIa):



(XIa)

[00530] or a form thereof.

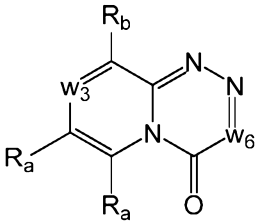
[00531] In another embodiment, the compound of Formula (XII) used in a method disclosed herein is a compound of Formula (XIIa):



(XIIa)

[00532] or a form thereof.

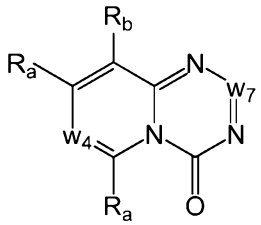
[00533] In another embodiment, the compound of Formula (XIII) used in a method disclosed herein is a compound of Formula (XIIIa):



(XIIIa)

[00534] or a form thereof.

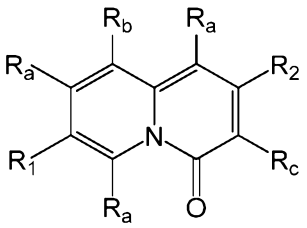
[00535] In another embodiment, the compound of Formula (XIV) used in a method disclosed herein is a compound of Formula (XIVa):



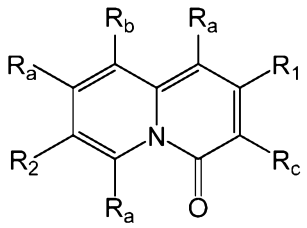
(XIVa)

[00536] or a form thereof.

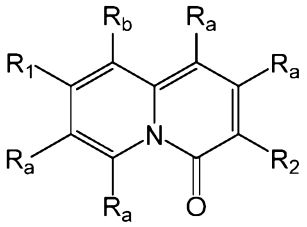
[00537] In one embodiment, the compound of Formula (Ia) used in a method disclosed herein is a compound of Formula (Ia1), Formula (Ia2), Formula (Ia3) or Formula (Ia4):



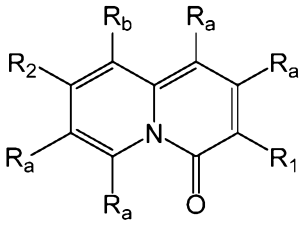
(Ia1),



(Ia2),



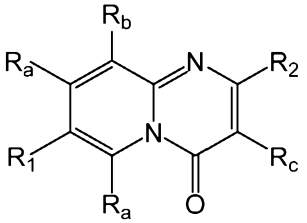
(Ia3) or

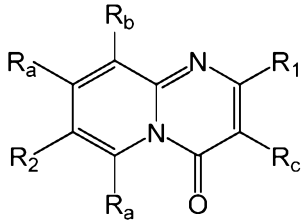


(Ia4)

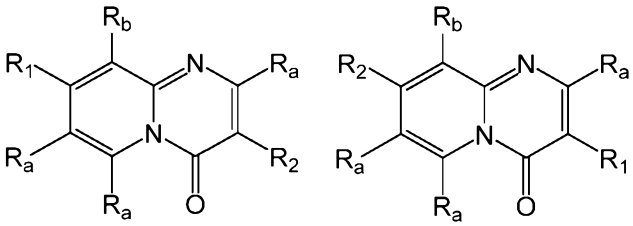
[00538] or a form thereof.

[00539] In one embodiment, the compound of Formula (IIa) used in a method disclosed herein is a compound of Formula (IIa1), Formula (IIa2), Formula (IIa3) or Formula (IIa4):





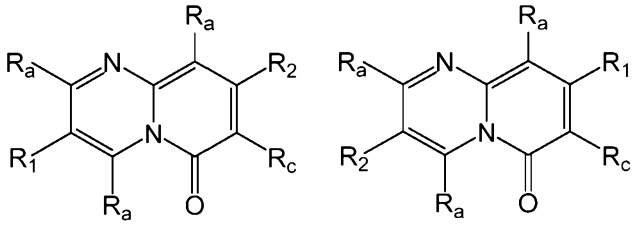
(IIa1), (IIa2),



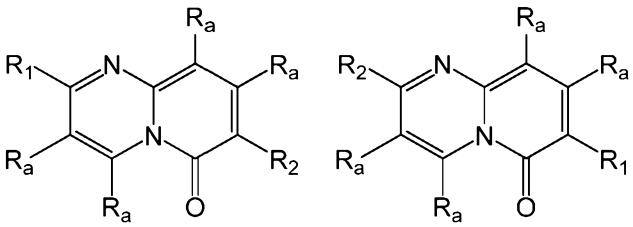
(IIa3) or (IIa4)

[00540] or a form thereof.

[00541] In one embodiment, the compound of Formula (IIIa) used in a method disclosed herein is a compound of Formula (IIIa1), Formula (IIIa2), Formula (IIIa3) or Formula (IIIa4):



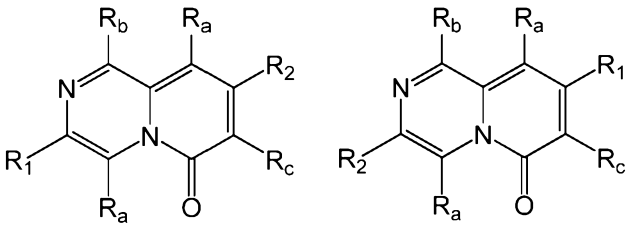
(IIIa1), (IIIa2),



(IIIa3) or (IIIa4)

[00542] or a form thereof.

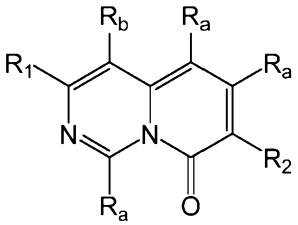
[00543] In one embodiment, the compound of Formula (IVa) used in a method disclosed herein is a compound of Formula (IVa1) or Formula (IVa2):



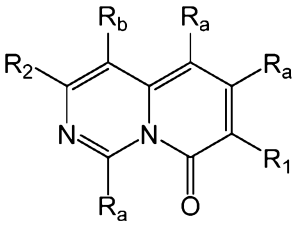
(IVa1) or (IVa2)

[00393] or a form thereof.

[00394] In one embodiment, the compound of Formula (Va) used in a method disclosed herein is a compound of Formula (Va1) or Formula (Va2):



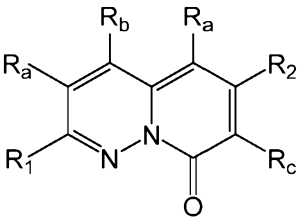
(Va1) or



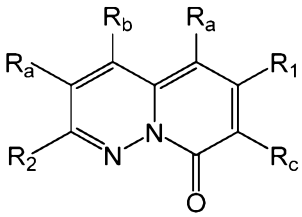
(Va2)

[00544] or a form thereof.

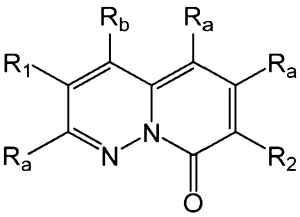
[00545] In one embodiment, the compound of Formula (VIa) used in a method disclosed herein is a compound of Formula (VIa1), Formula (VIa2), Formula (VIa3) or Formula (VIa4):



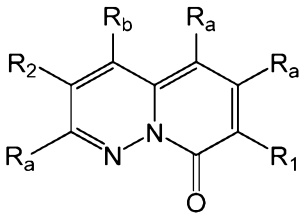
(VIa1),



(VIa2),



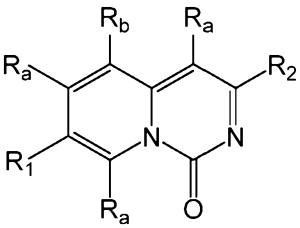
(VIa3) or



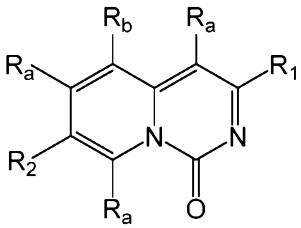
(VIa4)

[00546] or a form thereof.

[00547] In one embodiment, the compound of Formula (VIIa) used in a method disclosed herein is a compound of Formula (VIIa1) or Formula (VIIa2):



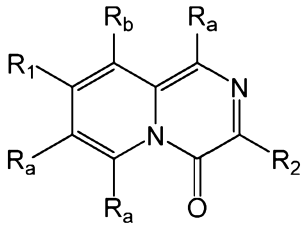
(VIIa1) or



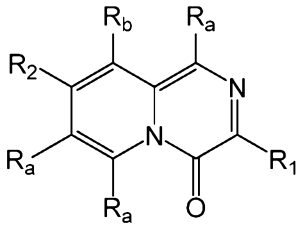
(VIIa2)

[00548] or a form thereof.

[00549] In one embodiment, the compound of Formula (VIIIa) used in a method disclosed herein is a compound of Formula (VIIIa1) or Formula (VIIIa2):



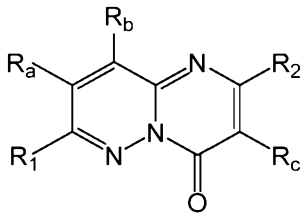
(VIIIa1) or



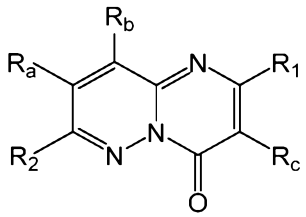
(VIIIa2)

[00550] or a form thereof.

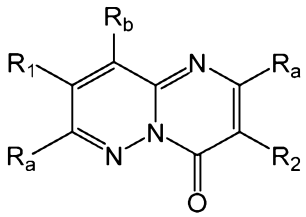
[00551] In one embodiment, the compound of Formula (IXa) used in a method disclosed herein is a compound of Formula (IXa1), Formula (IXa2), Formula (IXa3) or Formula (IXa4):



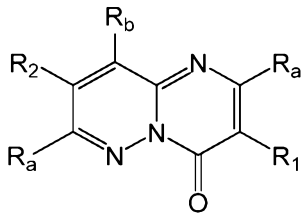
(IXa1),



(IXa2),



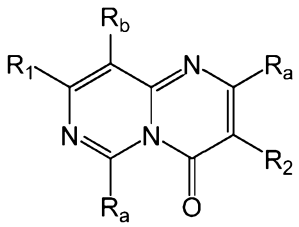
(IXa3) or



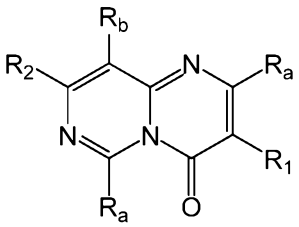
(IXa4)

[00552] or a form thereof.

[00553] In one embodiment, the compound of Formula (Xa) used in a method disclosed herein is a compound of Formula (Xa1) or Formula (Xa2):



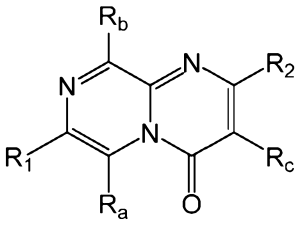
(Xa1) or



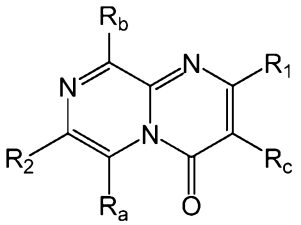
(Xa2)

[00554] or a form thereof.

[00555] In one embodiment, the compound of Formula (XIa) used in a method disclosed herein is a compound of Formula (XIa1) or Formula (XIa2):



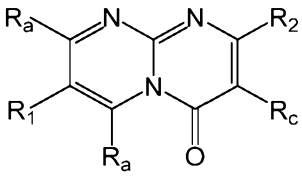
(XIa1) or



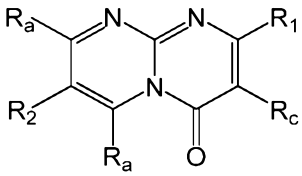
(XIa2)

[00556] or a form thereof.

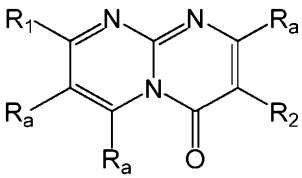
[00557] In one embodiment, the compound of Formula (XIIa) used in a method disclosed herein is a compound of Formula (XIIa1), Formula (XIIa2), Formula (XIIa3) or Formula (XIIa4):



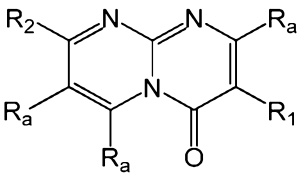
(XIIa1),



(XIIa2),



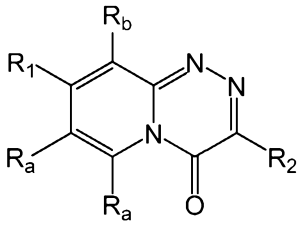
(XIIa3) or



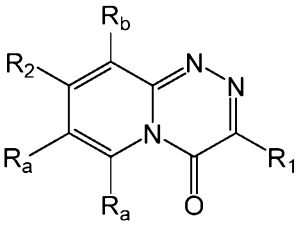
(XIIa4)

[00558] or a form thereof.

[00559] In one embodiment, the compound of Formula (XIIIa) used in a method disclosed herein is a compound of Formula (XIIIa1) or Formula (XIIIa2):



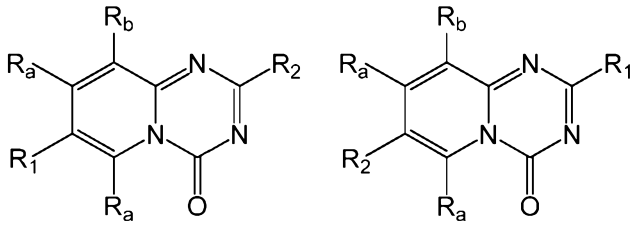
(XIIIa1) or



(XIIIa2)

[00560] or a form thereof.

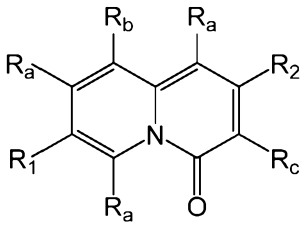
[00561] In one embodiment, the compound of Formula (XIVa) used in a method disclosed herein is a compound of Formula (XIVa1) or Formula (XIVa2):



(XIVa1) or (XIVa2)

[00562] or a form thereof.

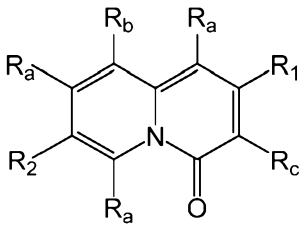
[00563] In one embodiment, the compound of Formula (Ia) used in a method disclosed herein is a compound of Formula (Ia1):



(Ia1)

[00564] or a form thereof.

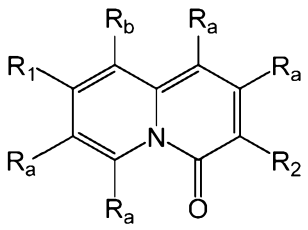
[00565] In one embodiment, the compound of Formula (Ia) used in a method disclosed herein is a compound of Formula (Ia2):



(Ia2)

[00566] or a form thereof.

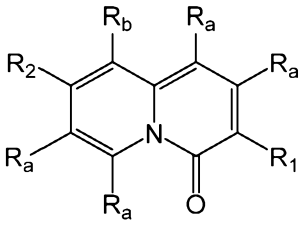
[00567] In one embodiment, the compound of Formula (Ia) used in a method disclosed herein is a compound of Formula (Ia3):



(Ia3)

[00568] or a form thereof.

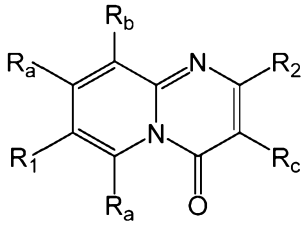
[00569] In one embodiment, the compound of Formula (Ia) used in a method disclosed herein is a compound of Formula (Ia4):



(Ia4)

[00570] or a form thereof.

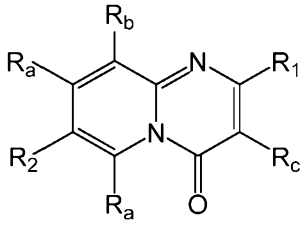
[00571] In one embodiment, the compound of Formula (IIa) used in a method disclosed herein is a compound of Formula (IIa1):



(IIa1)

[00572] or a form thereof.

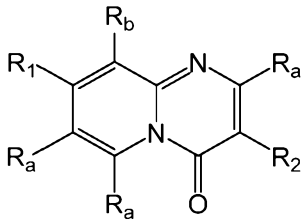
[00573] In one embodiment, the compound of Formula (IIa) used in a method disclosed herein is a compound of Formula (IIa2):



(IIa2)

[00574] or a form thereof.

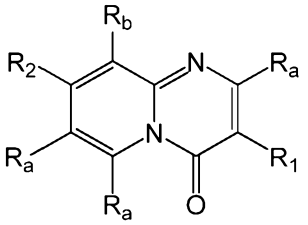
[00575] In one embodiment, the compound of Formula (IIa) used in a method disclosed herein is a compound of Formula (IIa3):



(IIa3)

[00576] or a form thereof.

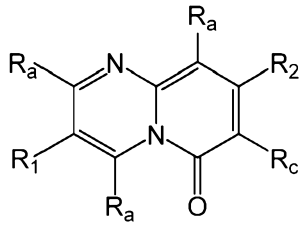
[00577] In one embodiment, the compound of Formula (IIa) used in a method disclosed herein is a compound of Formula (IIa4):



(IIa4)

[00578] or a form thereof.

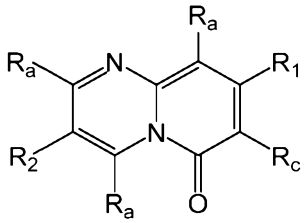
[00579] In one embodiment, the compound of Formula (IIIa) used in a method disclosed herein is a compound of Formula (IIIa1):



(IIIa1)

[00580] or a form thereof.

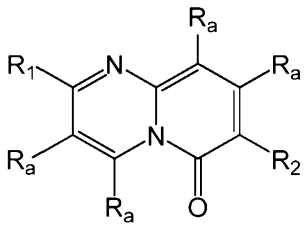
[00581] In one embodiment, the compound of Formula (IIIa) used in a method disclosed herein is a compound of Formula (IIIa2):



(IIIa2)

[00582] or a form thereof.

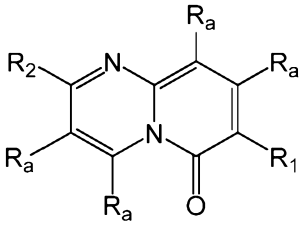
[00583] In one embodiment, the compound of Formula (IIIa) used in a method disclosed herein is a compound of Formula (IIIa3):



(IIIa3)

[00584] or a form thereof.

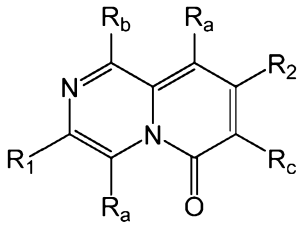
[00585] In one embodiment, the compound of Formula (IIIa) used in a method disclosed herein is a compound of Formula (IIIa4):



(IIIa4)

[00586] or a form thereof.

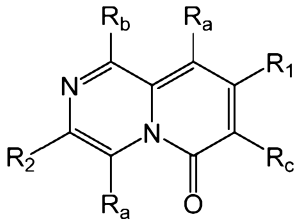
[00587] In one embodiment, the compound of Formula (IVa) used in a method disclosed herein is a compound of Formula (IVa1):



(IVa1)

[00588] or a form thereof.

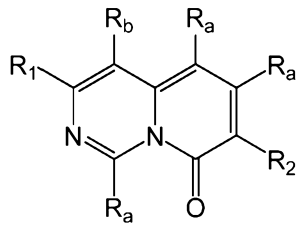
[00589] In one embodiment, the compound of Formula (IVa) used in a method disclosed herein is a compound of Formula (IVa2):



(IVa2)

[00590] or a form thereof.

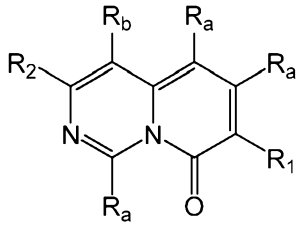
[00591] In one embodiment, the compound of Formula (Va) used in a method disclosed herein is a compound of Formula (Va1):



(Va1)

[00592] or a form thereof.

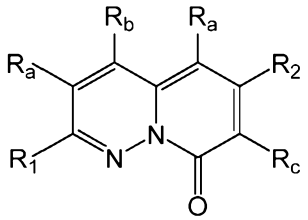
[00593] In one embodiment, the compound of Formula (Va) used in a method disclosed herein is a compound of Formula (Va2):



(Va2)

[00594] or a form thereof.

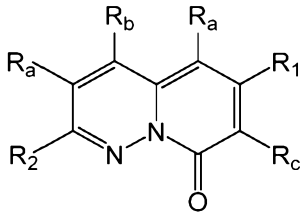
[00595] In one embodiment, the compound of Formula (VIa) used in a method disclosed herein is a compound of Formula (VIa1):



(VIa1)

[00596] or a form thereof.

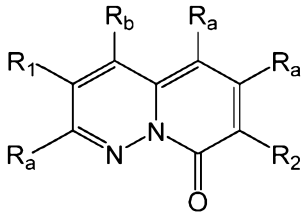
[00597] In one embodiment, the compound of Formula (VIa) used in a method disclosed herein is a compound of Formula (VIa2):



(VIa2)

[00598] or a form thereof.

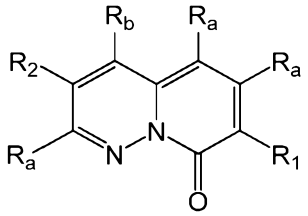
[00599] In one embodiment, the compound of Formula (VIa) used in a method disclosed herein is a compound of Formula Formula (VIa3):



(VIa3)

[00600] or a form thereof.

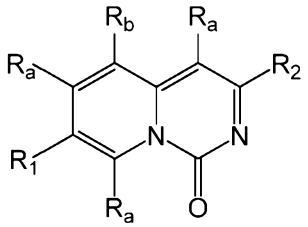
[00601] In one embodiment, the compound of Formula (VIa) used in a method disclosed herein is a compound of Formula (VIa4):



(VIa4)

[00602] or a form thereof.

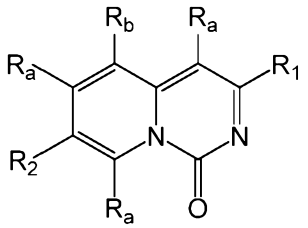
[00603] In one embodiment, the compound of Formula (VIIa) used in a method disclosed herein is a compound of Formula (VIIa1):



(VIIa1)

[00604] or a form thereof.

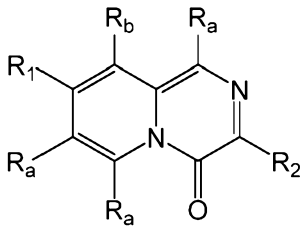
[00605] In one embodiment, the compound of Formula (VIIa) used in a method disclosed herein is a compound of Formula (VIIa2):



(VIIa2)

[00606] or a form thereof.

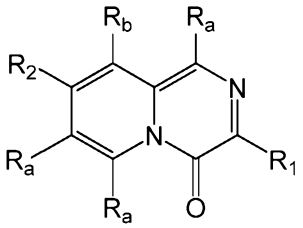
[00607] In one embodiment, the compound of Formula (VIIIa) used in a method disclosed herein is a compound of Formula (VIIIa1):



(VIIIa1)

[00608] or a form thereof.

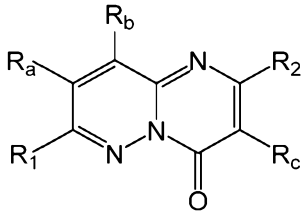
[00609] In one embodiment, the compound of Formula (VIIIa) used in a method disclosed herein is a compound of Formula (VIIIa2):



(VIIIa2)

[00610] or a form thereof.

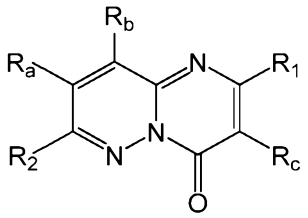
[00611] In one embodiment, the compound of Formula (IXa) used in a method disclosed herein is a compound of Formula (IXa1):



(IXa1)

[00612] or a form thereof.

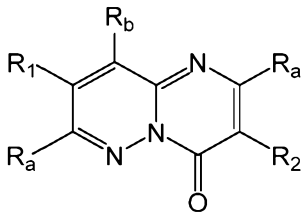
[00613] In one embodiment, the compound of Formula (IXa) used in a method disclosed herein is a compound of Formula (IXa2):



(IXa2)

[00614] or a form thereof.

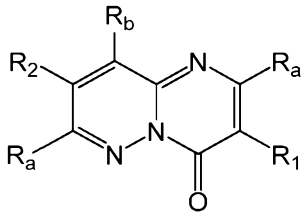
[00615] In one embodiment, the compound of Formula (IXa) used in a method disclosed herein is a compound of Formula (IXa3):



(IXa3)

[00616] or a form thereof.

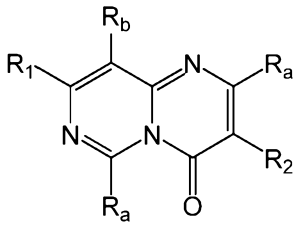
[00617] In one embodiment, the compound of Formula (IXa) used in a method disclosed herein is a compound of Formula (IXa4):



(IXa4)

[00618] or a form thereof.

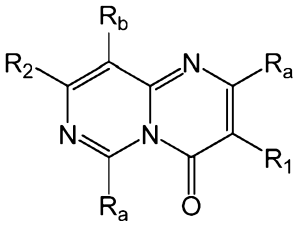
[00619] In one embodiment, the compound of Formula (Xa) used in a method disclosed herein is a compound of Formula (Xa1):



(Xa1)

[00471] or a form thereof.

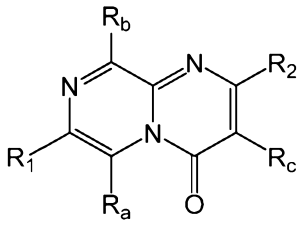
[00472] In one embodiment, the compound of Formula (Xa) used in a method disclosed herein is a compound of Formula (Xa2):



(Xa2)

[00620] or a form thereof.

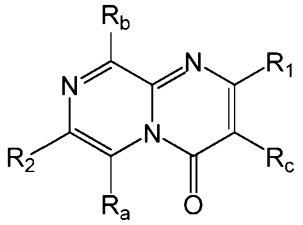
[00621] In one embodiment, the compound of Formula (XIa) used in a method disclosed herein is a compound of Formula (XIa1):



(XIa1)

[00622] or a form thereof.

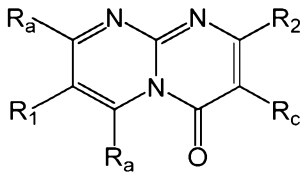
[00623] In one embodiment, the compound of Formula (XIa) used in a method disclosed herein is a compound of Formula (XIa2):



(XIa2)

[00624] or a form thereof.

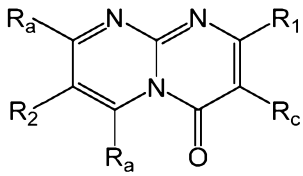
[00625] In one embodiment, the compound of Formula (XIIa) used in a method disclosed herein is a compound of Formula (XIIa1):



(XIIa1)

[00626] or a form thereof.

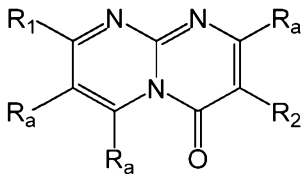
[00627] In one embodiment, the compound of Formula (XIIa) used in a method disclosed herein is a compound of Formula (XIIa2):



(XIIa2)

[00628] or a form thereof.

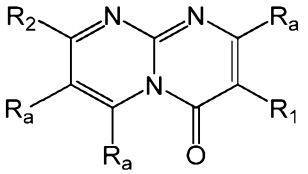
[00629] In one embodiment, the compound of Formula (XIIa) used in a method disclosed herein is a compound of Formula (XIIa3):



(XIIa3)

[00630] or a form thereof.

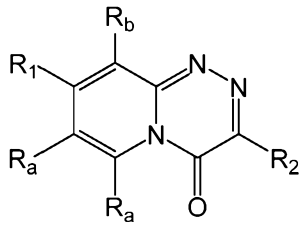
[00631] In one embodiment, the compound of Formula (XIIa) used in a method disclosed herein is a compound of Formula (XIIa4):



(XIIa4)

[00632] or a form thereof.

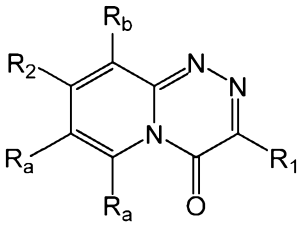
[00633] In one embodiment, the compound of Formula (XIIIa) used in a method disclosed herein is a compound of Formula (XIIIa1):



(XIIIa1)

[00634] or a form thereof.

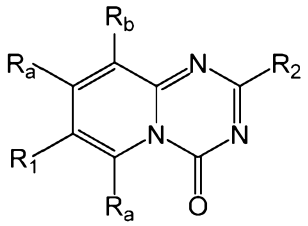
[00635] In one embodiment, the compound of Formula (XIIIa) used in a method disclosed herein is a compound of Formula (XIIIa2):



(XIIIa2)

[00636] or a form thereof.

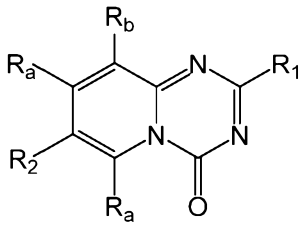
[00637] In one embodiment, the compound of Formula (XIVa) used in a method disclosed herein is a compound of Formula (XIVa1):



(XIVa1)

[00638] or a form thereof.

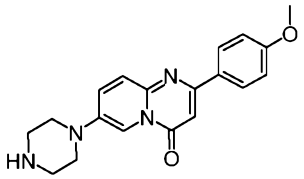
[00639] In one embodiment, the compound of Formula (XIVa) used in a method disclosed herein is a compound of Formula (XIVa2):



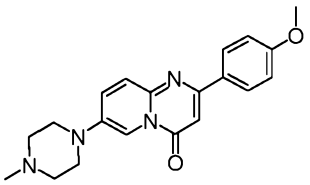
(XIVa2)

[00640] or a form thereof.

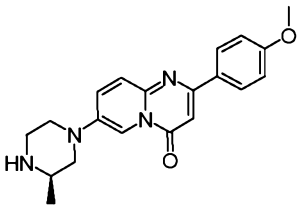
[00641] In another embodiment, the compound of Formula (I) used in a method disclosed herein is a compound selected from the group consisting of:



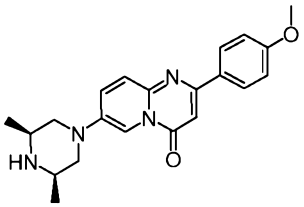
1



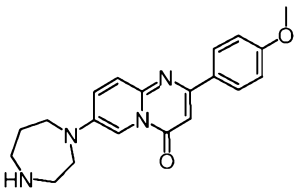
2



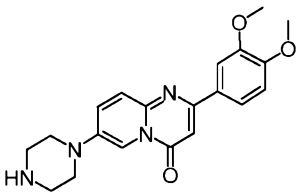
3



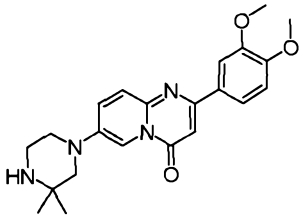
4



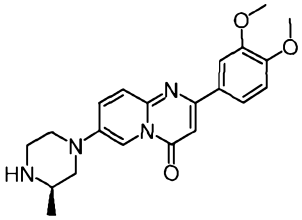
5



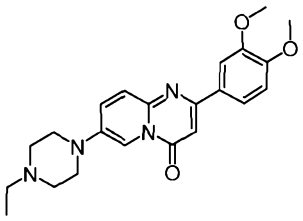
6



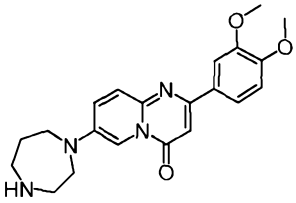
7



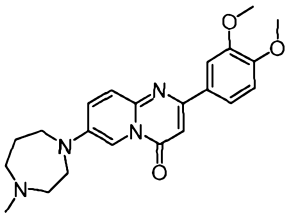
8



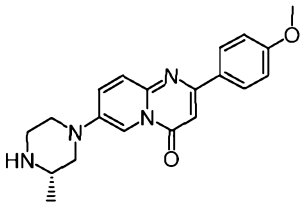
9



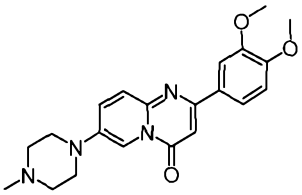
10



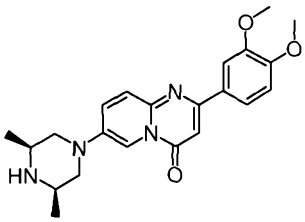
11



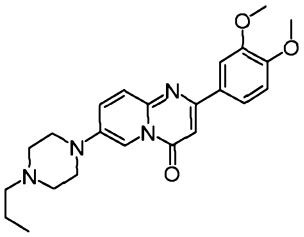
12



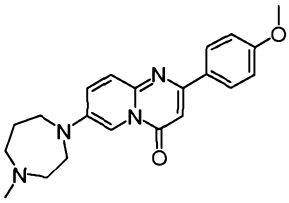
13



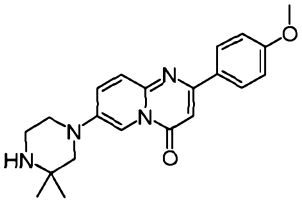
14



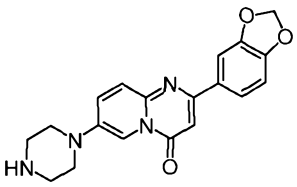
15



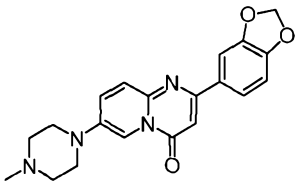
16



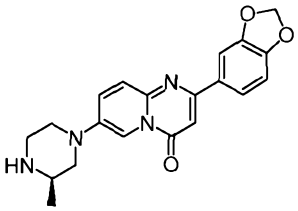
17



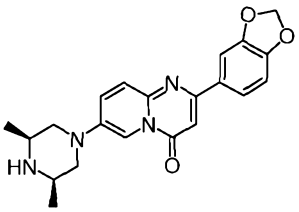
18



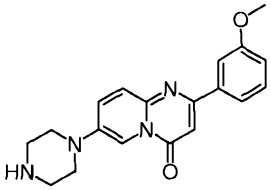
19



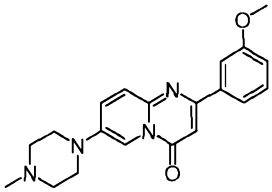
20



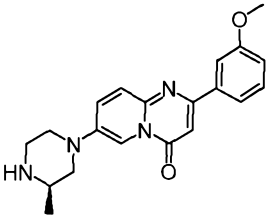
21



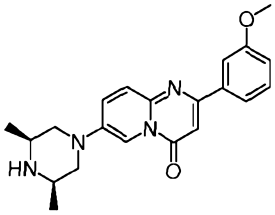
22



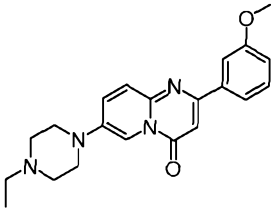
23



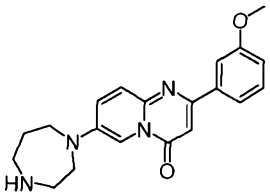
24



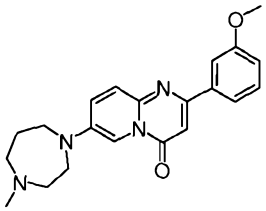
25



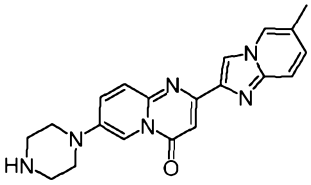
26



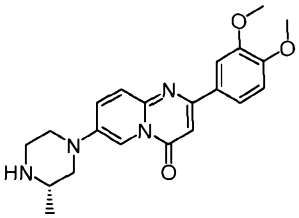
27



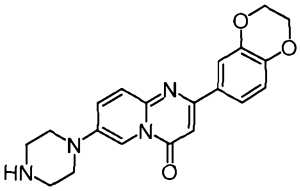
28



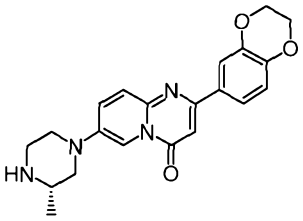
29



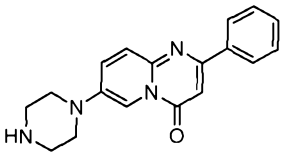
30



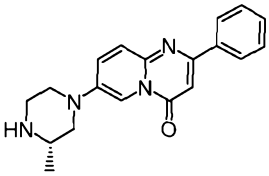
31



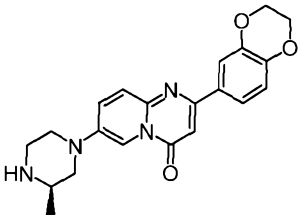
32



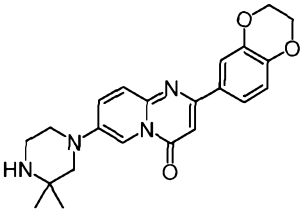
33



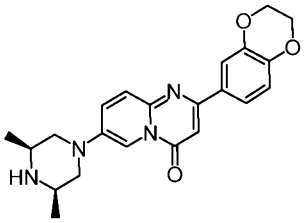
34



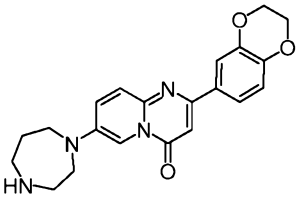
35



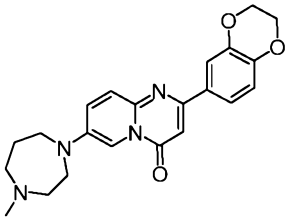
36



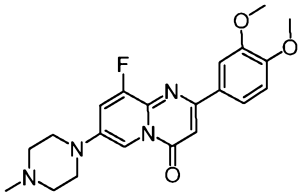
37



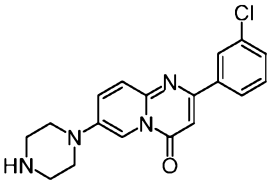
38



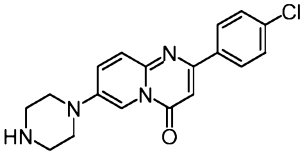
39



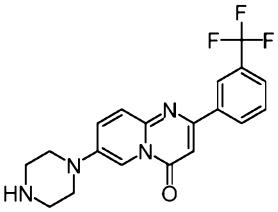
40



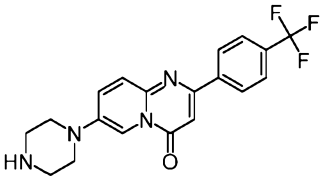
41



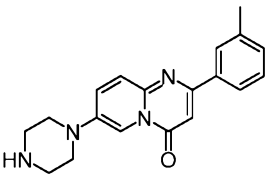
42



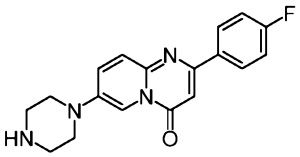
43



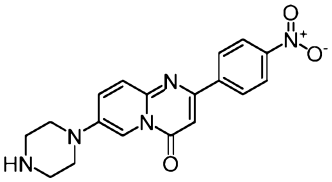
44



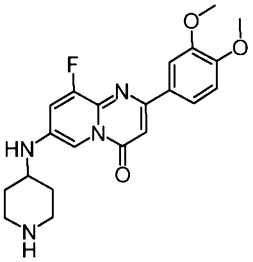
45



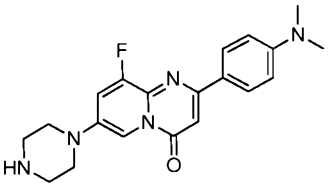
46



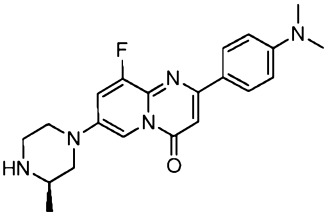
47



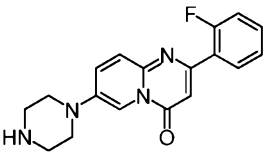
48



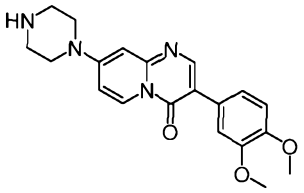
49



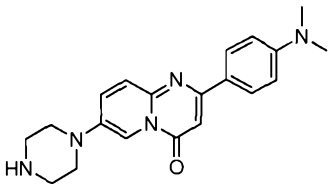
50



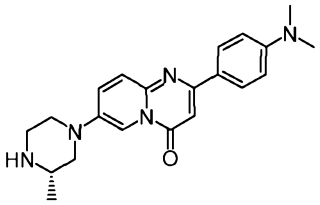
51



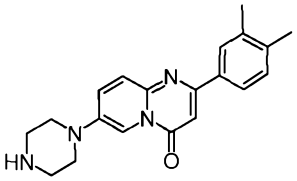
52



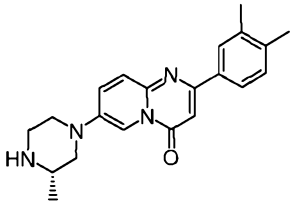
53



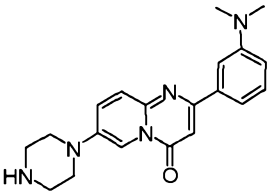
54



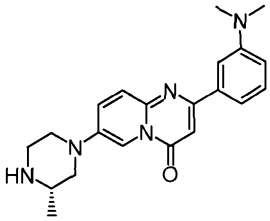
55



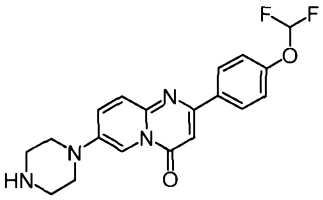
56



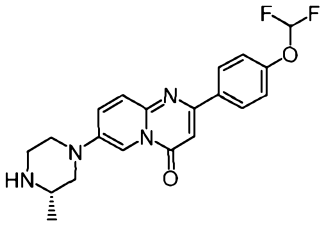
57



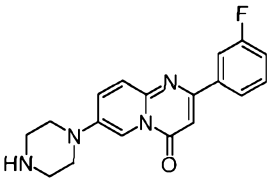
58



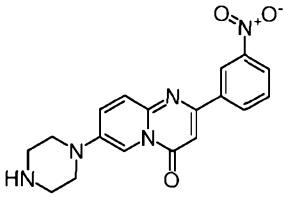
59



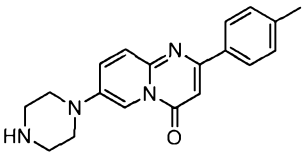
60



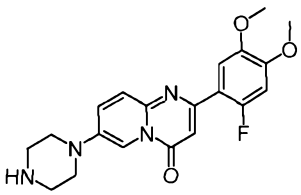
61



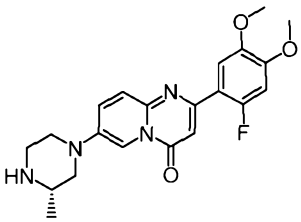
62



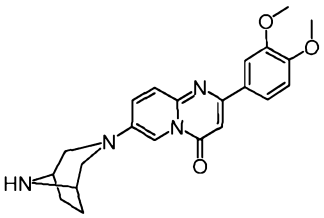
63



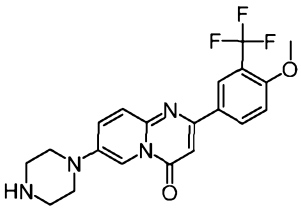
64



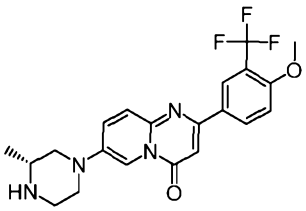
65



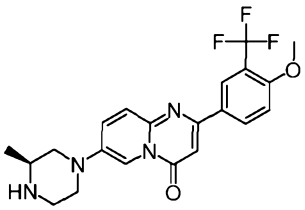
66



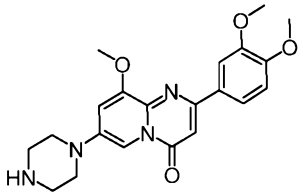
67



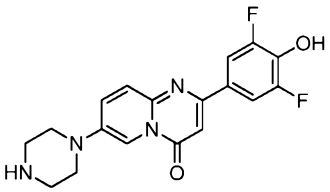
68



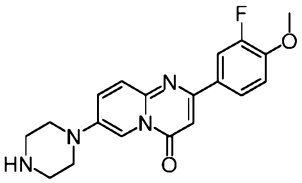
69



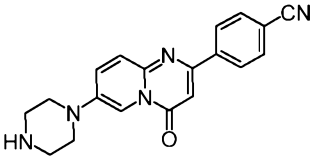
70



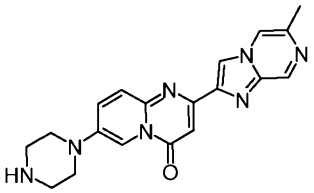
71



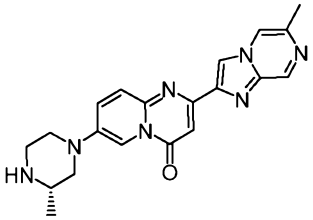
72



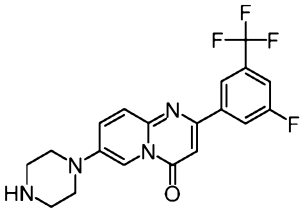
73



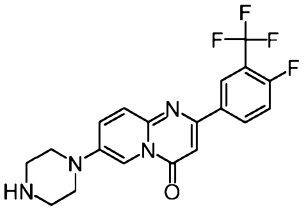
74



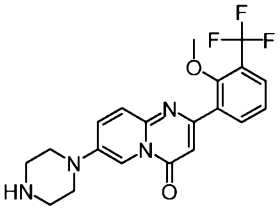
75



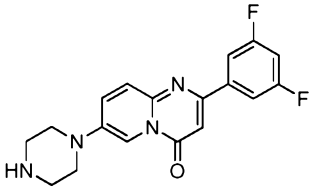
76



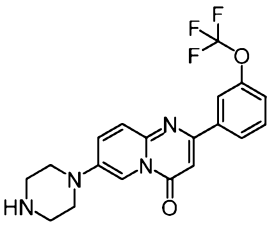
77



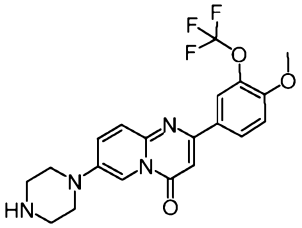
78



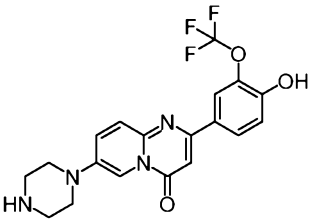
79



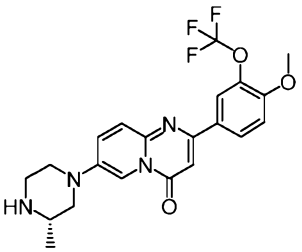
80



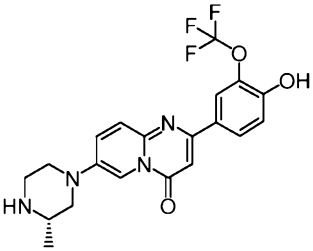
81



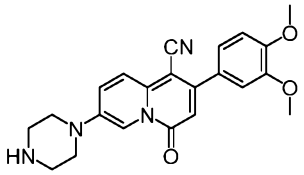
82



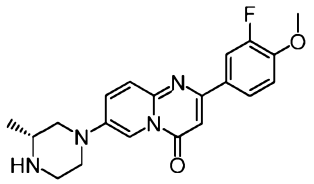
83



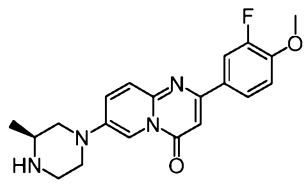
84



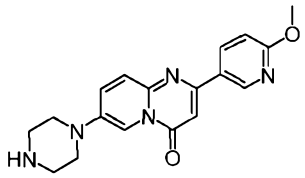
85



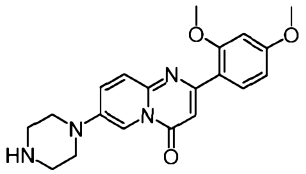
86



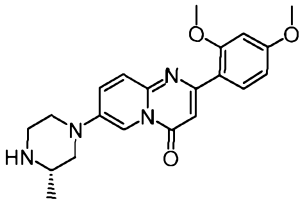
87



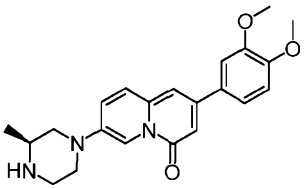
88



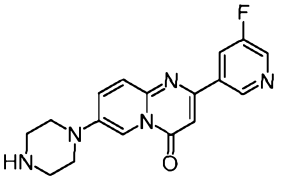
89



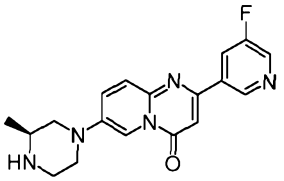
90



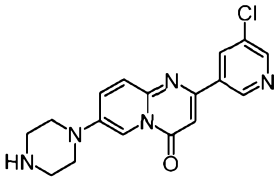
91



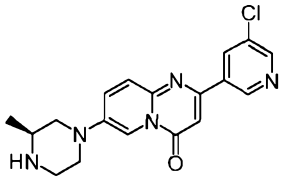
92



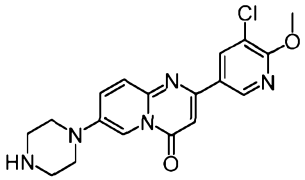
93



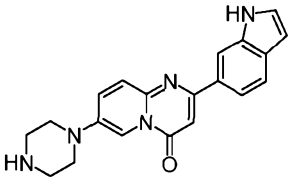
94



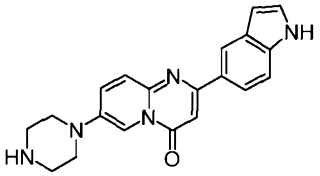
95



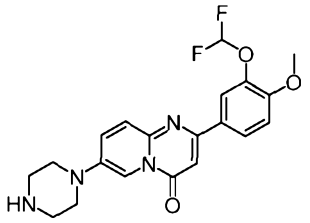
96



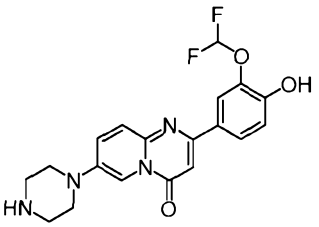
97



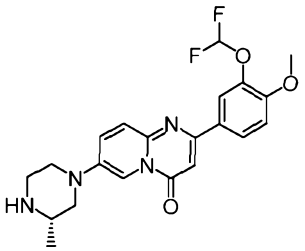
98



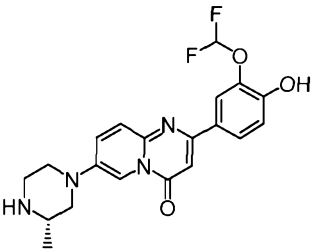
99



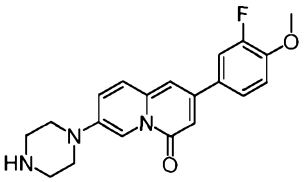
100



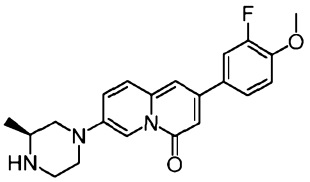
101



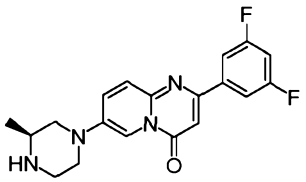
102



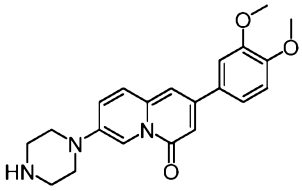
103



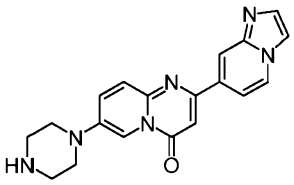
104



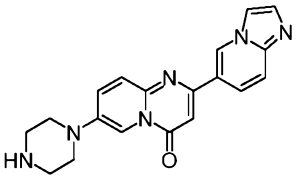
105



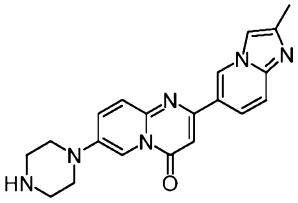
106



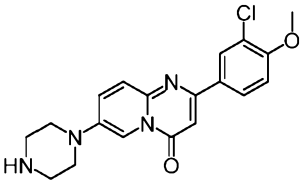
107



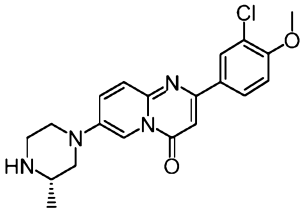
108



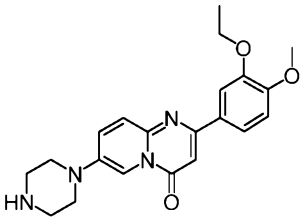
109



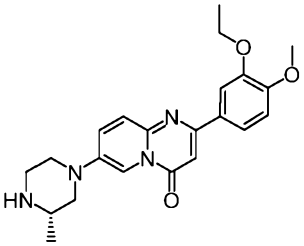
110



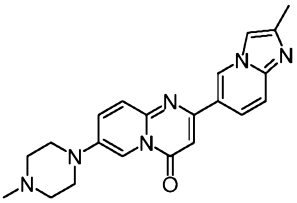
111



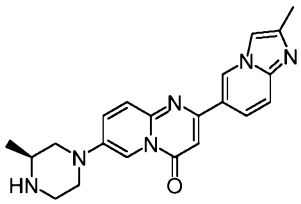
112



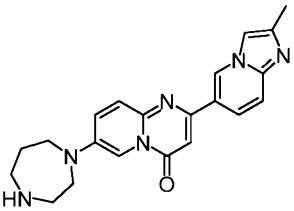
113



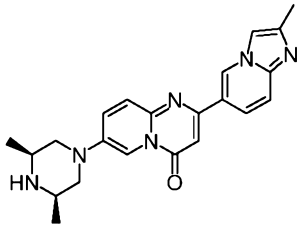
114



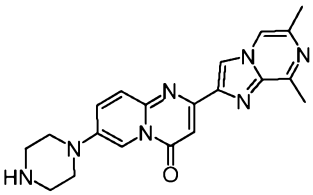
115



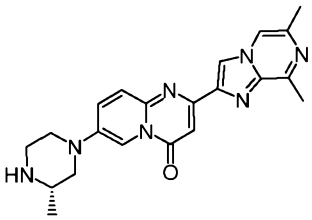
116



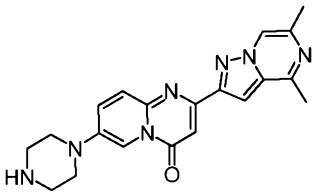
117



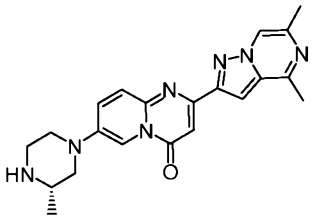
118



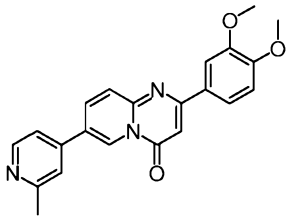
119



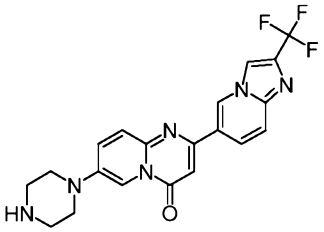
120



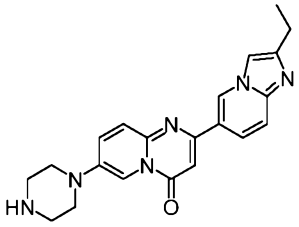
121



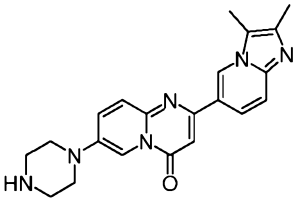
122



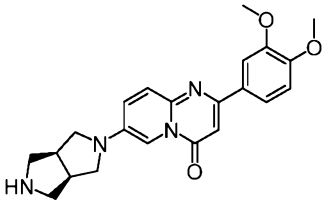
123



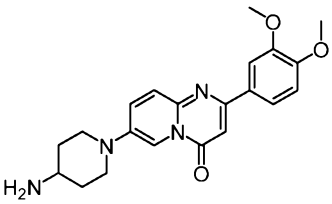
124



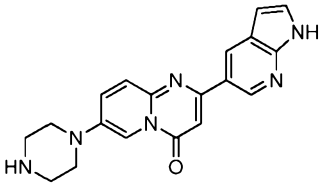
125



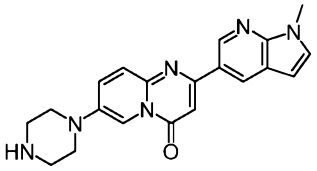
126



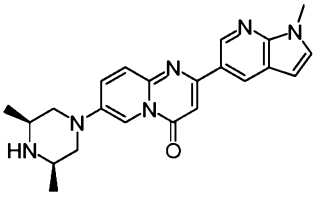
127



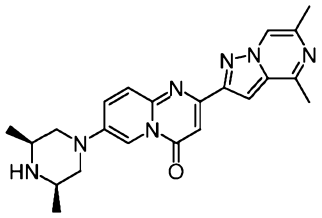
128



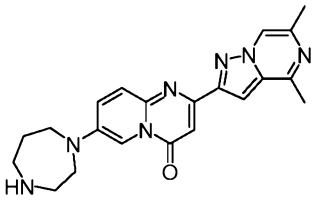
129



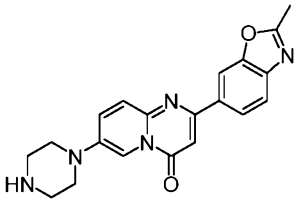
130



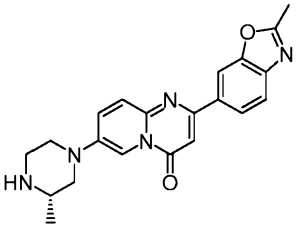
131



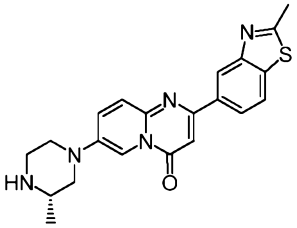
132



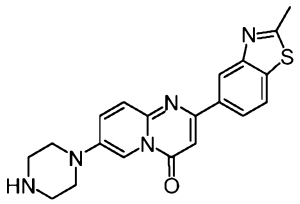
133



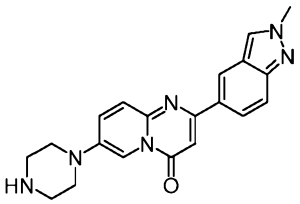
134



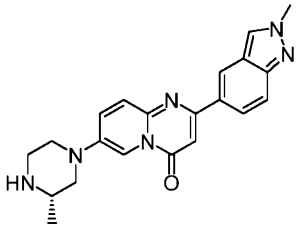
135



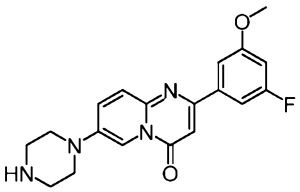
136



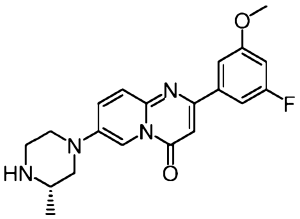
137



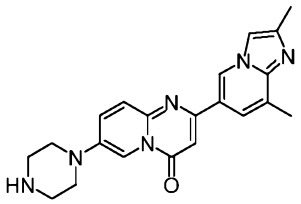
138



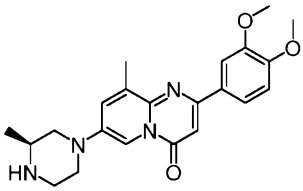
139



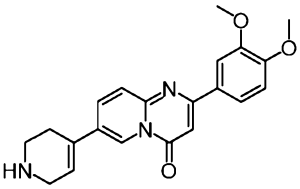
140



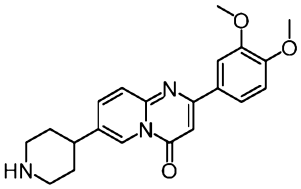
141



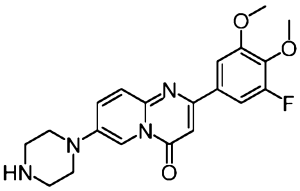
142



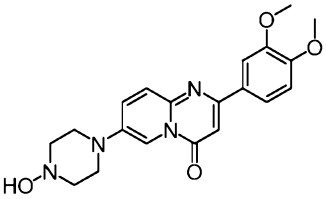
143



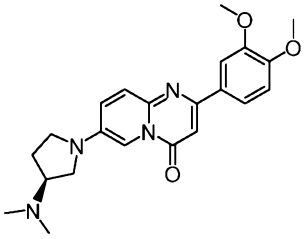
144



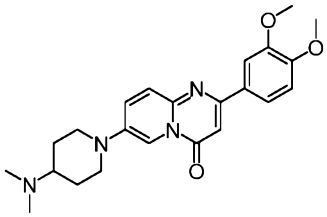
145



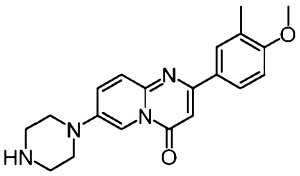
146



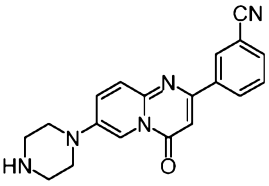
147



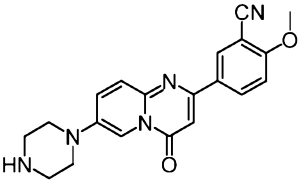
148



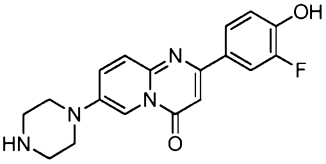
149



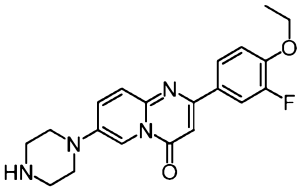
150



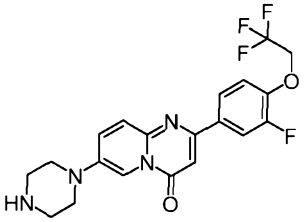
151



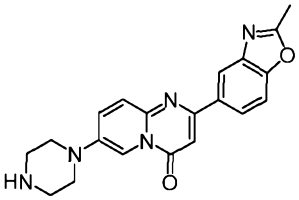
152



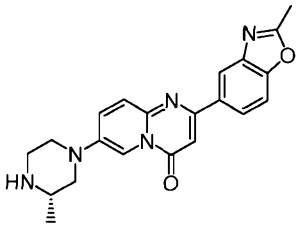
153



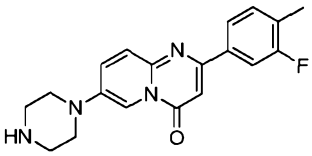
154



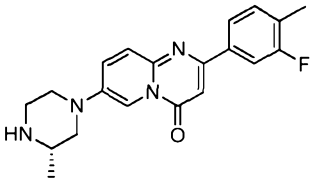
155



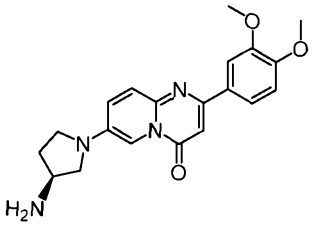
156



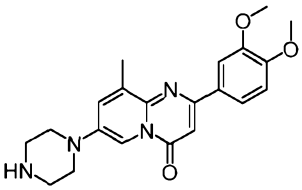
157



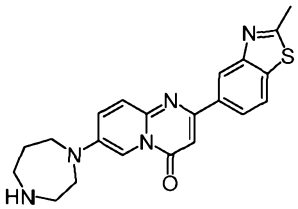
158



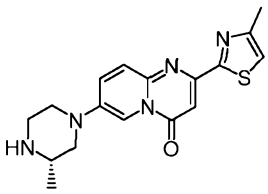
159



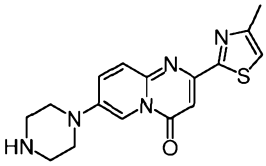
160



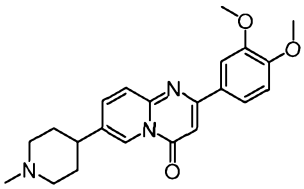
161



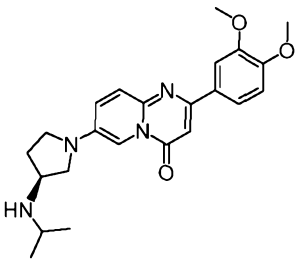
162



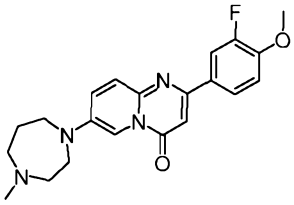
163



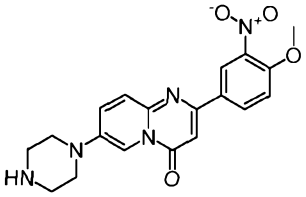
164



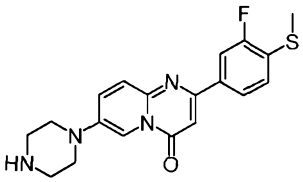
165



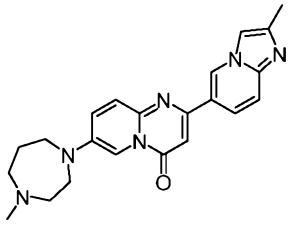
166



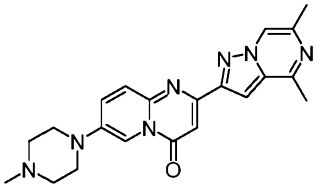
167



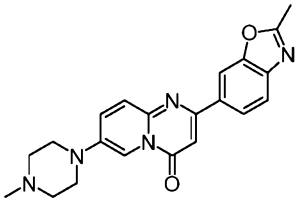
168



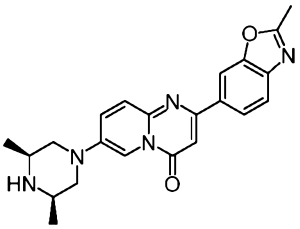
169



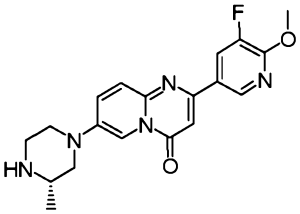
170



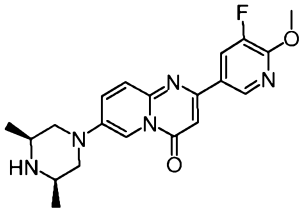
171



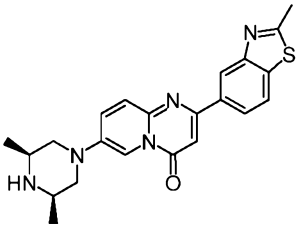
172



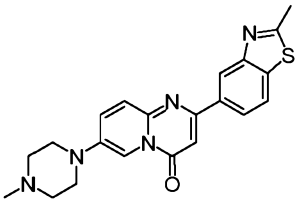
173



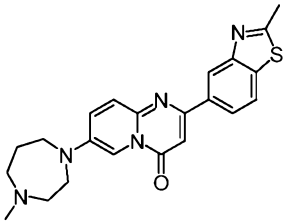
174



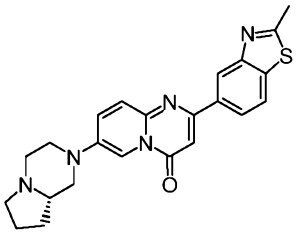
175



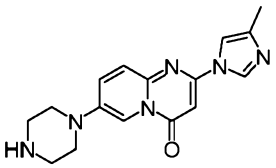
176



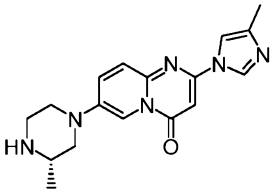
177



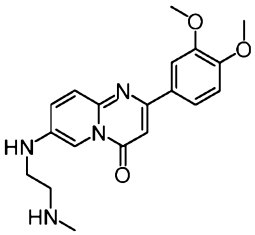
178



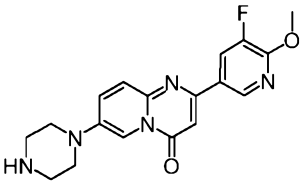
179



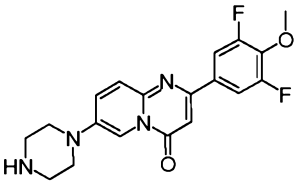
180



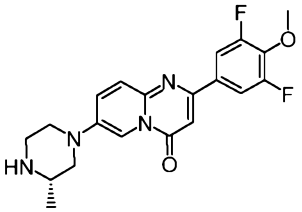
181



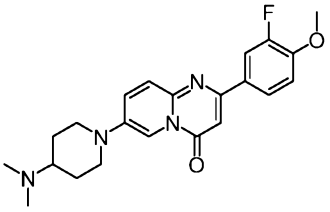
182



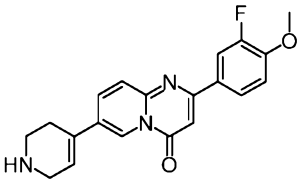
183



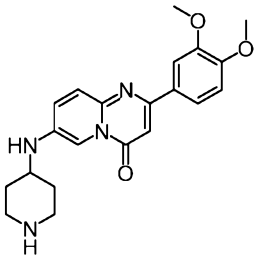
184



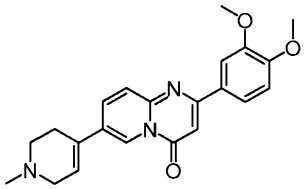
185



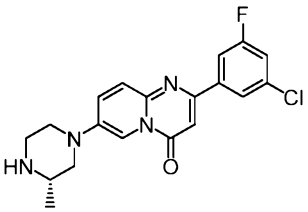
186



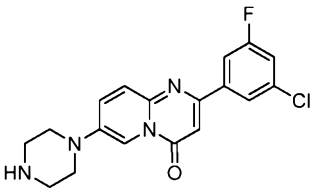
187



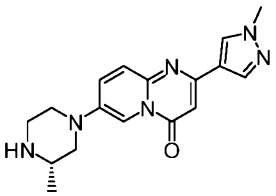
188



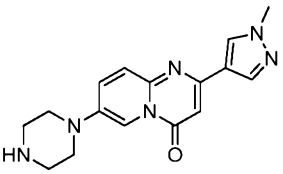
189



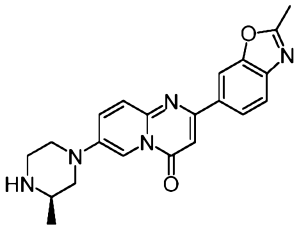
190



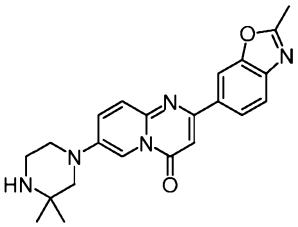
191



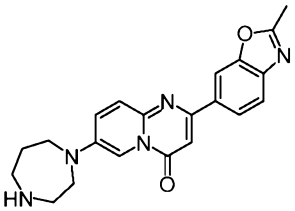
192



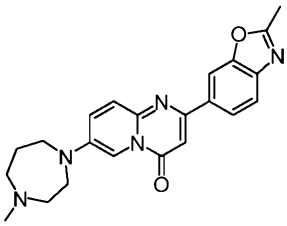
193



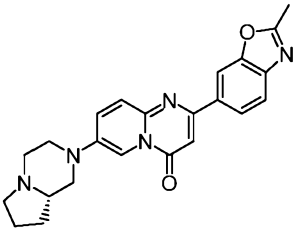
194



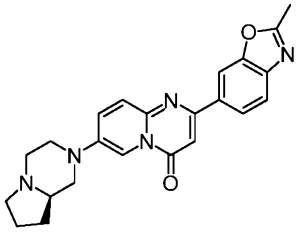
195



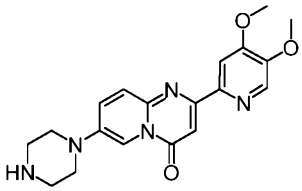
196



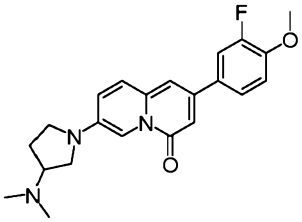
197



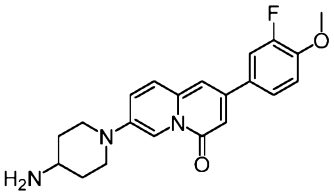
198



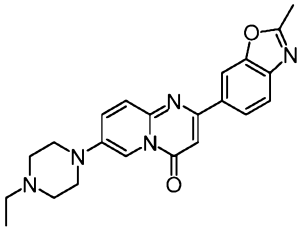
199



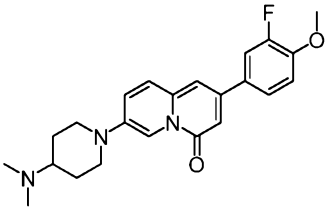
200



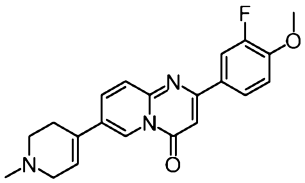
201



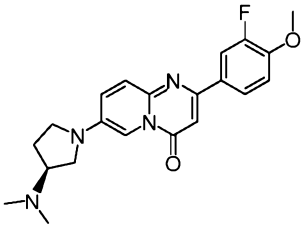
202



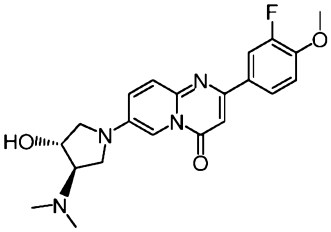
203



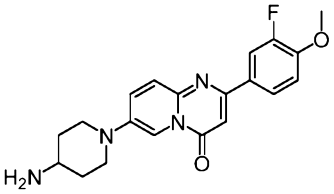
204



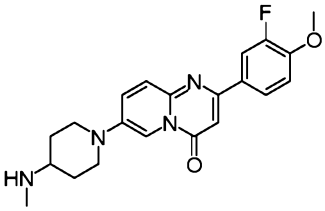
205



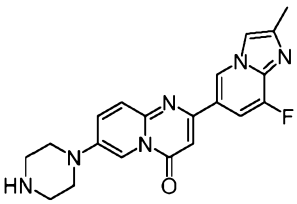
206



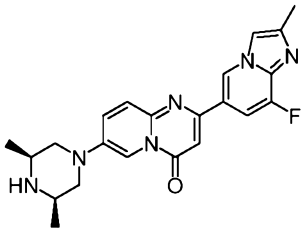
207



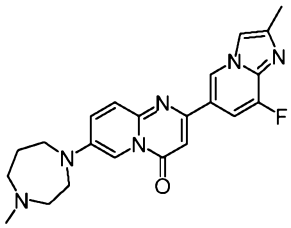
208



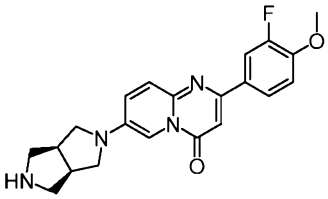
209



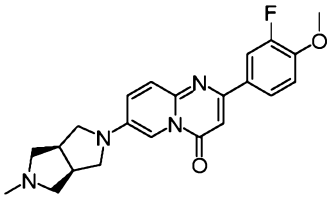
210



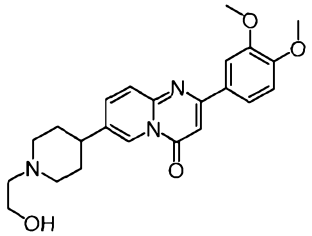
211



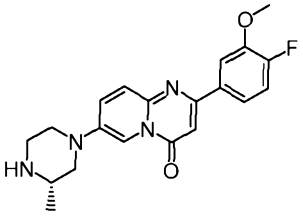
212



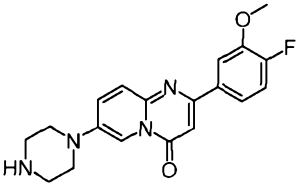
213



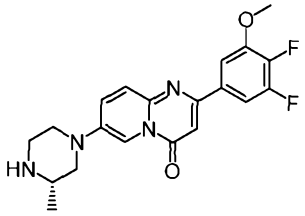
214



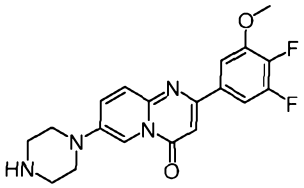
215



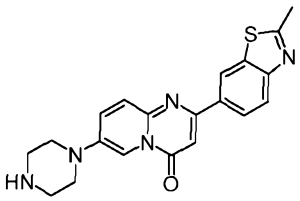
216



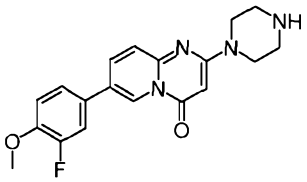
217



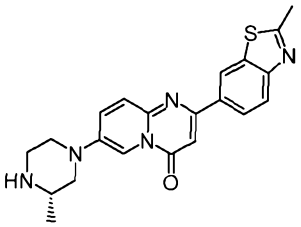
218



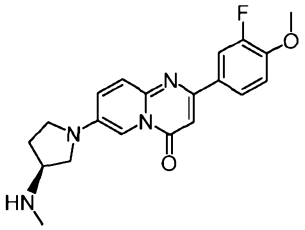
219



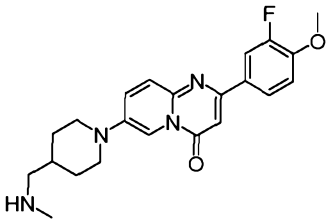
220



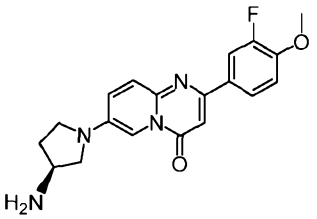
221



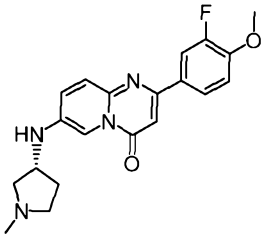
222



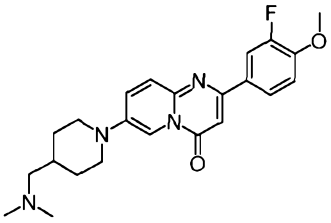
223



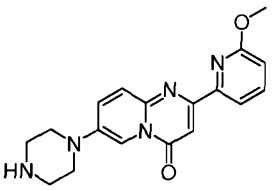
224



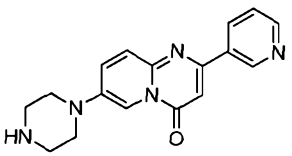
225



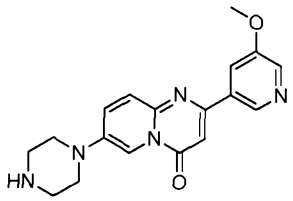
226



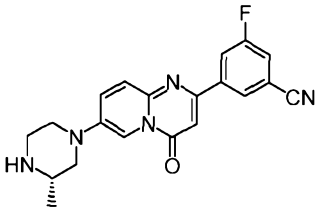
227



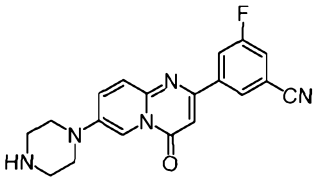
228



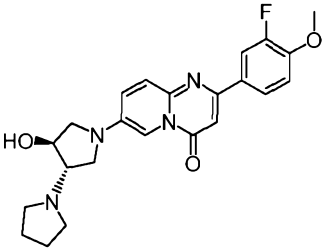
229



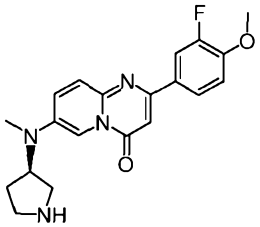
230



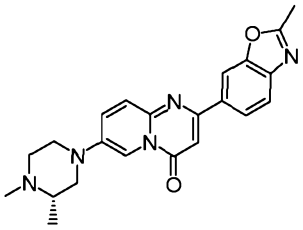
231



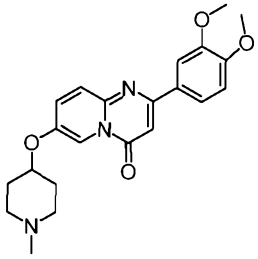
232



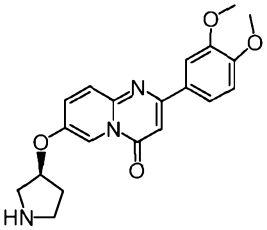
233



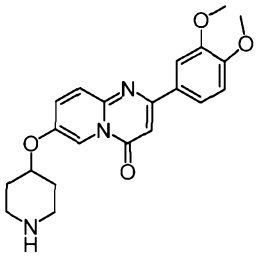
234



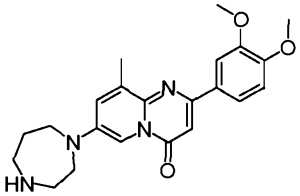
235



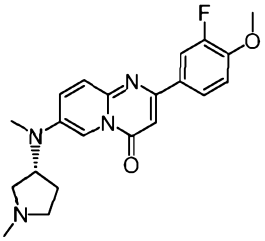
236



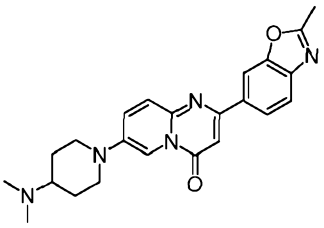
237



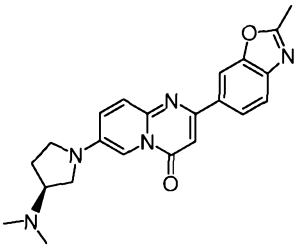
238



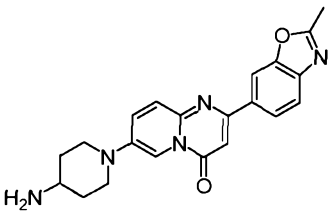
239



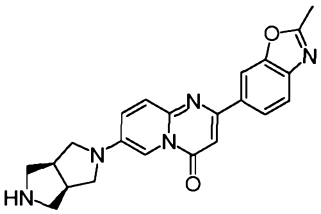
240



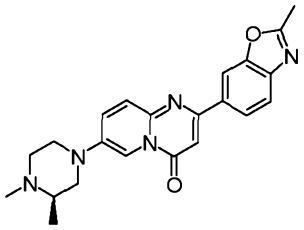
241



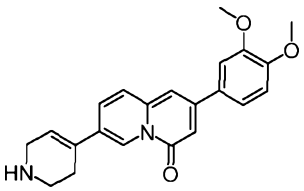
242



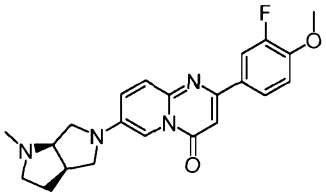
243



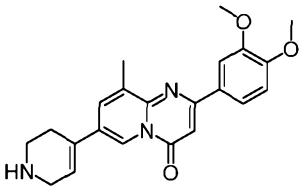
244



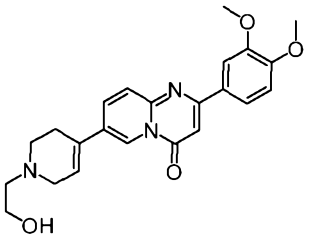
245



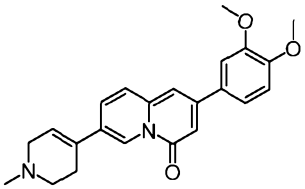
246



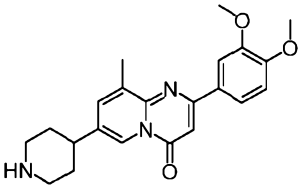
247



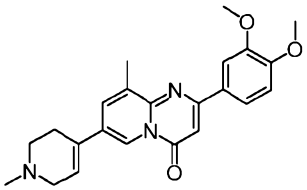
248



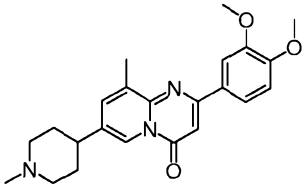
249



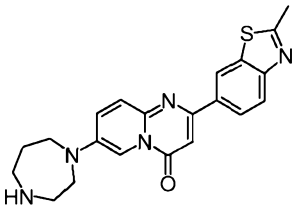
250



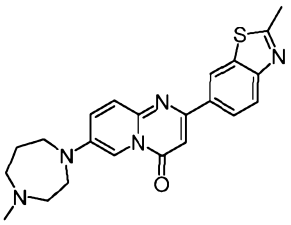
251



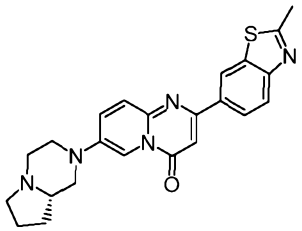
252



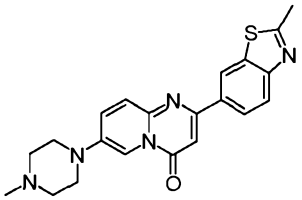
253



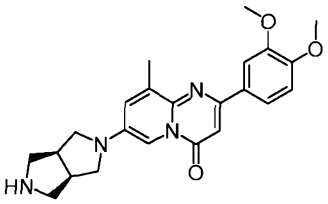
254



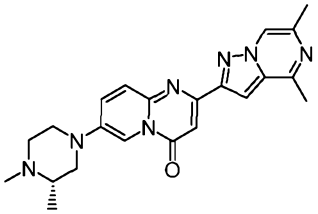
255



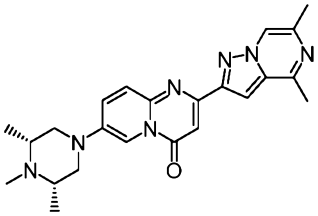
256



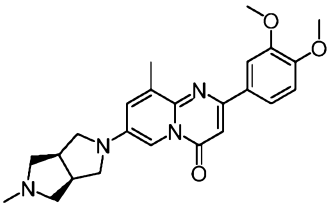
257



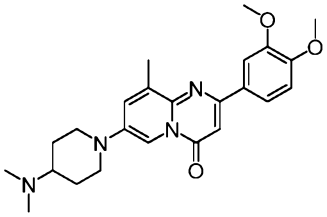
258



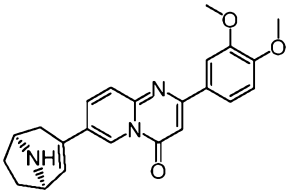
259



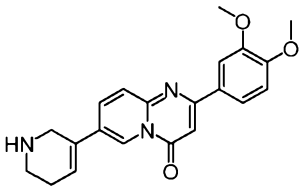
260



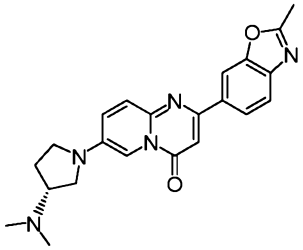
261



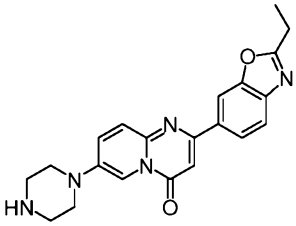
262



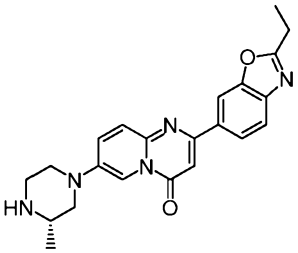
263



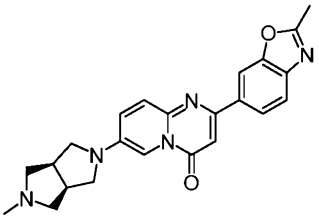
264



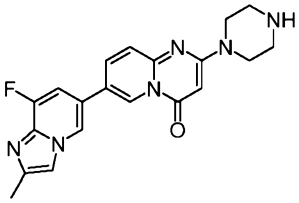
265



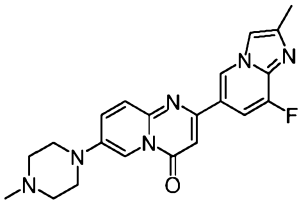
266



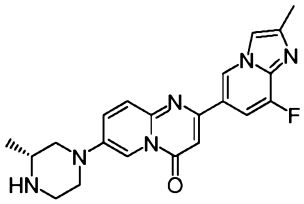
267



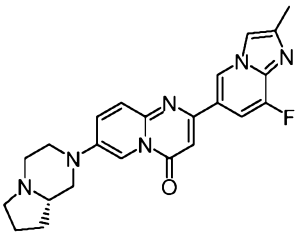
268



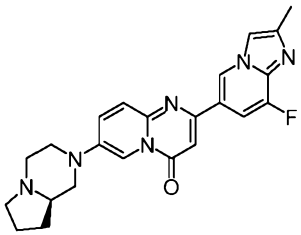
269



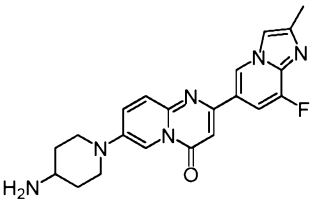
270



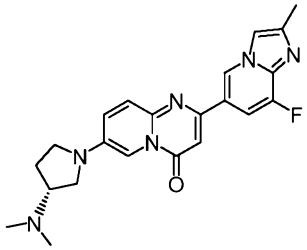
271



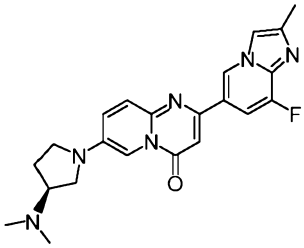
272



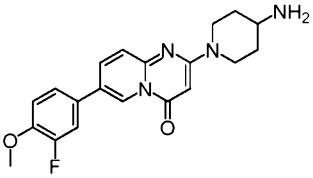
273



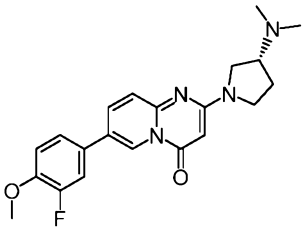
274



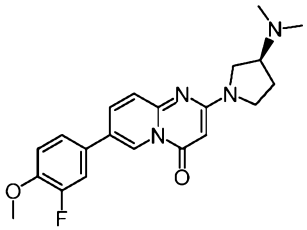
275



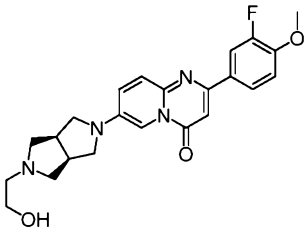
276



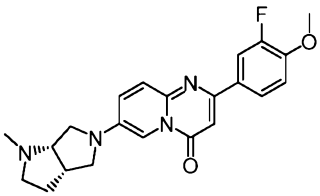
277



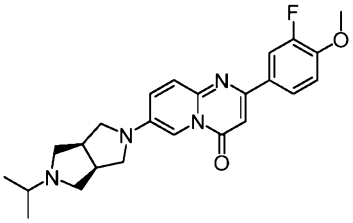
278



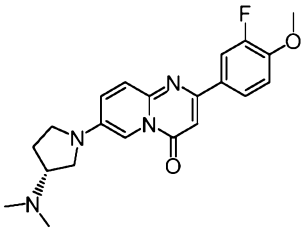
279



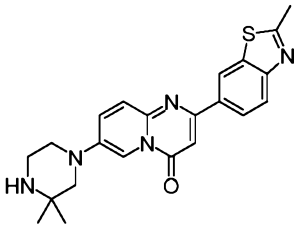
280



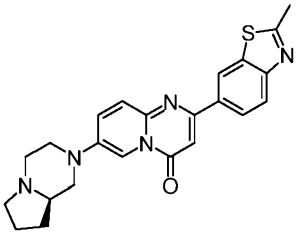
281



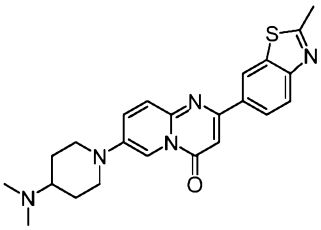
282



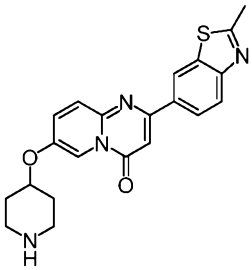
283



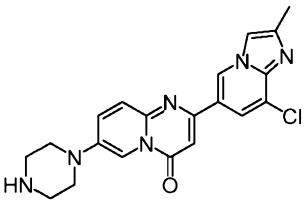
284



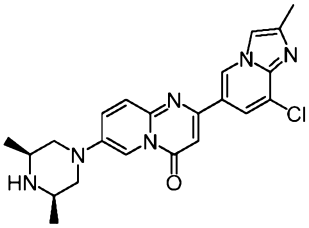
285



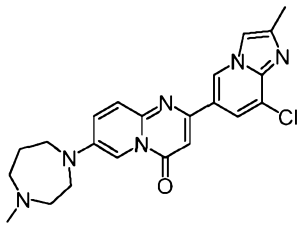
286



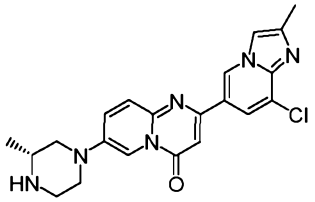
287



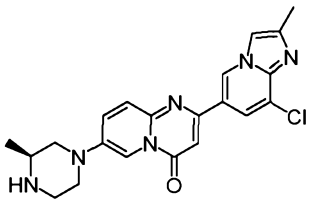
288



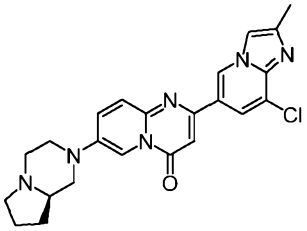
289



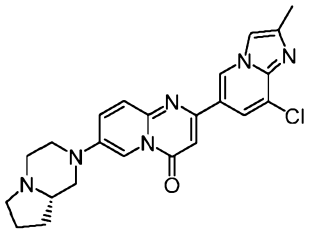
290



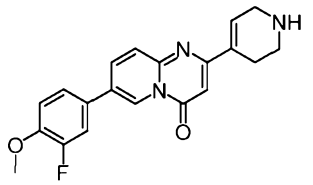
291



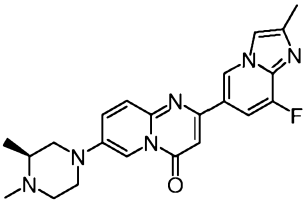
292



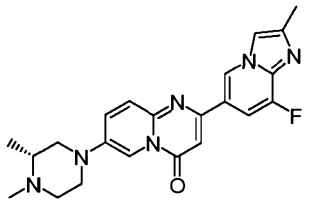
293



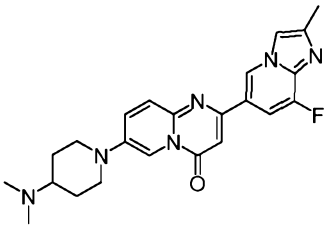
294



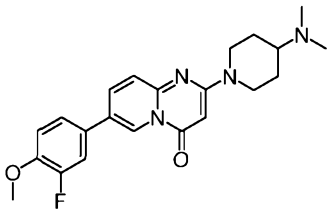
295



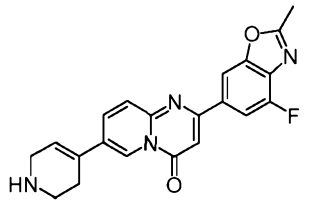
296



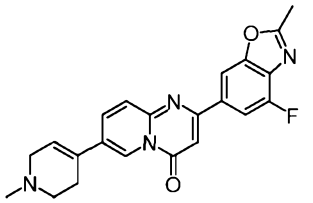
297



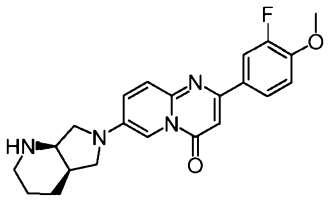
298



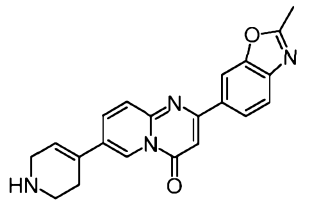
299



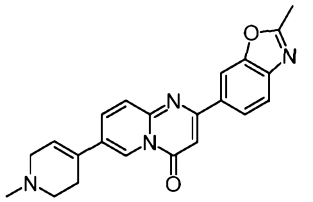
300



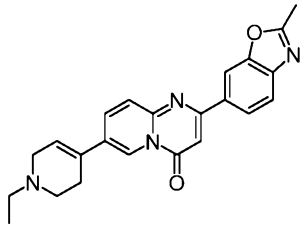
301



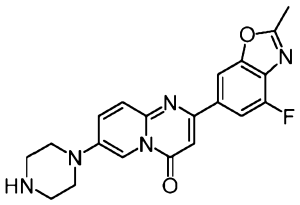
302



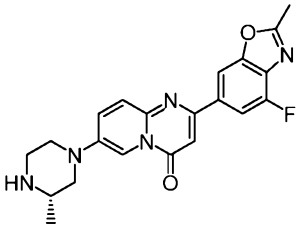
303



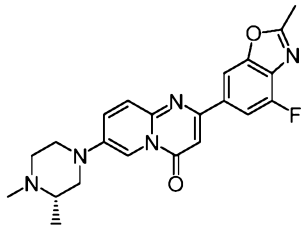
304



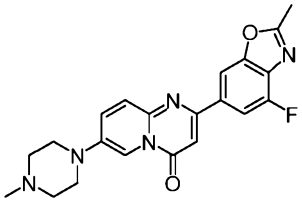
305



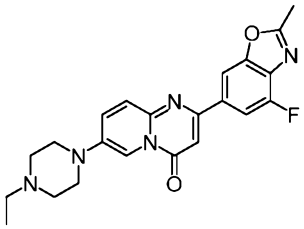
306



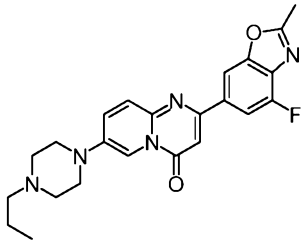
307



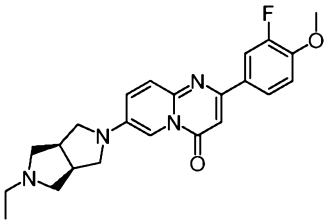
308



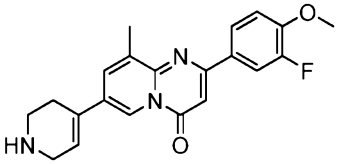
309



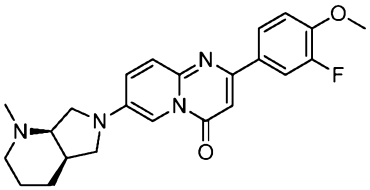
310



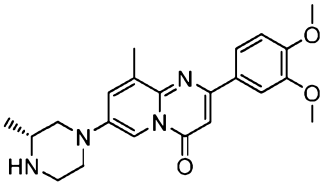
311



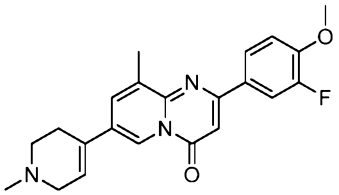
312



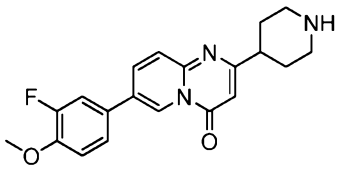
313



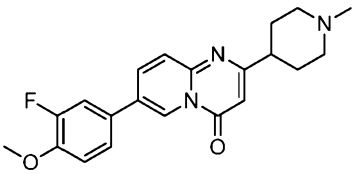
314



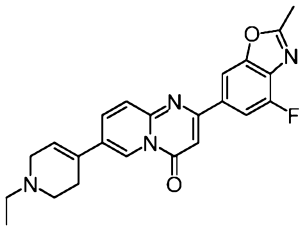
315



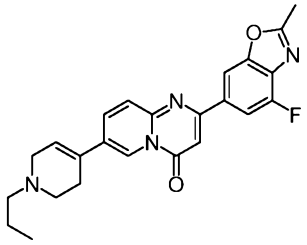
316



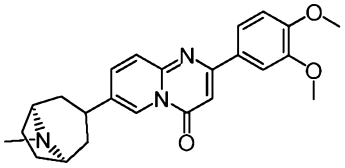
317



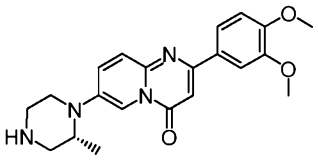
318



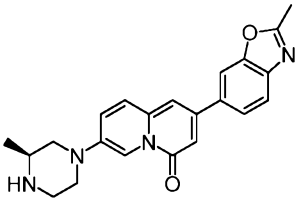
319



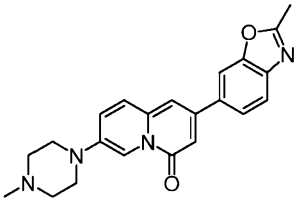
320



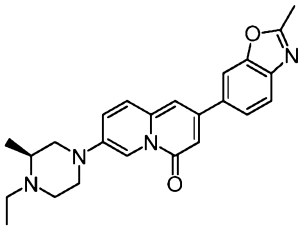
321



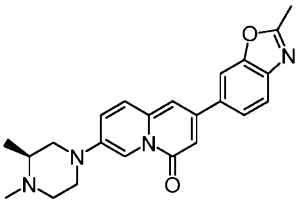
322



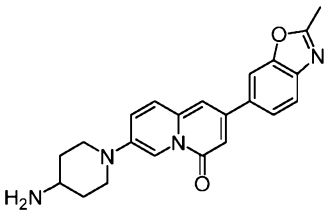
323



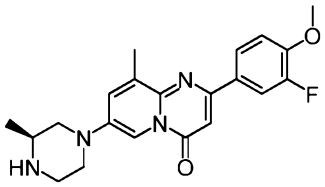
324



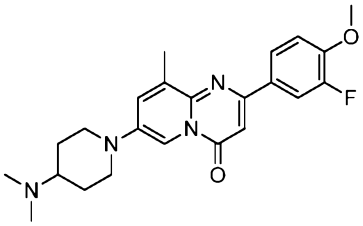
325



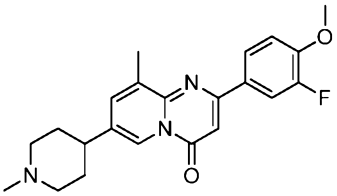
326



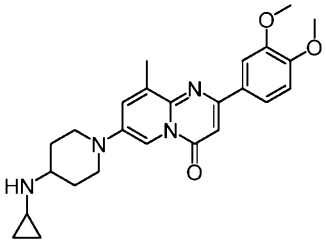
327



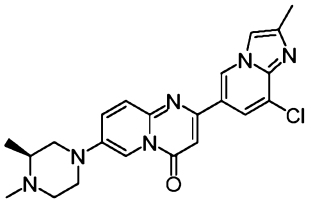
328



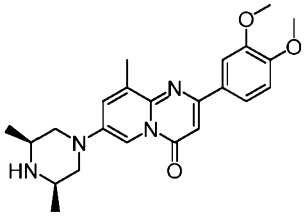
329



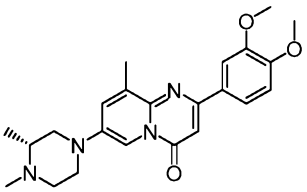
330



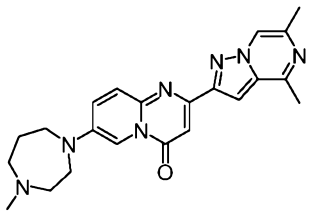
331



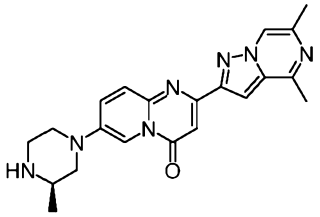
332



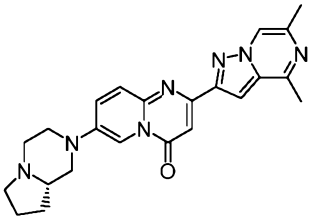
333



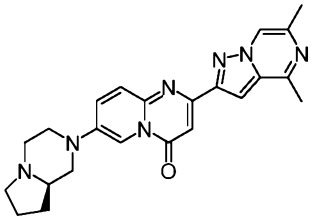
334



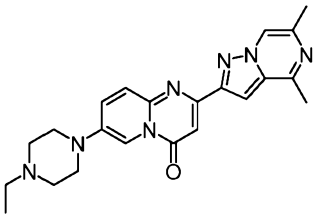
335



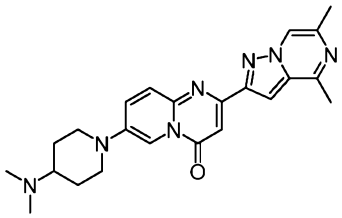
336



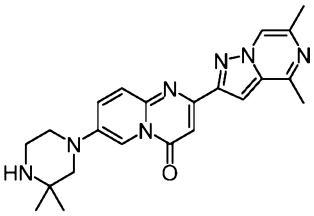
337



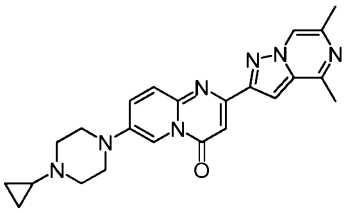
338



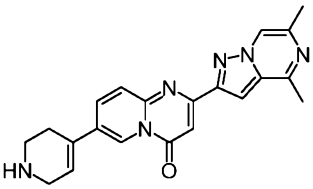
339



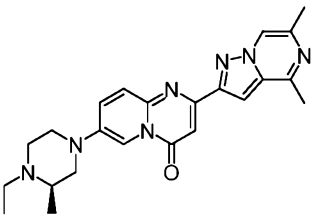
340



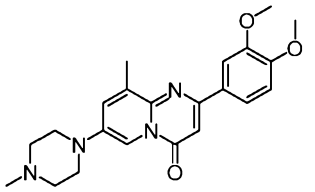
341



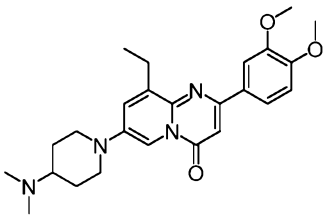
342



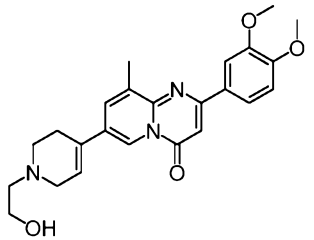
343



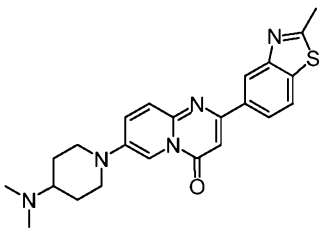
344



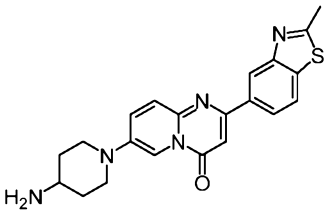
345



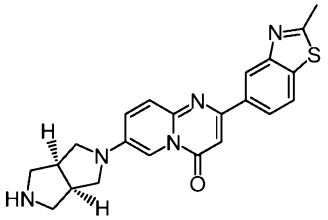
346



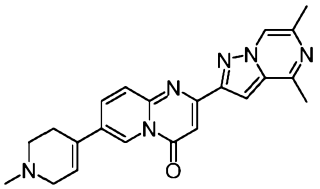
347



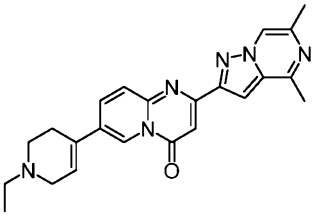
348



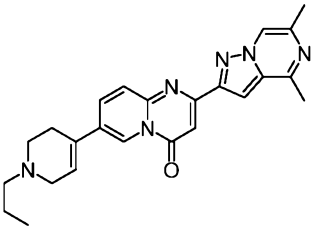
349



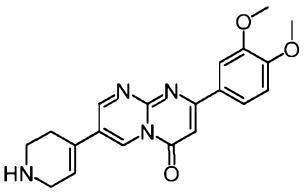
350



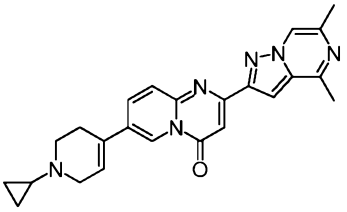
351



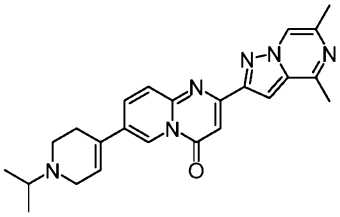
352



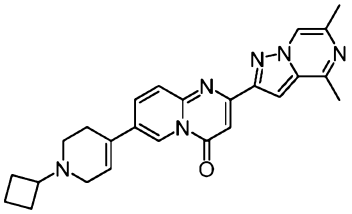
353



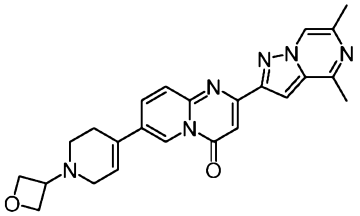
354



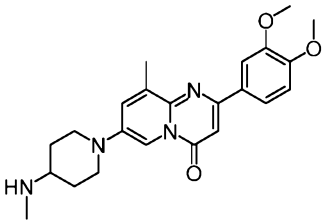
355



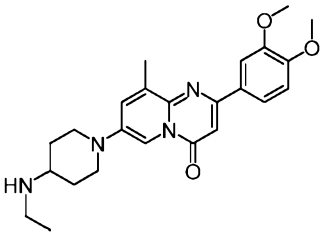
356



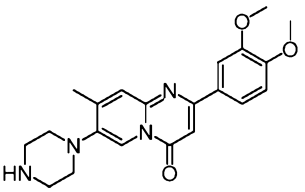
357



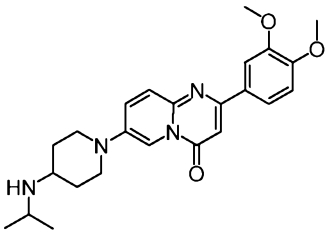
358



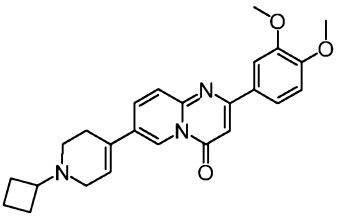
359



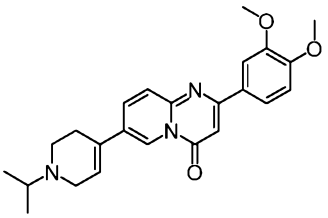
360



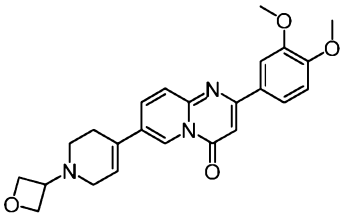
361



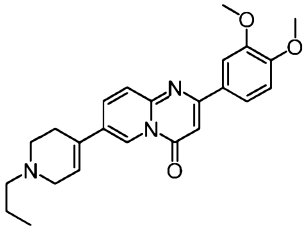
362



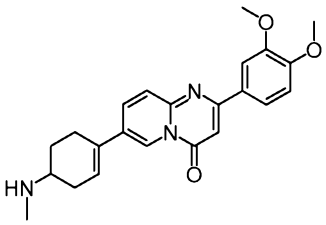
363



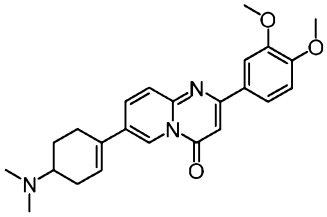
364



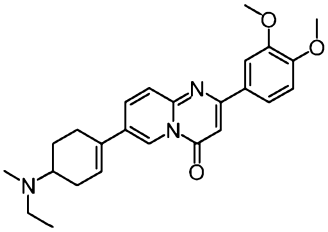
365



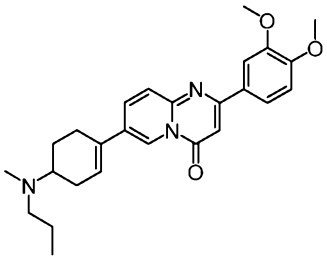
366



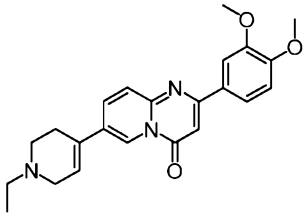
367



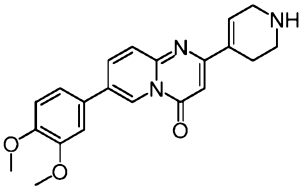
368



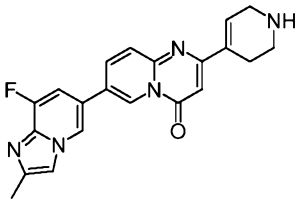
369



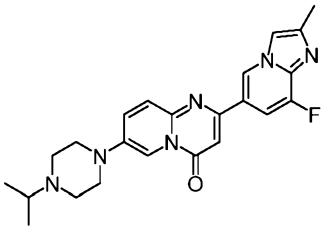
370



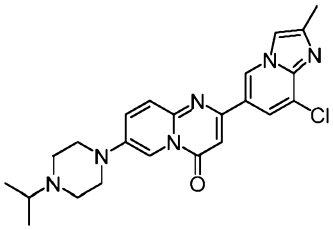
371



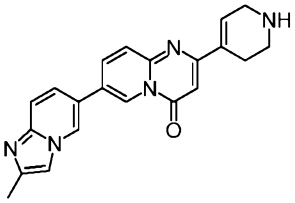
372



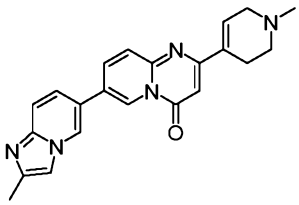
373



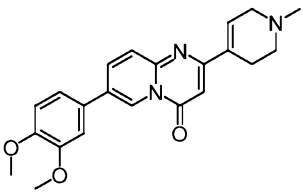
374



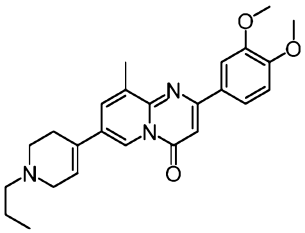
375



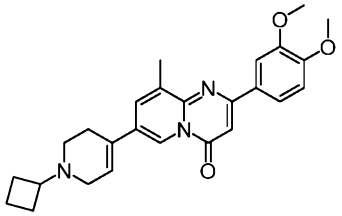
376



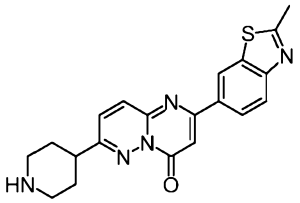
377



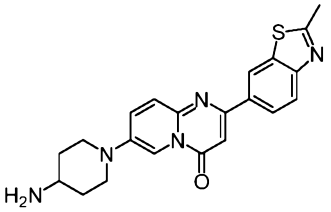
378



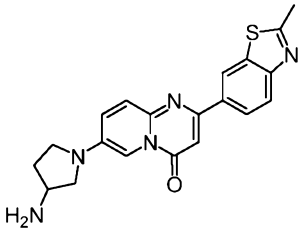
379



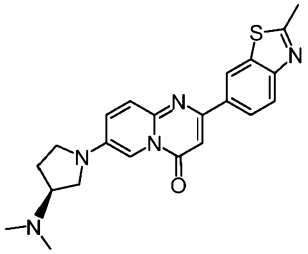
380



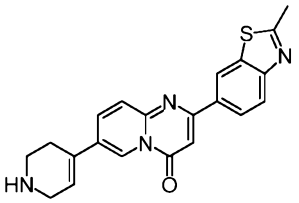
381



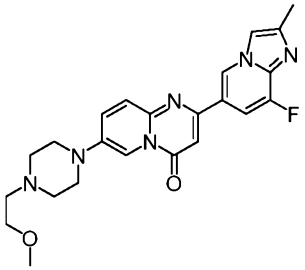
382



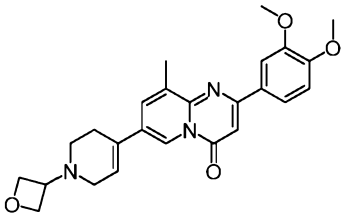
383



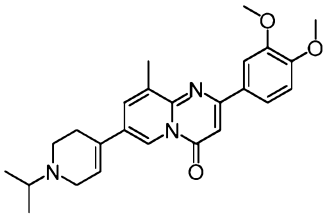
384



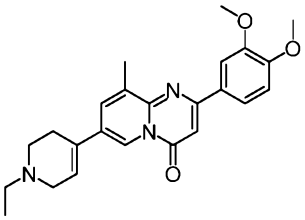
385



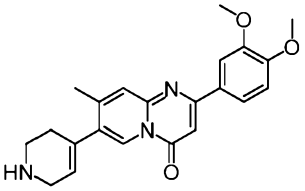
386



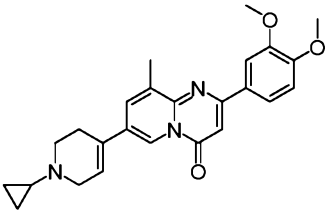
387



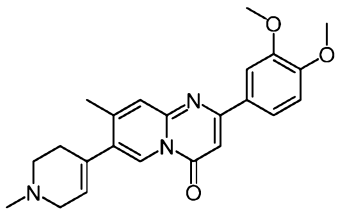
388



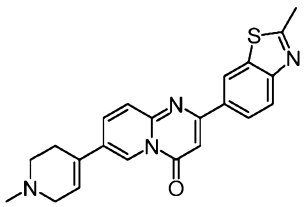
389



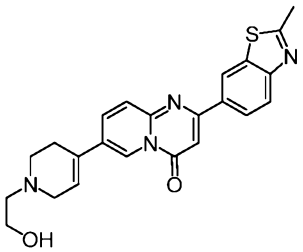
390



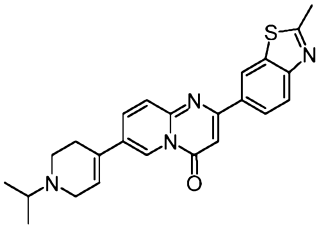
391



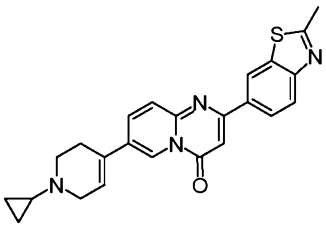
392



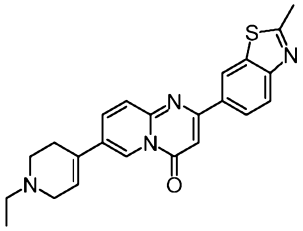
393



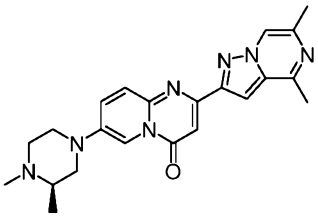
394



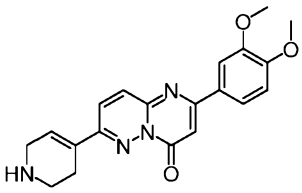
395



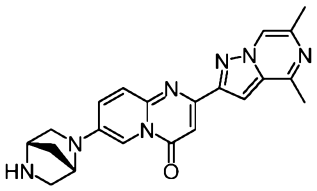
396



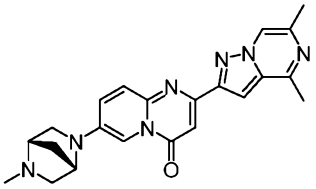
397



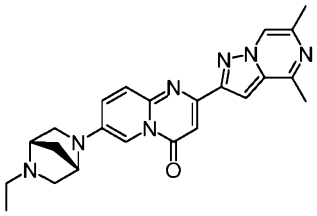
398



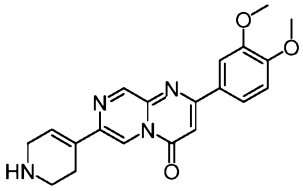
399



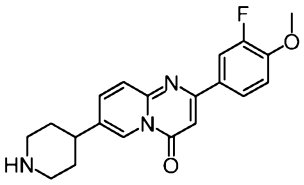
400



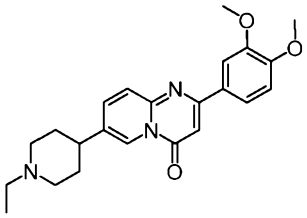
401



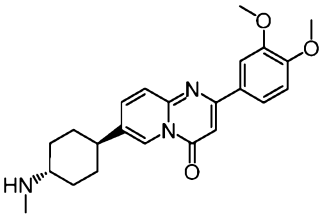
402



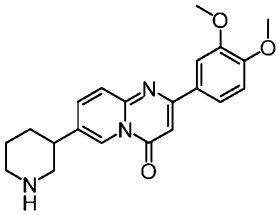
403



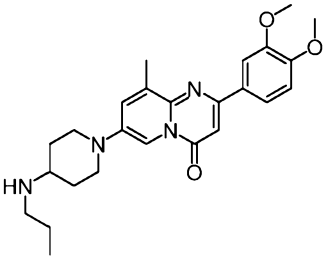
404



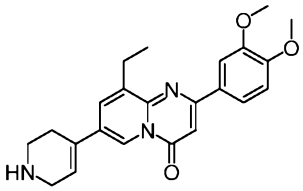
405



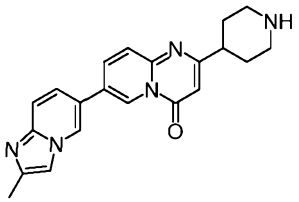
406



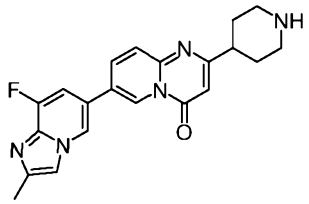
407



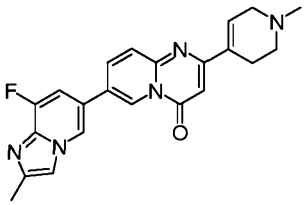
408



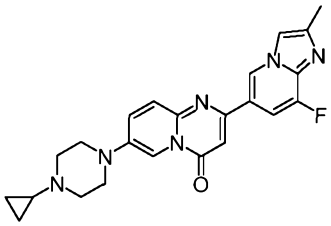
409



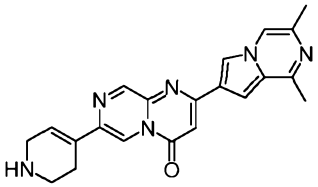
410



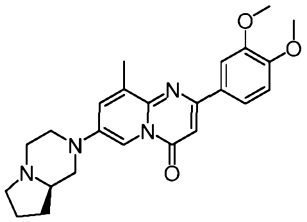
411



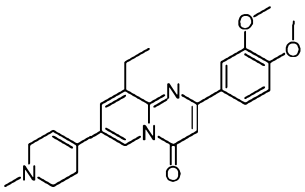
412



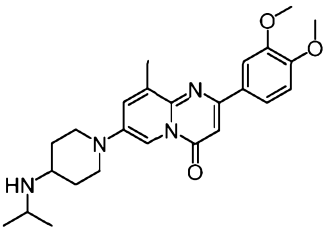
413



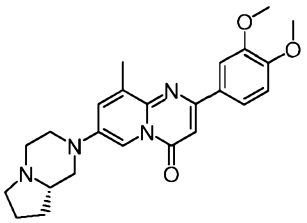
414



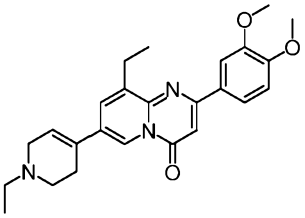
415



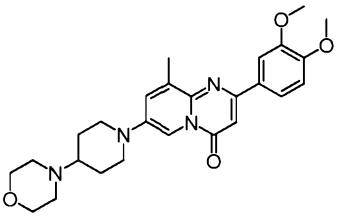
416



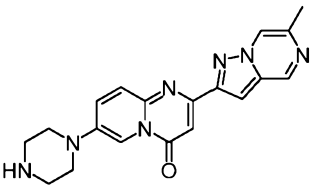
417



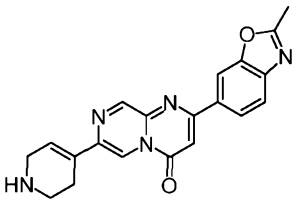
418



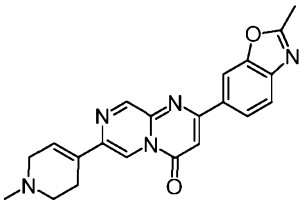
419



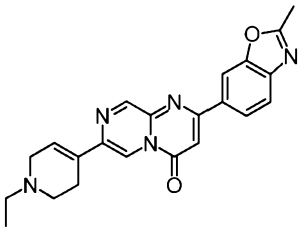
420



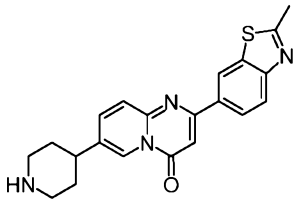
421



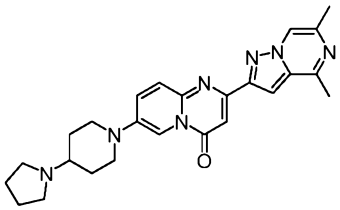
422



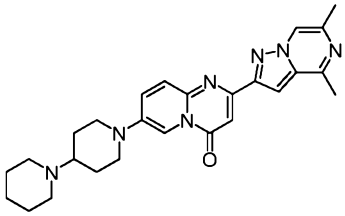
423



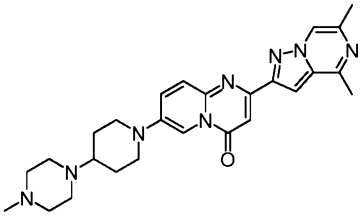
424



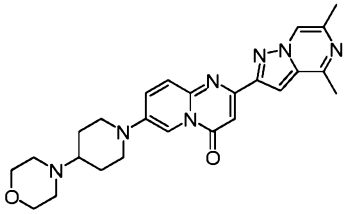
425



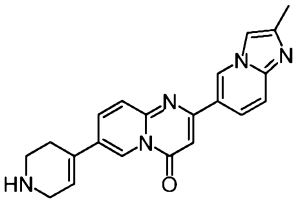
426



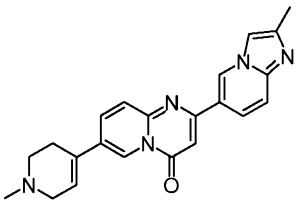
427



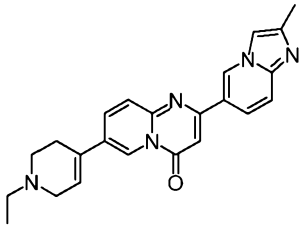
428



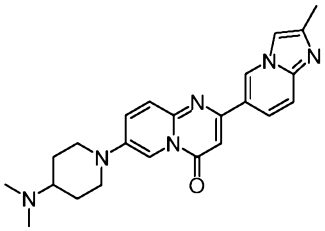
429



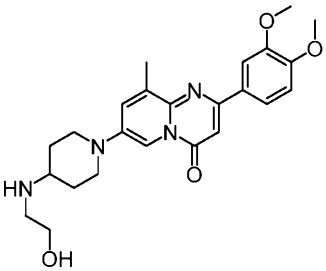
430



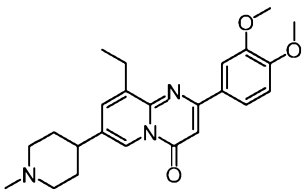
431



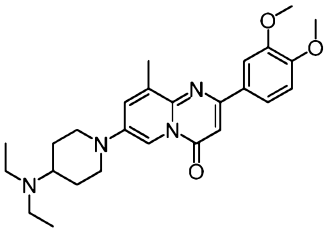
432



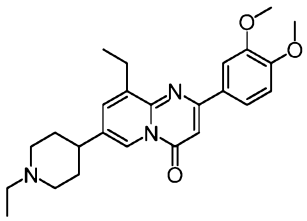
433



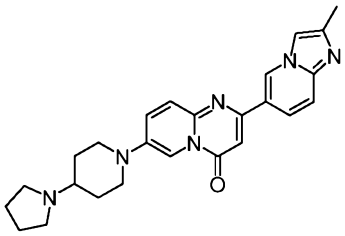
434



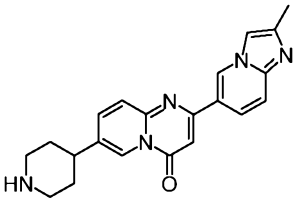
435



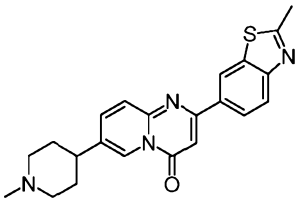
436



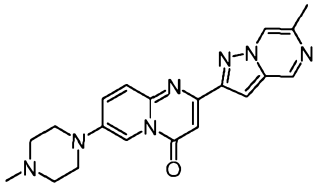
437



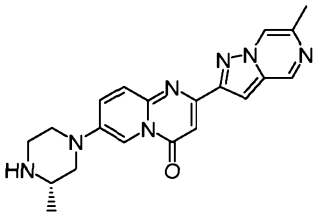
438



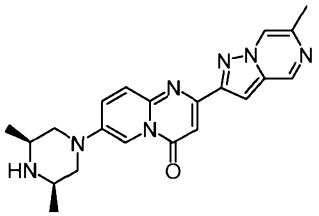
439



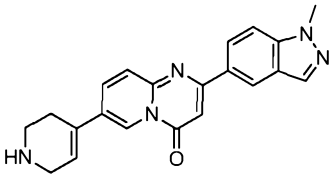
440



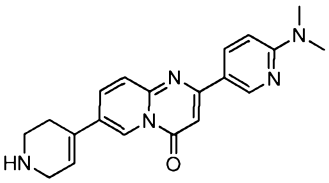
441



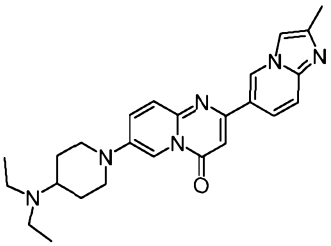
442



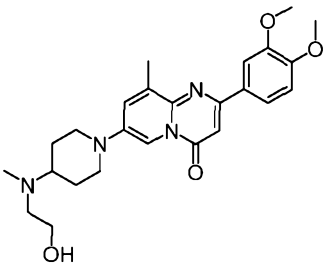
443



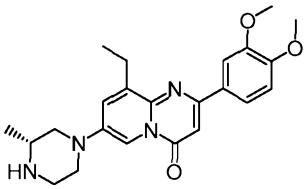
444



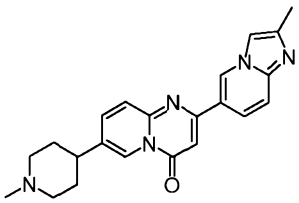
445



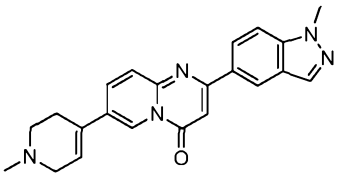
446



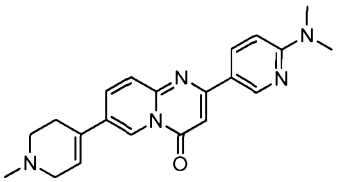
447



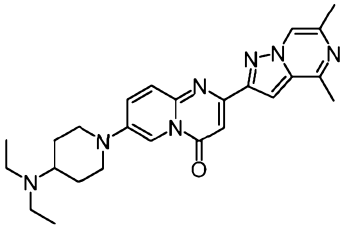
448



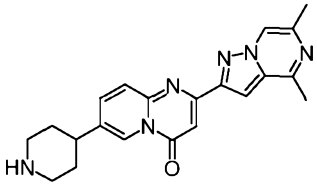
449



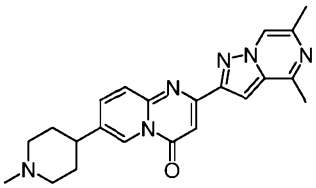
450



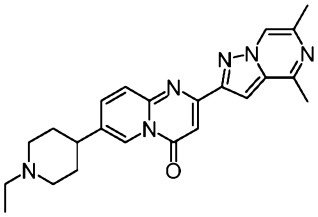
451



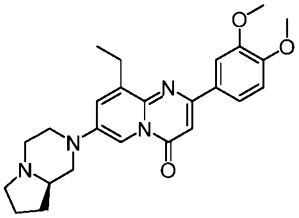
452



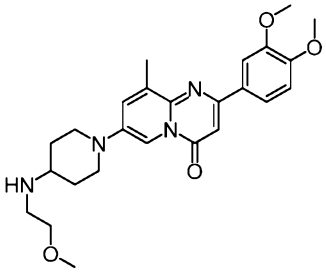
453



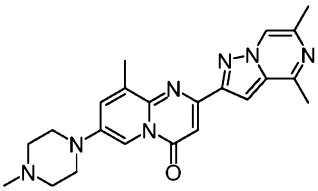
454



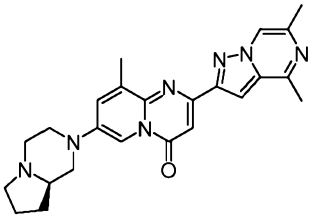
455



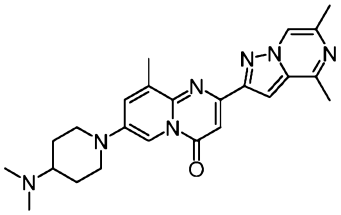
456



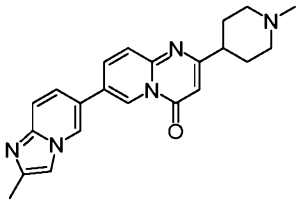
457



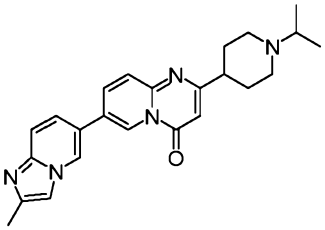
458



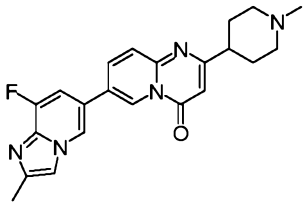
459



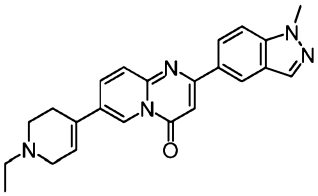
460



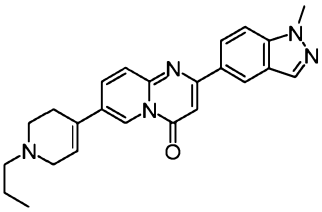
461



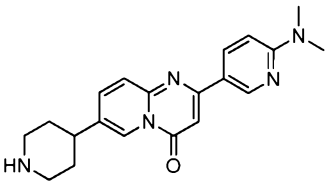
462



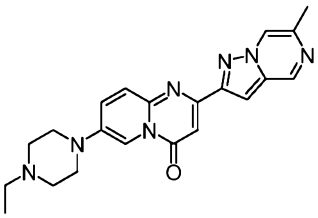
463



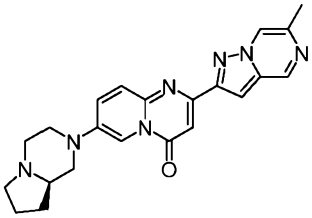
464



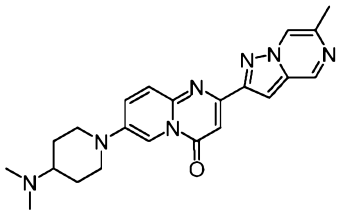
465



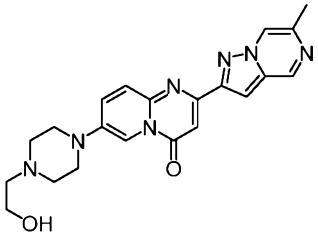
466



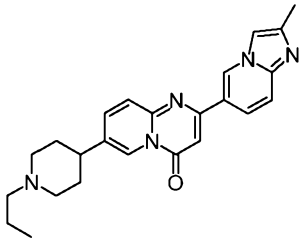
467



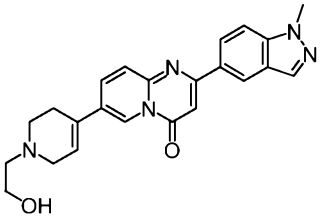
468



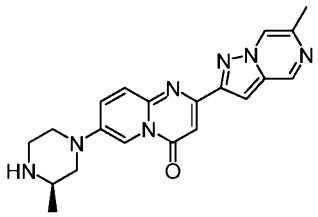
469



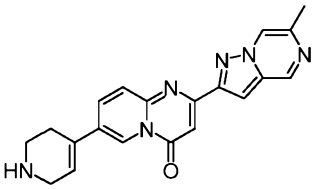
470



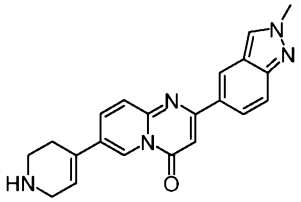
471



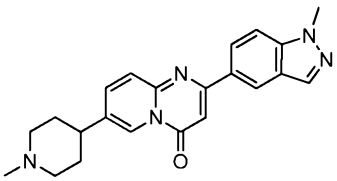
472



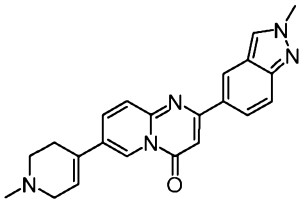
473



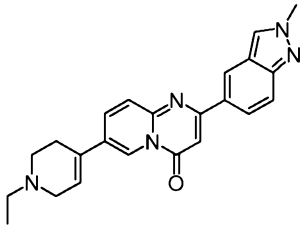
474



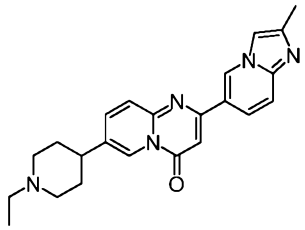
475



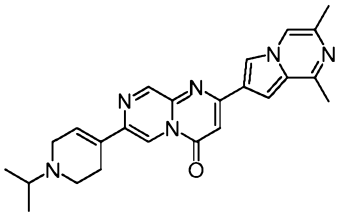
476



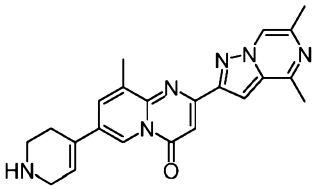
477



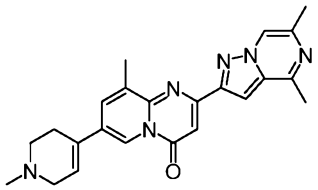
478



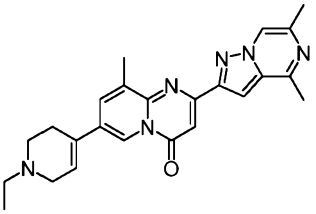
479



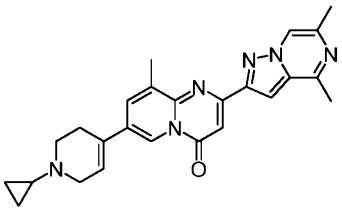
480



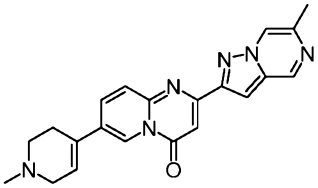
481



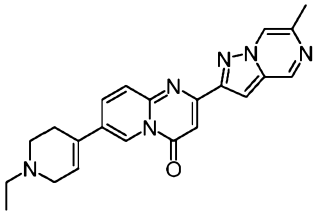
482



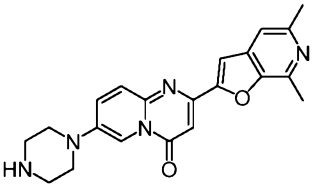
483



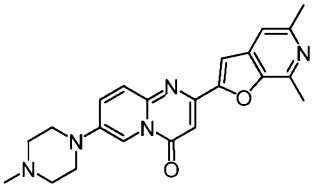
484



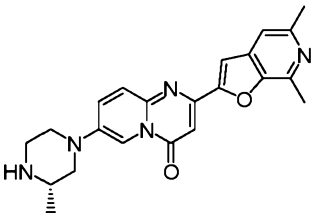
485



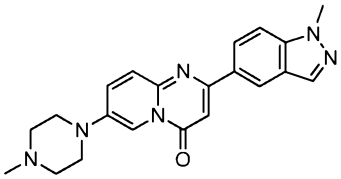
486



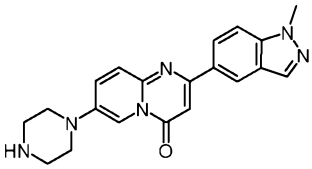
487



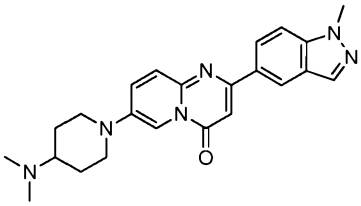
488



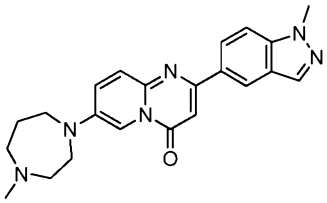
489



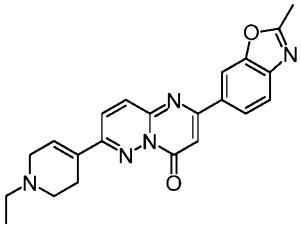
490



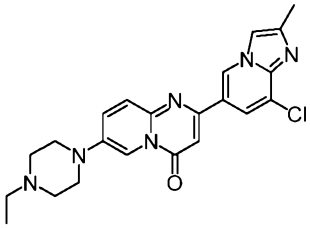
491



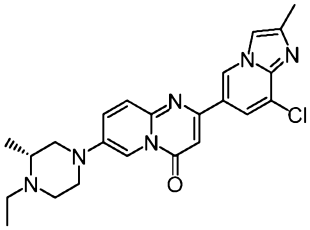
492



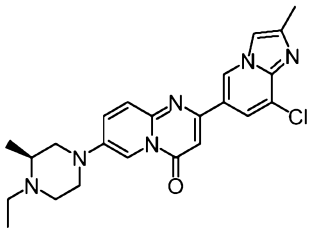
493



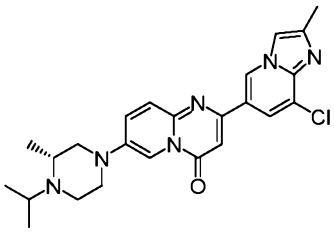
494



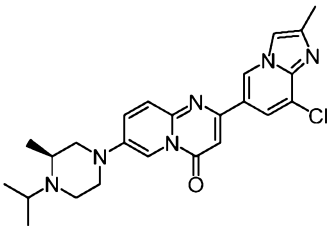
495



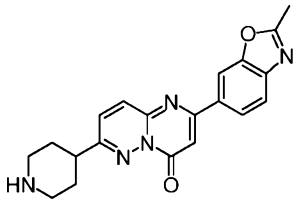
496



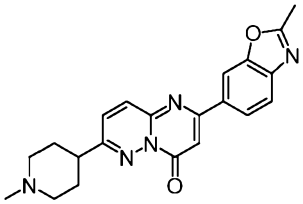
497



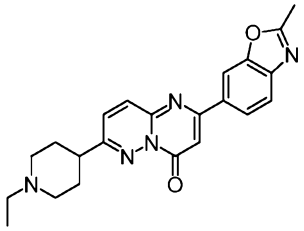
498



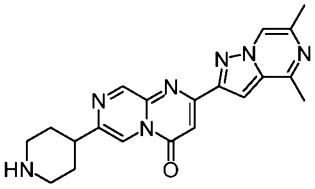
499



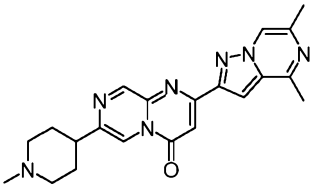
500



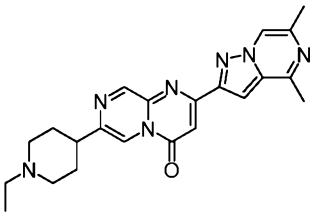
501



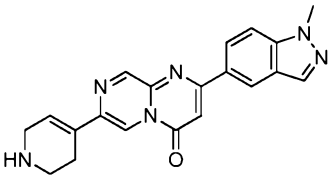
502



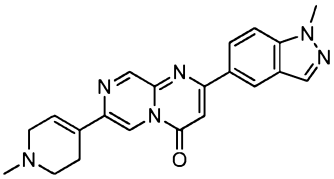
503



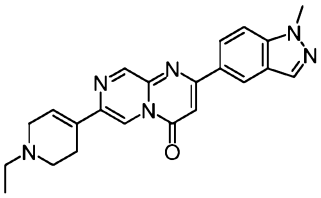
504



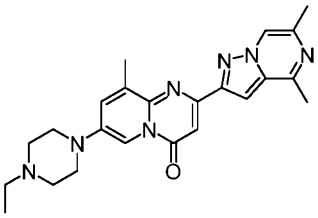
505



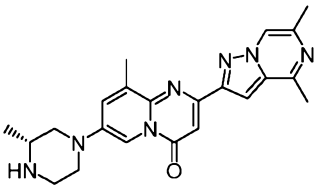
506



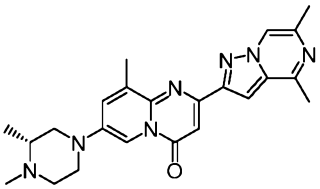
507



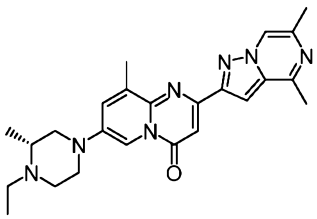
508



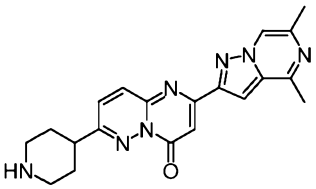
509



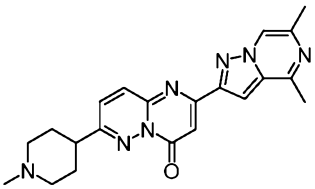
510



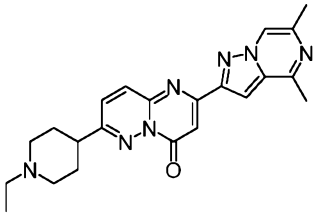
511



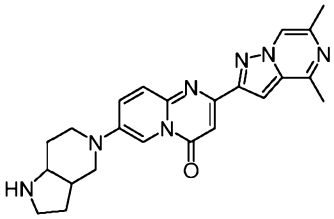
512



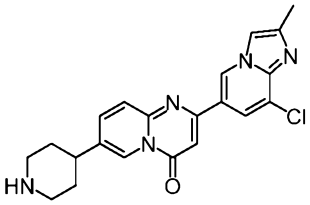
513



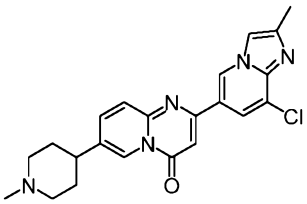
514



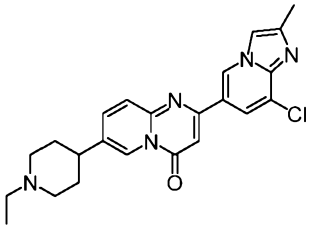
515



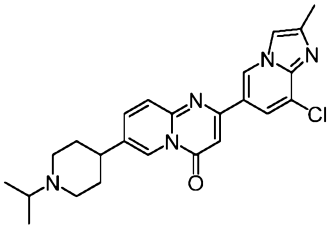
516



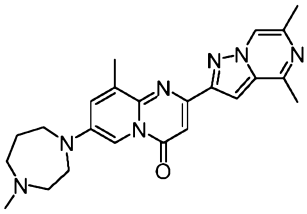
517



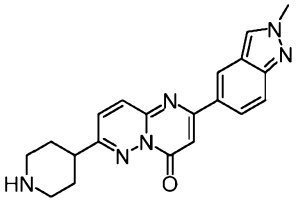
518



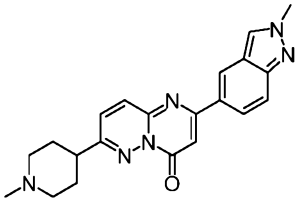
519



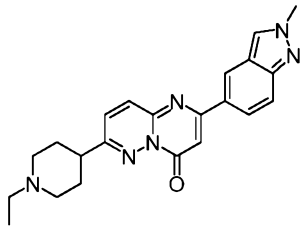
520



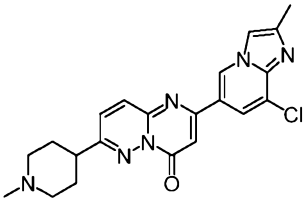
521



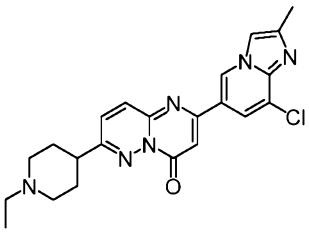
522



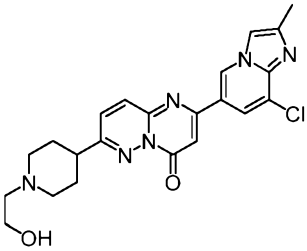
523



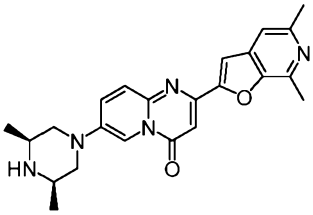
524



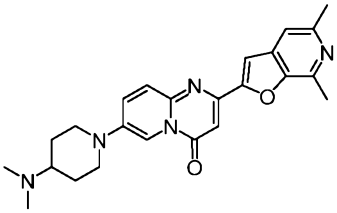
525



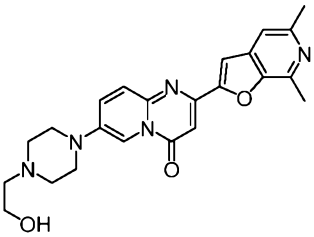
526



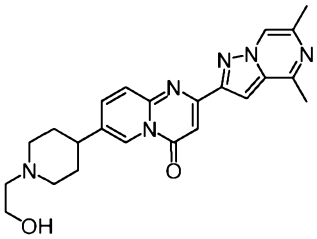
527



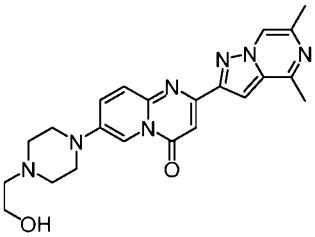
528



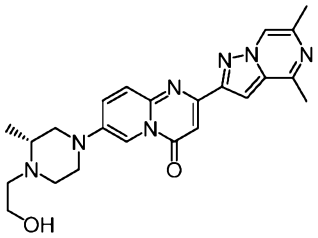
529



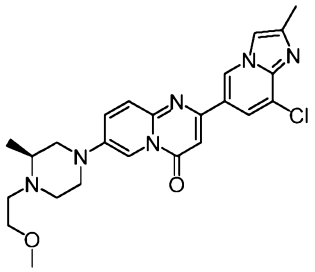
530



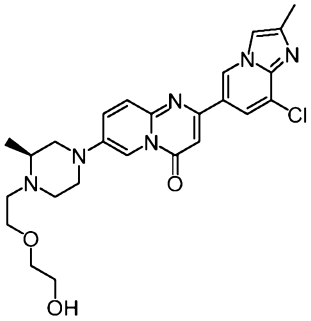
531



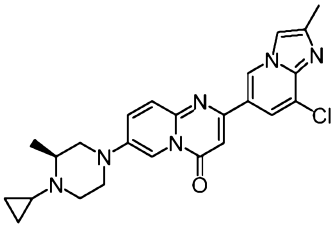
532



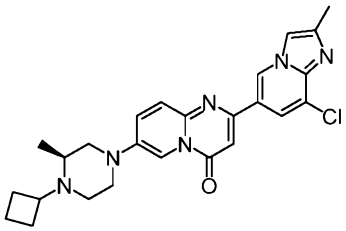
533



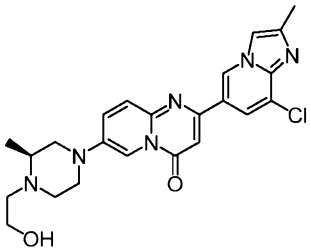
534



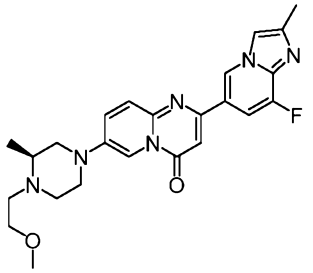
535



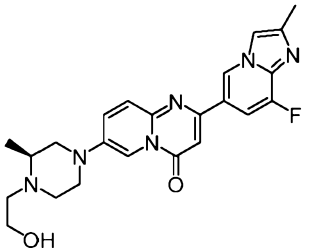
536



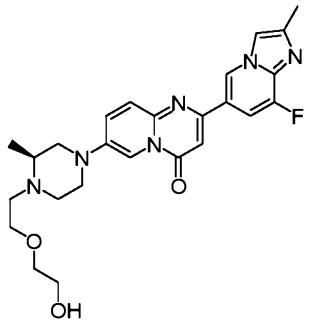
537



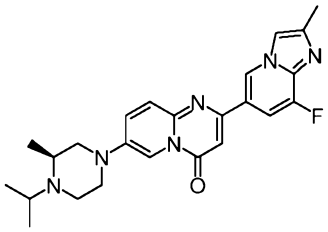
538



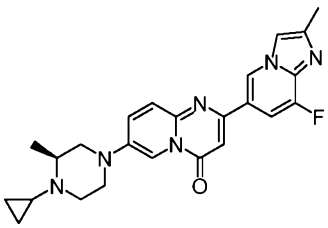
539



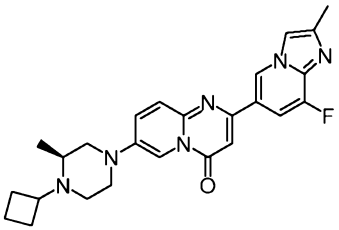
540



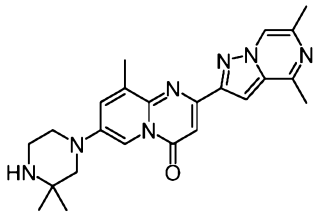
541



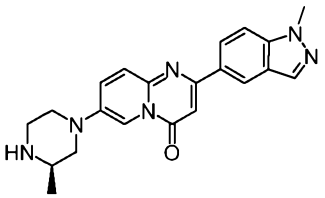
542



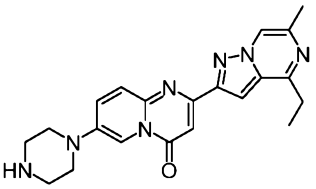
543



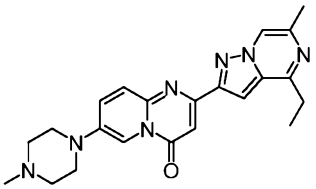
544



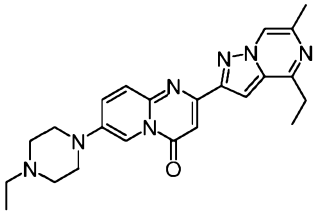
545



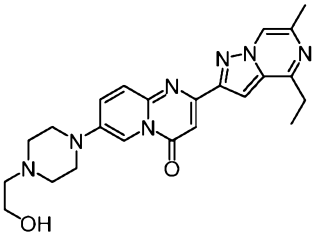
546



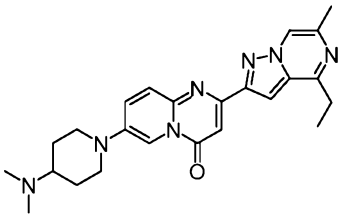
547



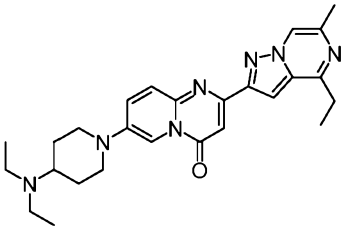
548



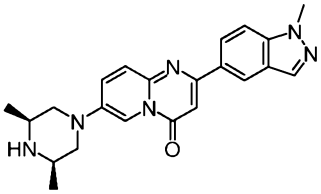
549



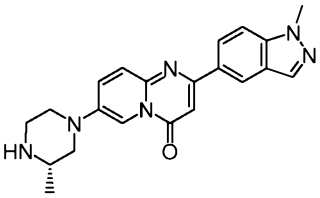
550



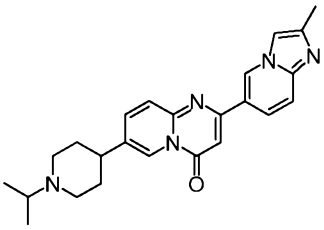
551



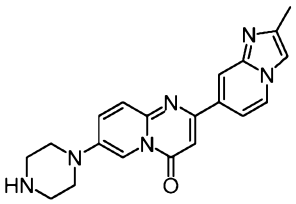
552



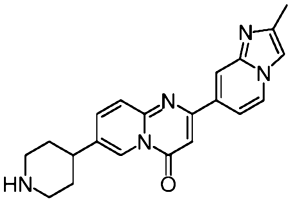
553



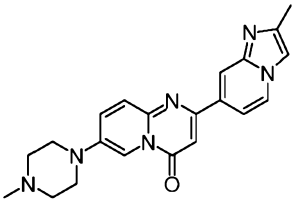
554



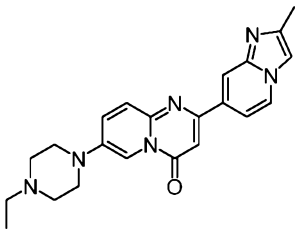
555



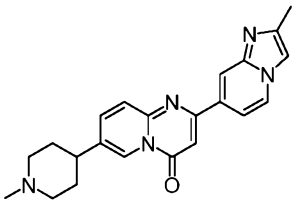
556



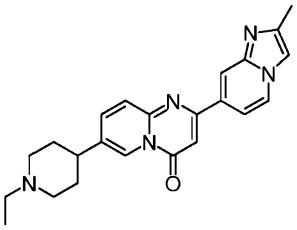
557



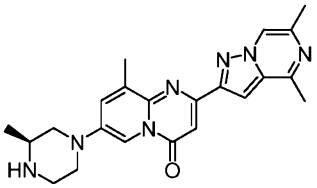
558



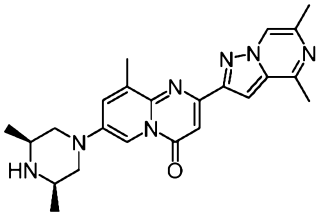
559



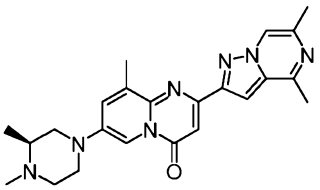
560



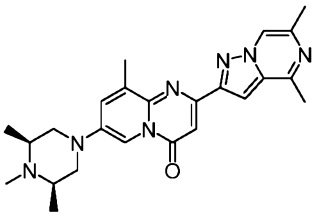
561



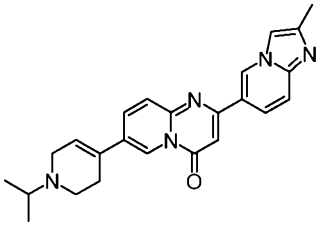
562



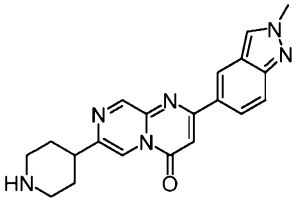
563



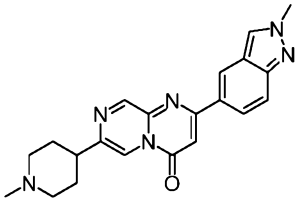
564



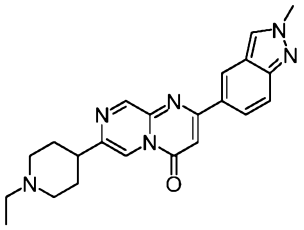
565



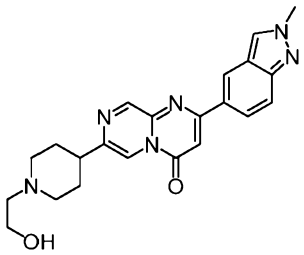
566



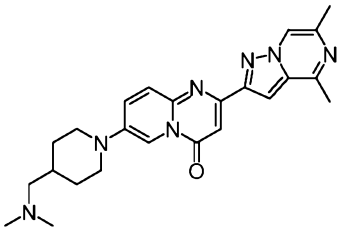
567



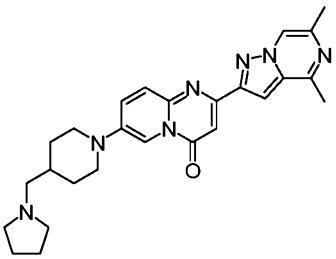
568



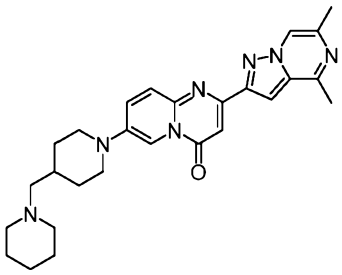
569



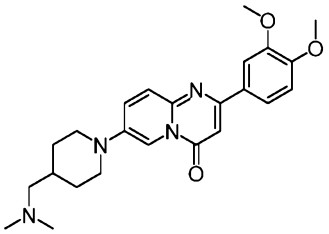
570



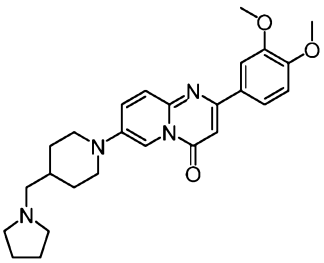
571



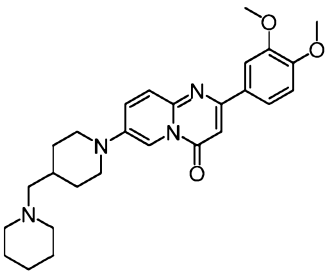
572



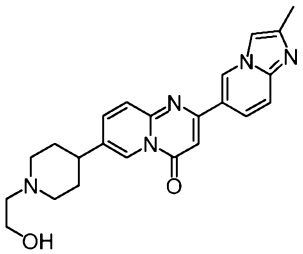
573



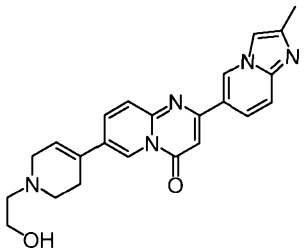
574



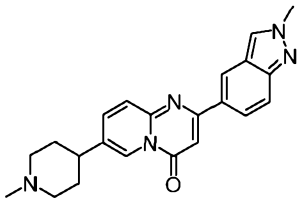
575



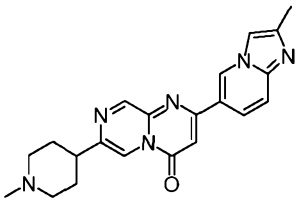
576



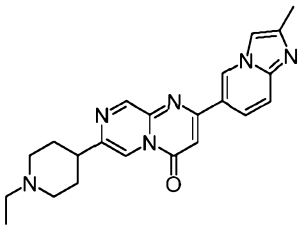
577



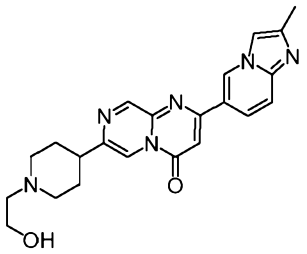
578



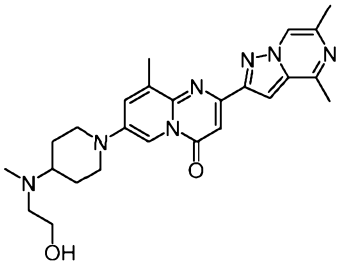
579



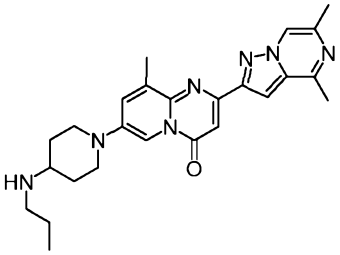
580



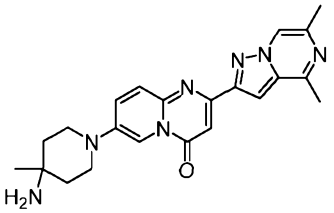
581



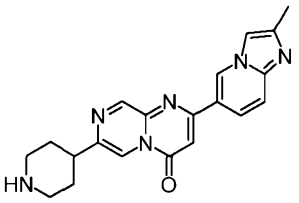
582



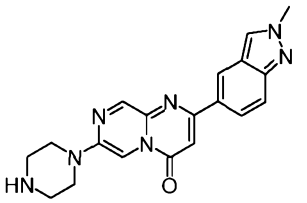
583



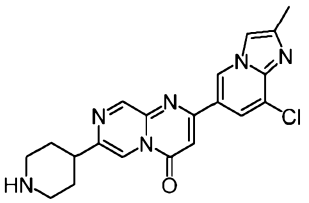
584



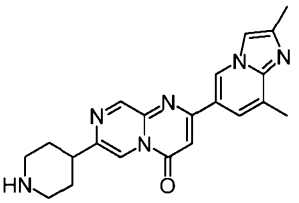
585



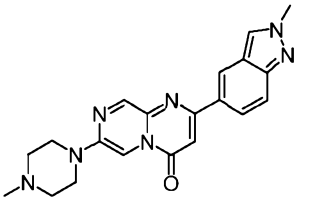
586



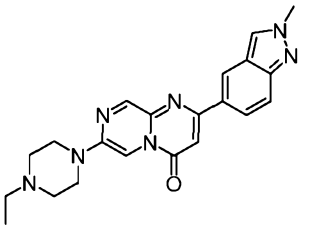
587



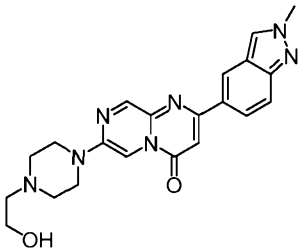
588



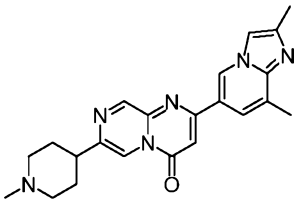
589



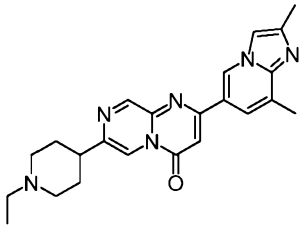
590



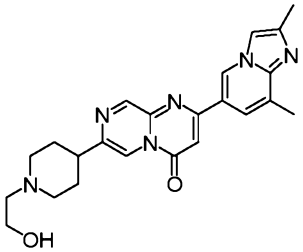
591



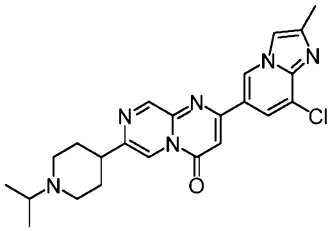
592



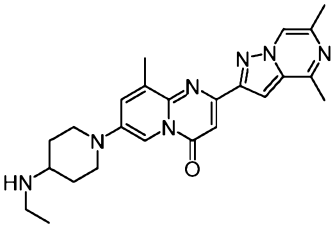
593



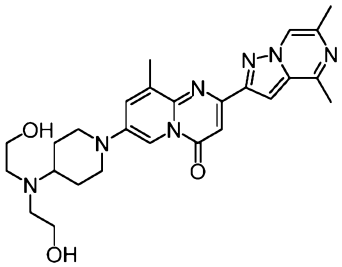
594



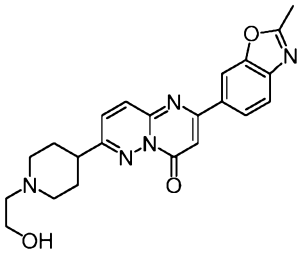
595



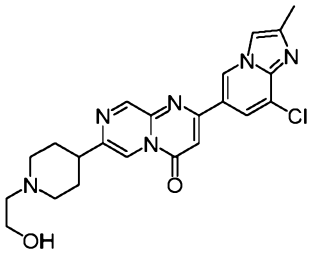
596



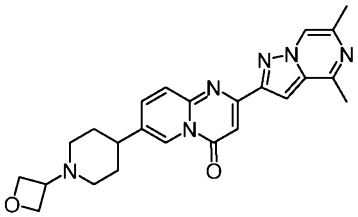
597



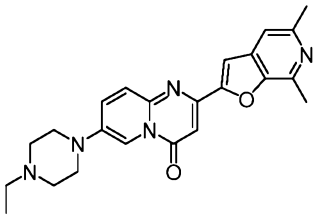
598



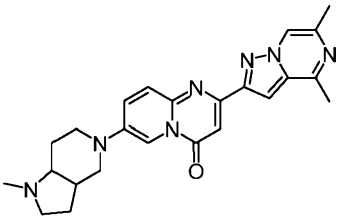
599



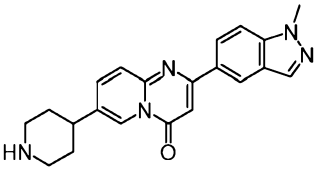
600



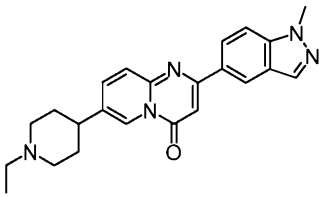
601



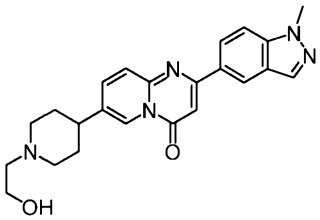
602



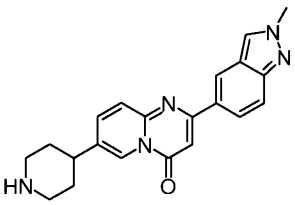
603



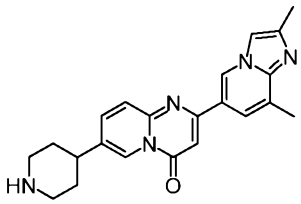
604



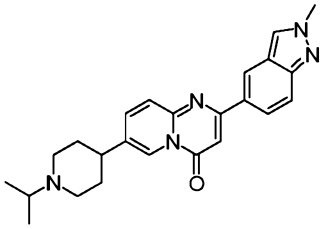
605



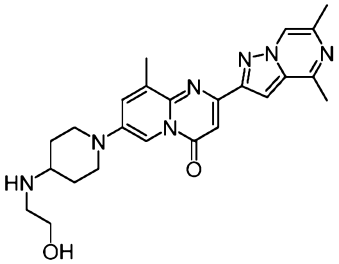
606



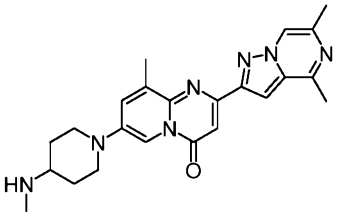
607



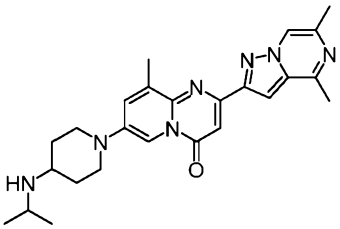
608



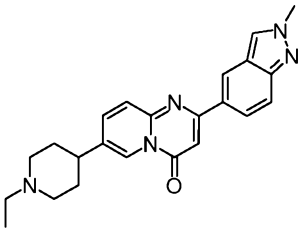
609



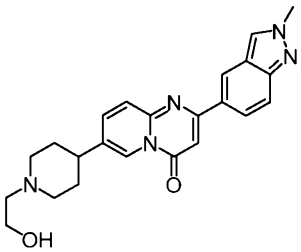
610



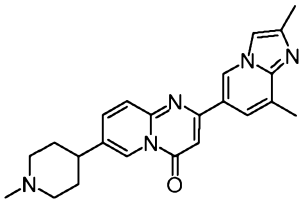
611



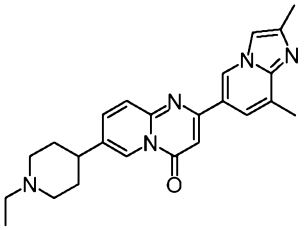
612



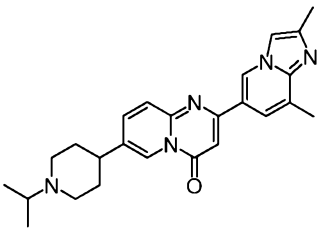
613



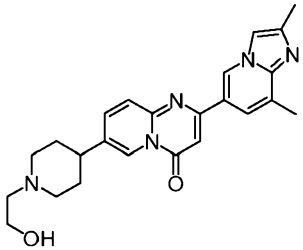
614



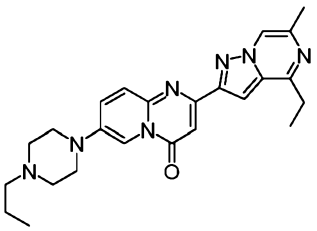
615



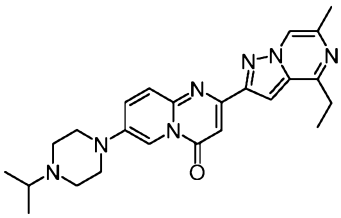
616



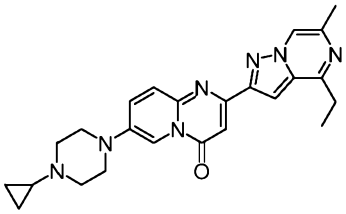
617



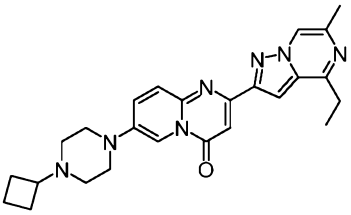
618



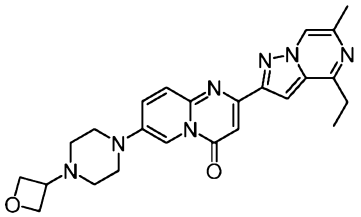
619



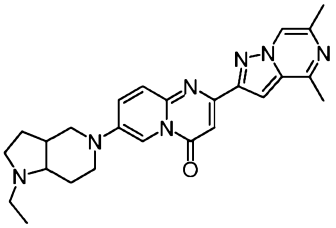
620



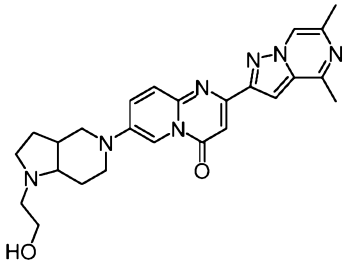
621



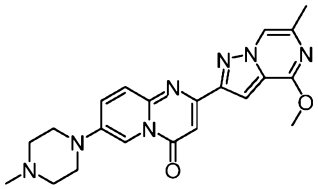
622



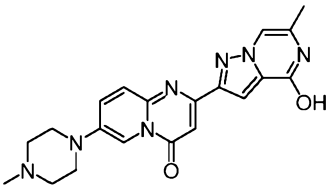
623



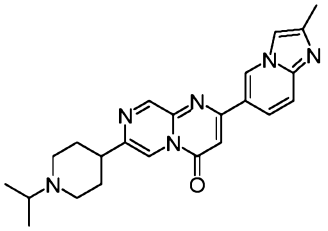
624



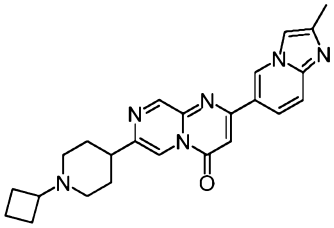
625



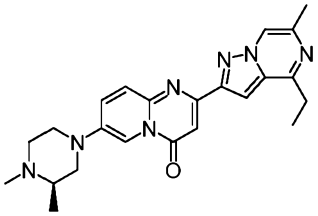
626



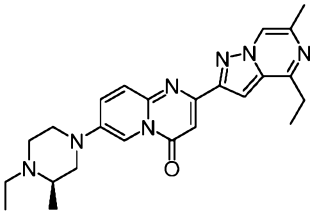
627



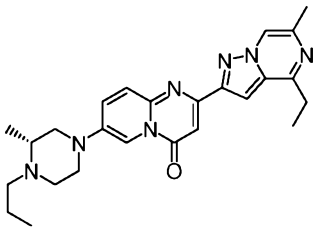
628



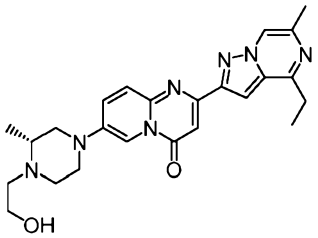
629



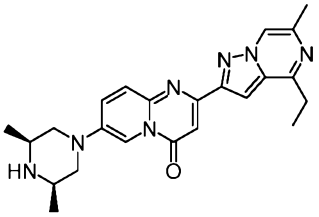
630



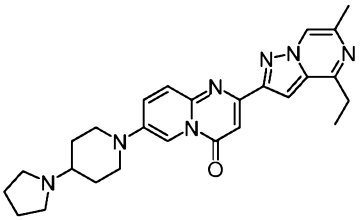
631



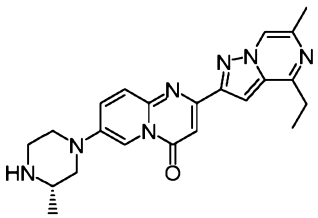
632



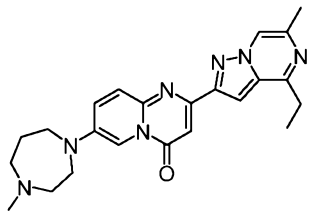
633



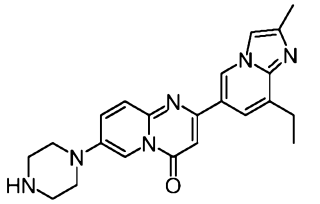
634



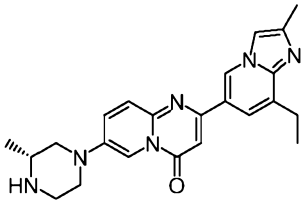
635



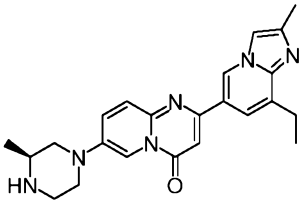
636



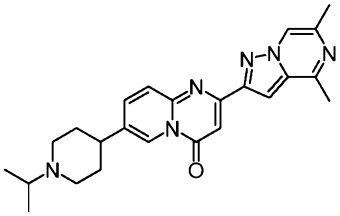
637



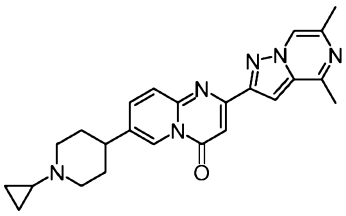
638



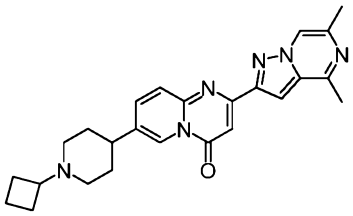
639



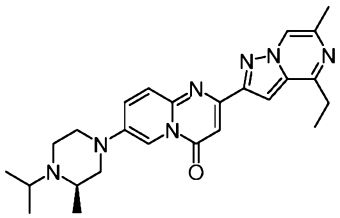
640



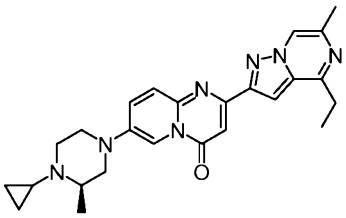
641



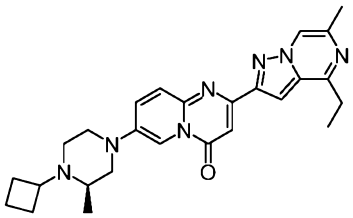
642



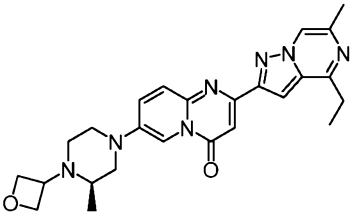
643



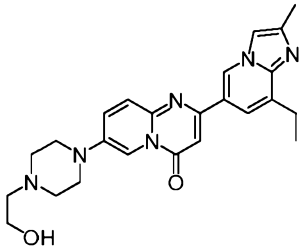
644



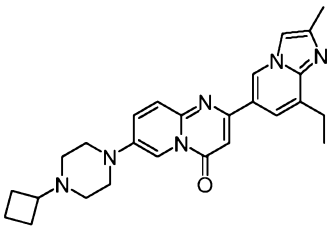
645



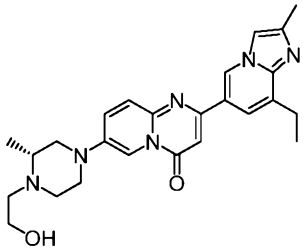
646



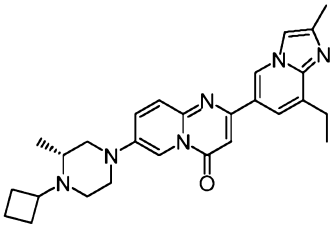
647



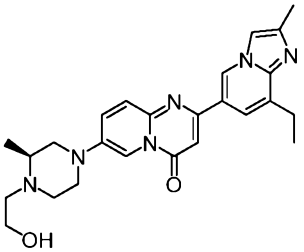
648



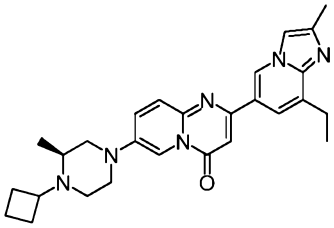
649



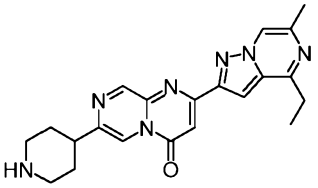
650



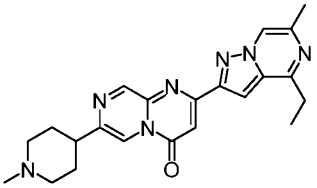
651



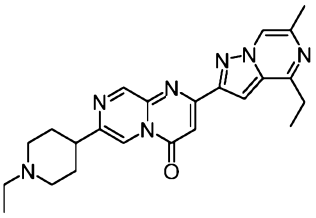
652



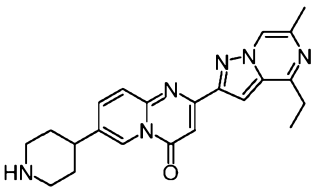
653



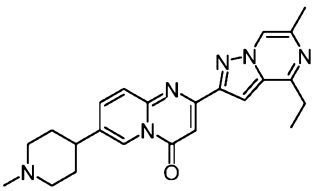
654



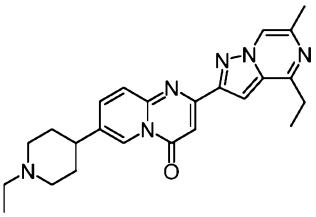
655



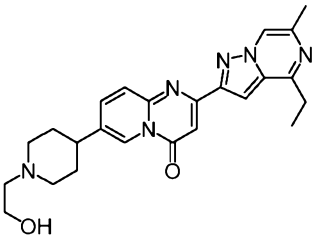
656



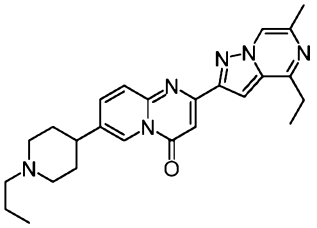
657



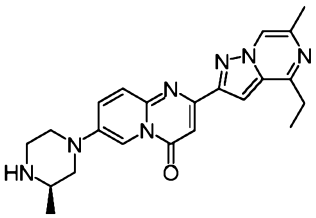
658



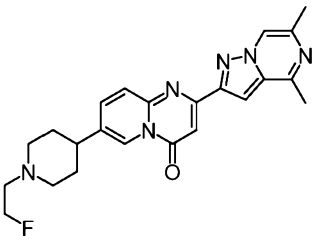
659



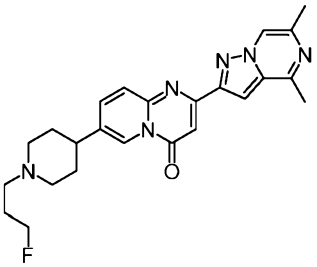
660



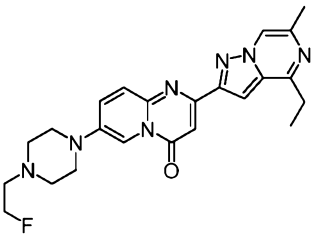
661



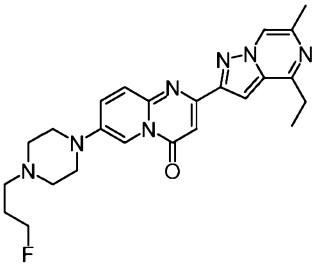
662



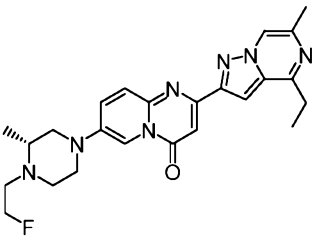
663



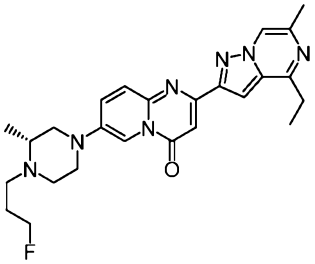
664



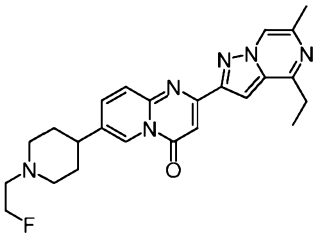
665



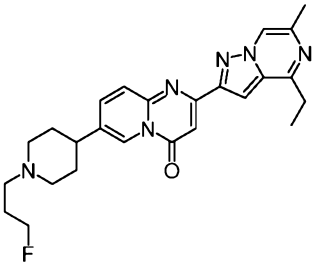
666



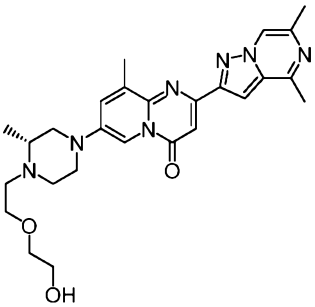
667



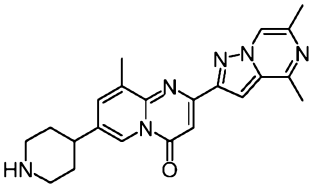
668



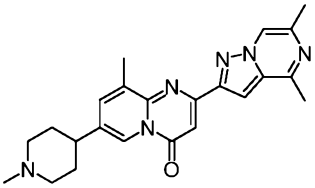
669



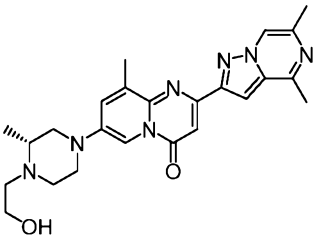
670



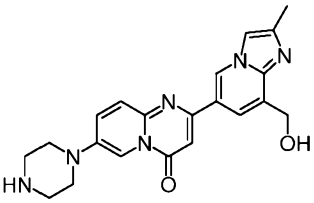
671



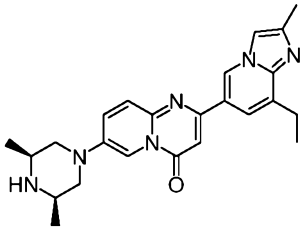
672



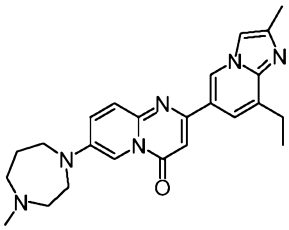
673



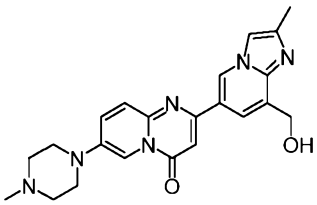
674



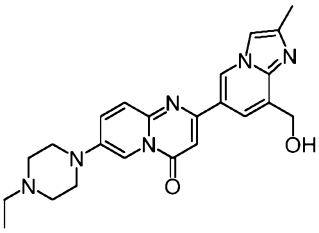
675



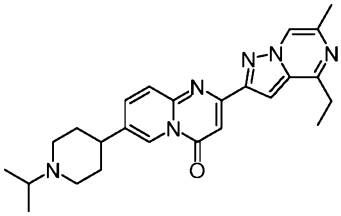
676



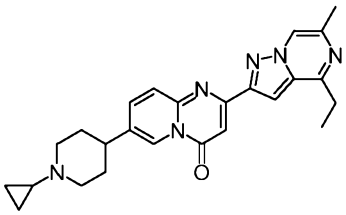
677



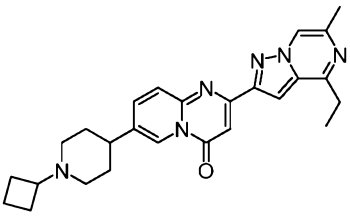
678



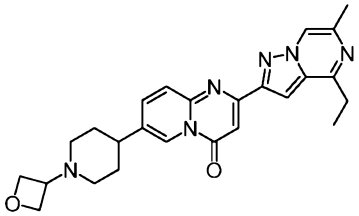
679



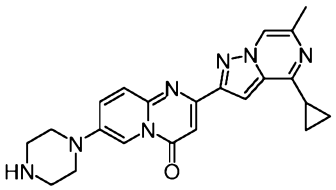
680



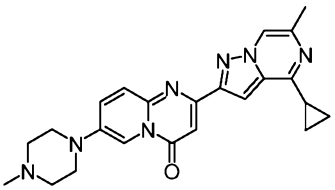
681



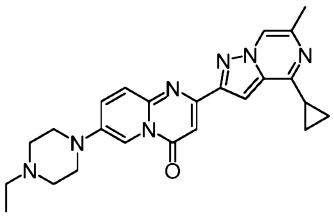
682



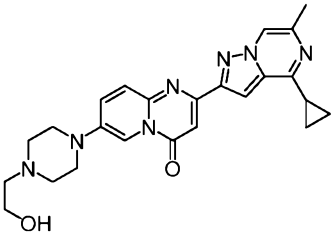
683



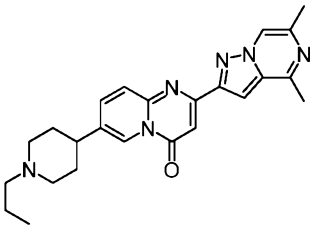
684



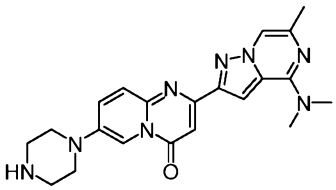
685



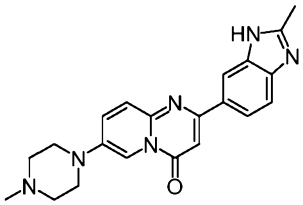
686



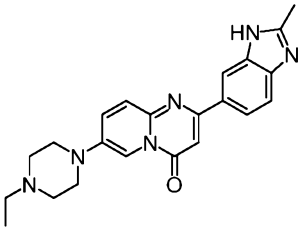
687



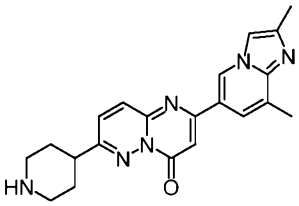
688



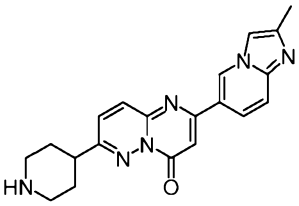
689



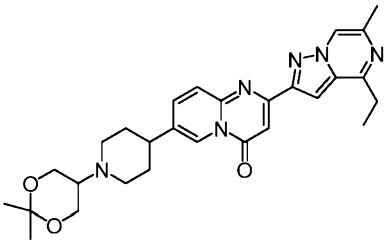
690



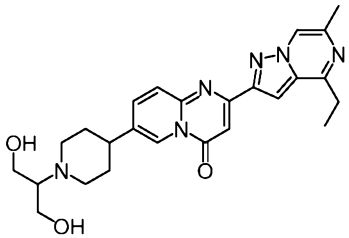
691



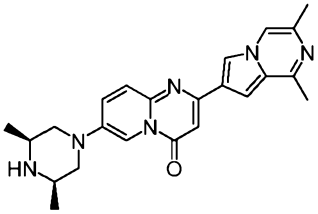
692



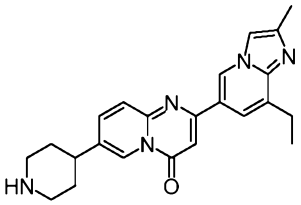
693



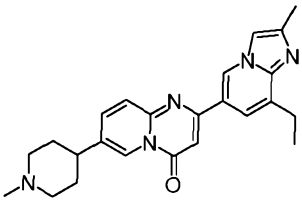
694



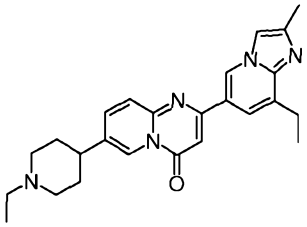
695



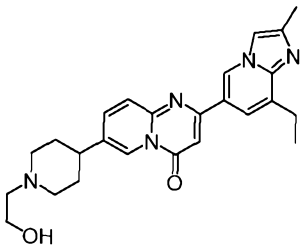
696



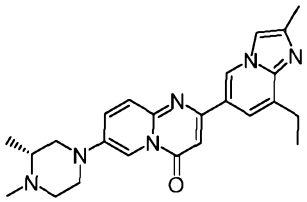
697



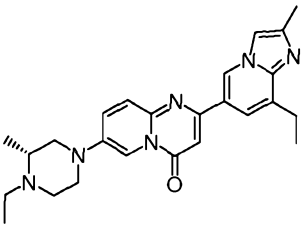
698



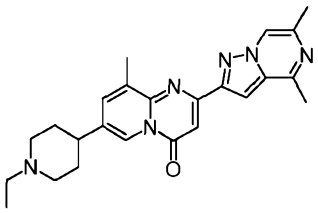
699



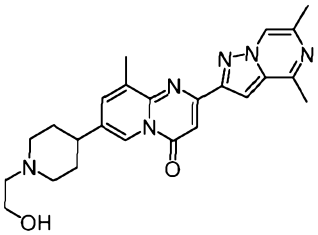
700



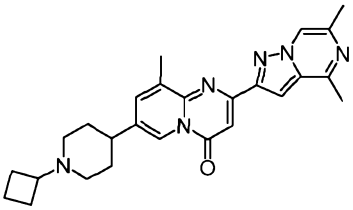
701



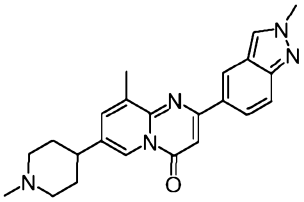
702



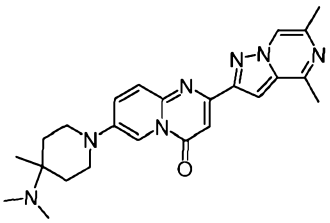
703



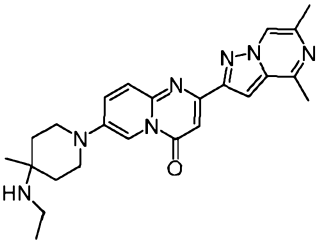
704



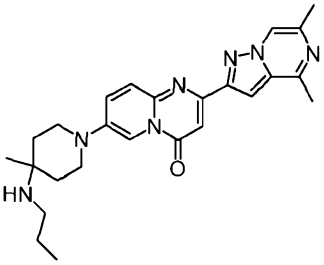
705



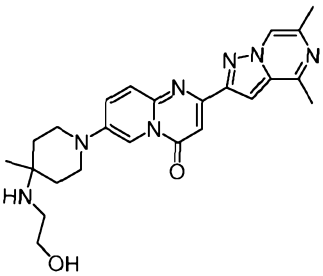
706



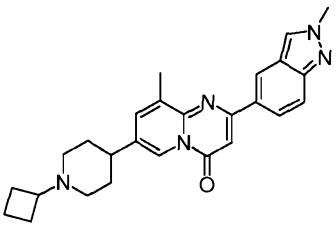
707



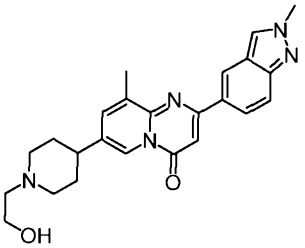
708



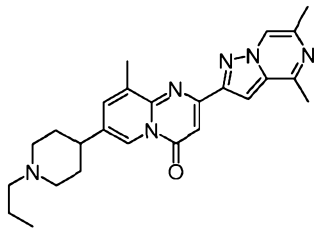
709



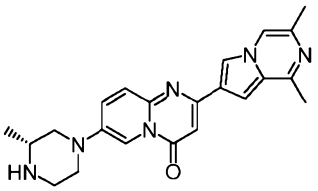
710



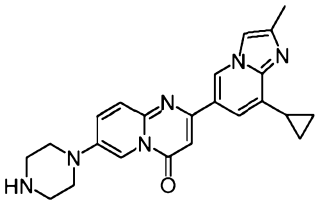
711



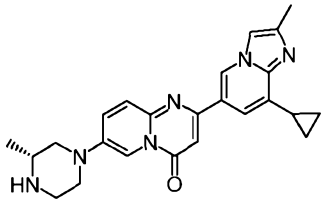
712



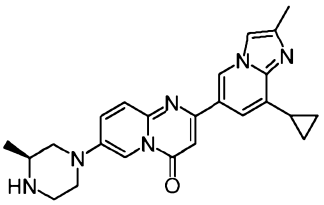
713



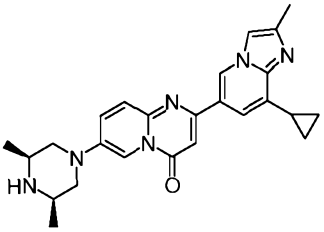
714



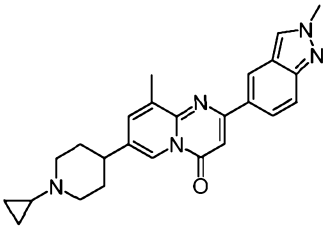
715



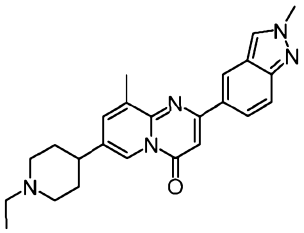
716



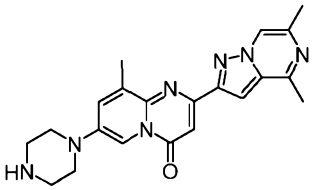
717



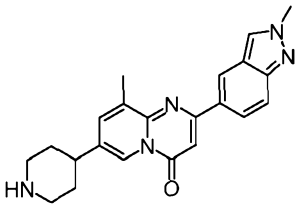
718



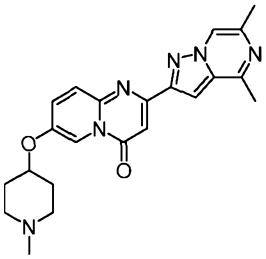
719



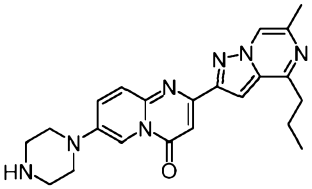
720



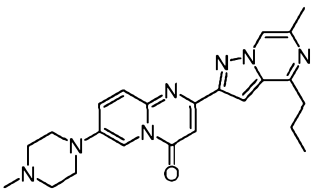
721



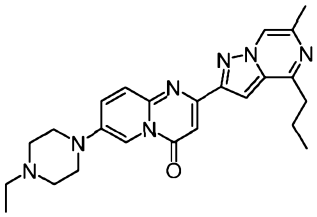
722



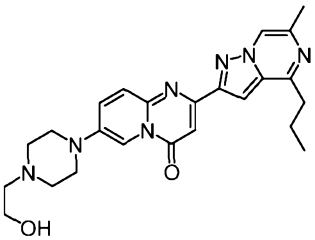
723



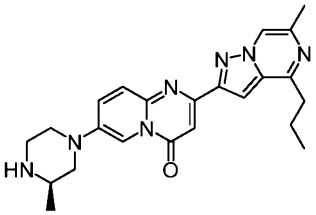
724



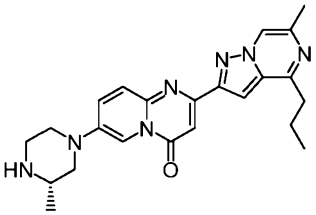
725



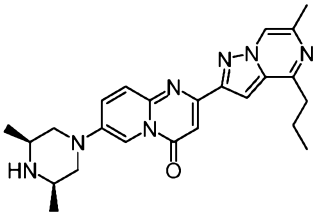
726



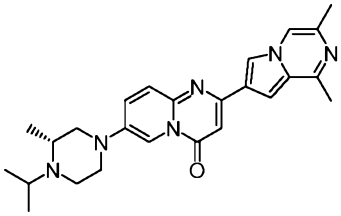
727



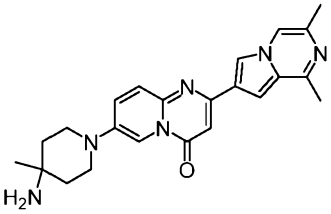
728



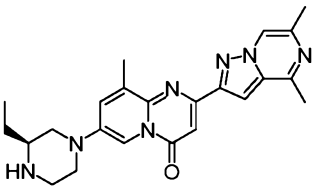
729



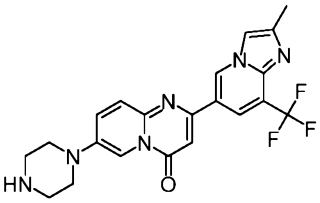
730



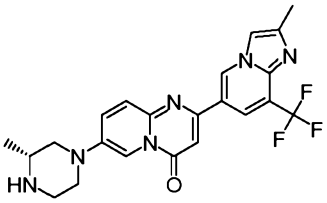
731



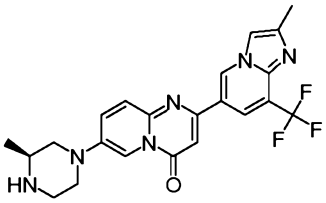
732



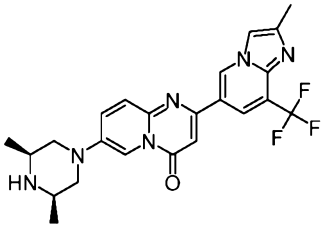
733



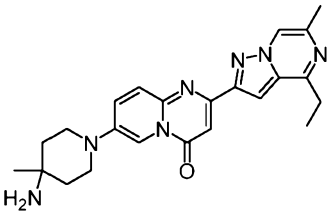
734



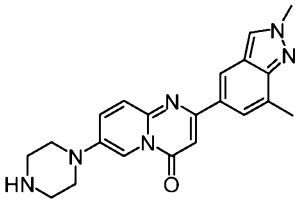
735



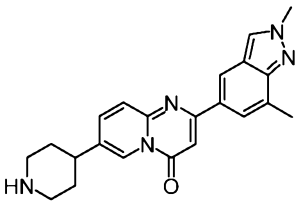
736



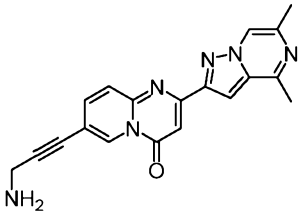
737



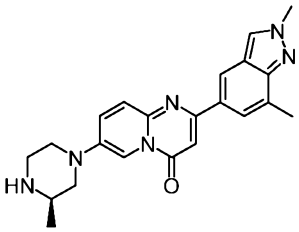
738



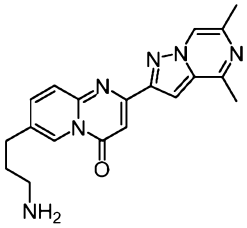
739



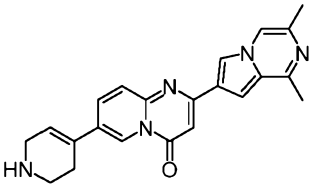
740



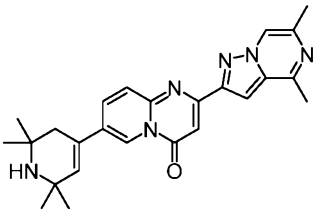
741



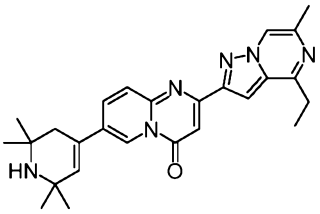
742



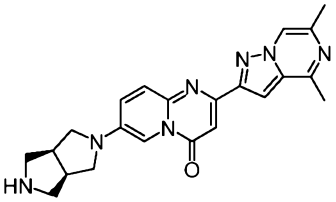
743



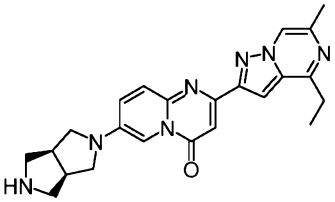
744



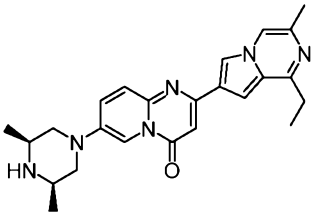
745



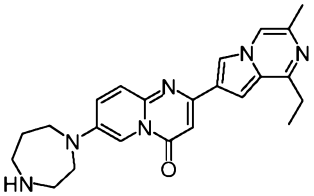
746



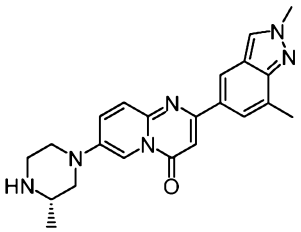
747



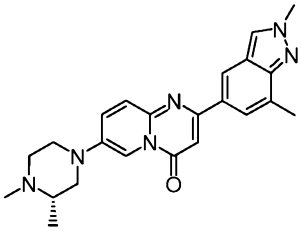
748



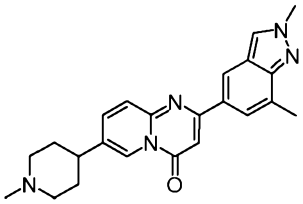
749



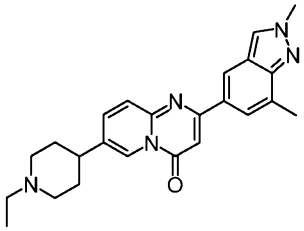
750



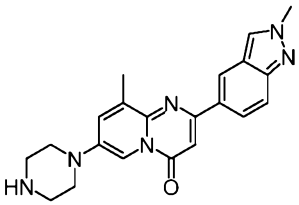
751



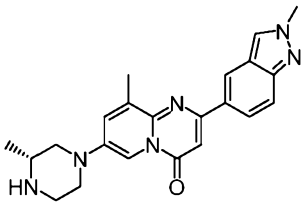
752



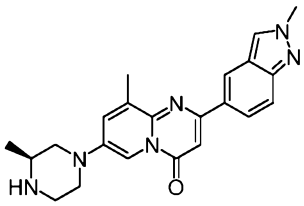
753



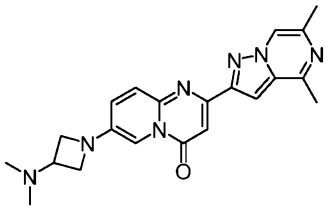
754



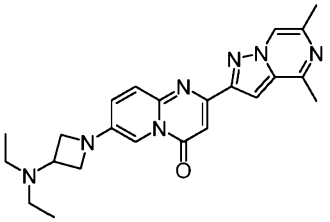
755



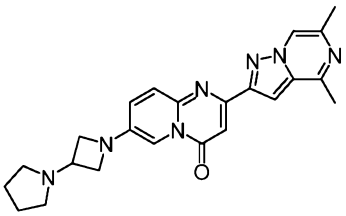
756



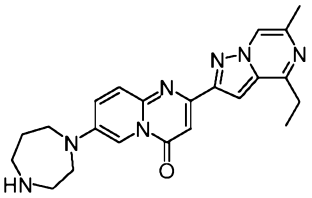
757



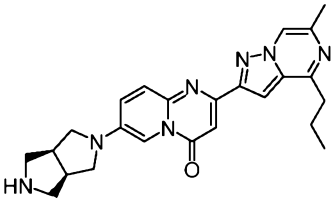
758



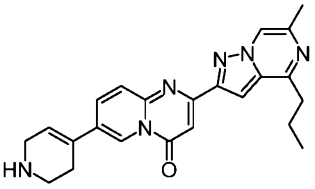
759



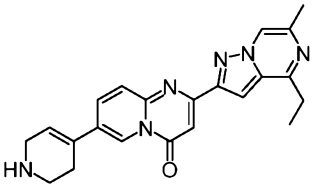
760



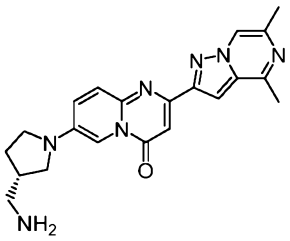
761



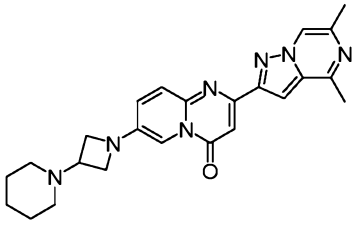
762



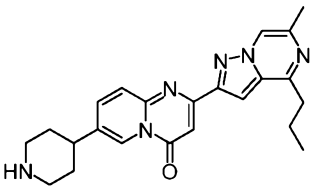
763



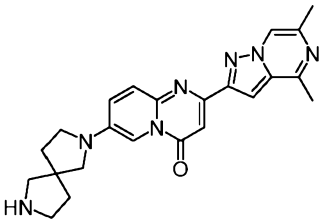
764



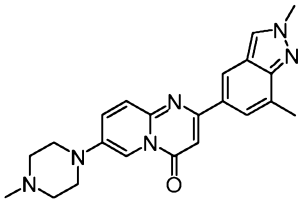
765



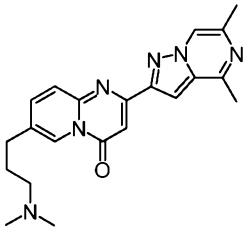
766



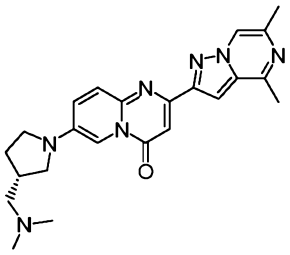
767



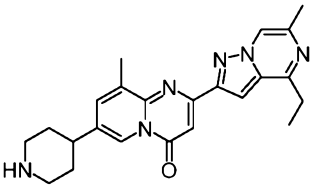
768



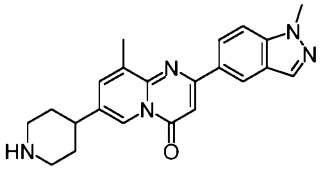
769



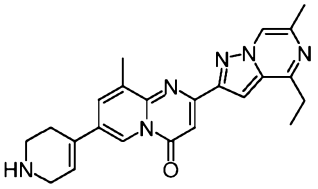
770



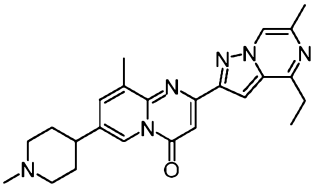
771



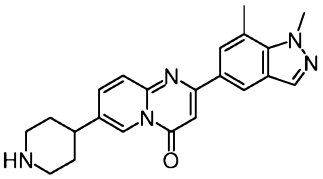
772



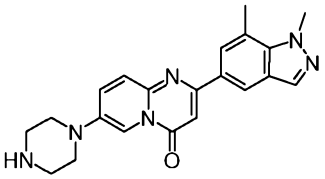
773



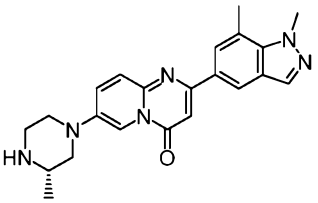
774



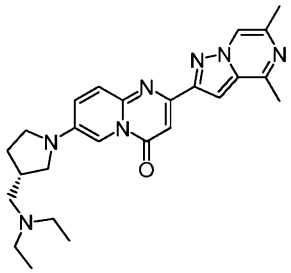
775



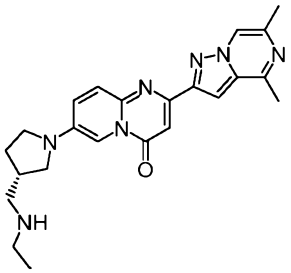
776



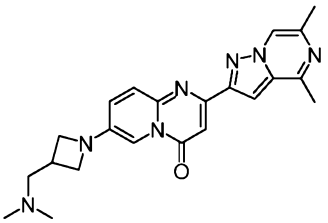
777



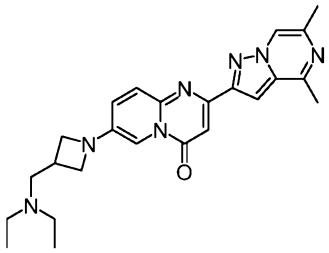
778



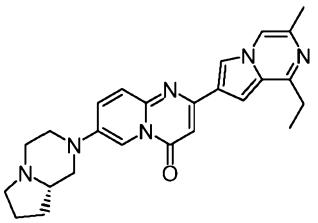
779



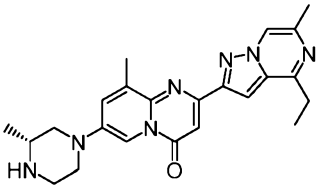
780



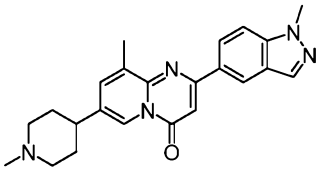
781



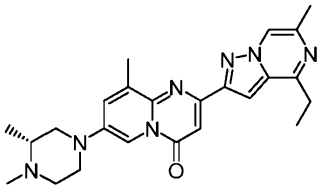
782



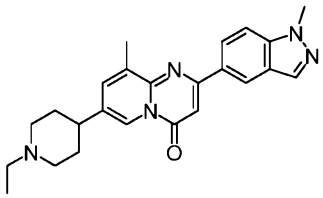
783



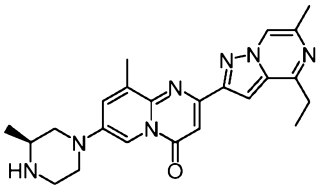
784



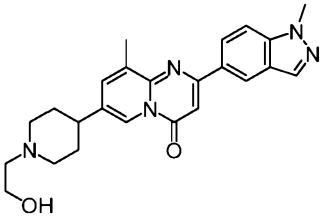
785



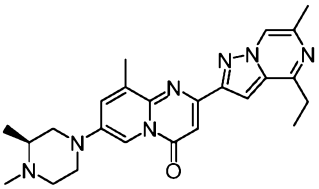
786



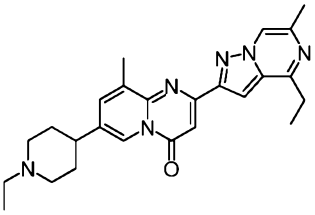
787



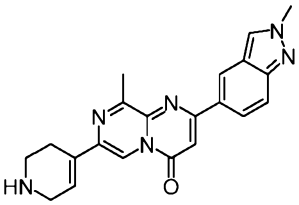
788



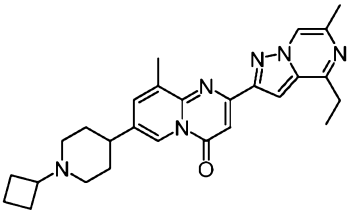
789



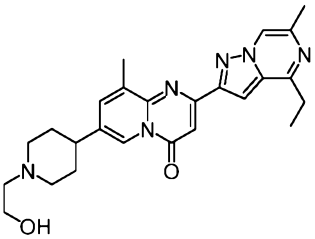
790



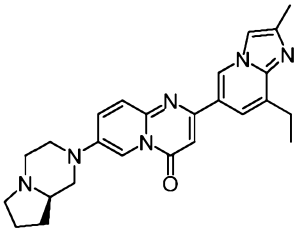
791



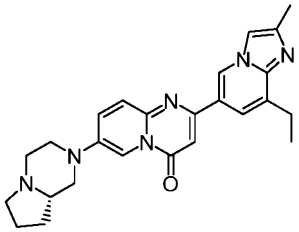
792



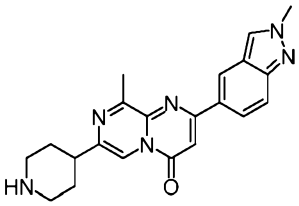
793



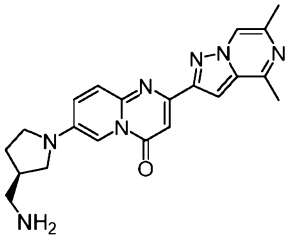
794



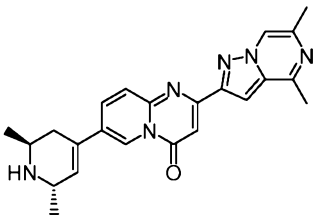
795



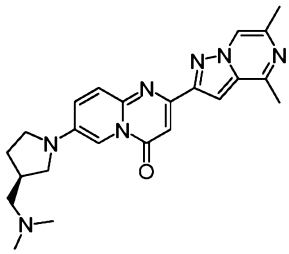
796



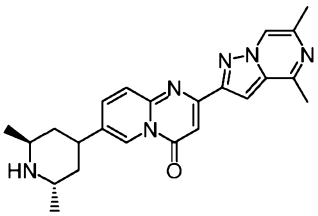
797



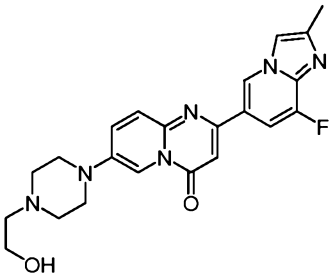
798



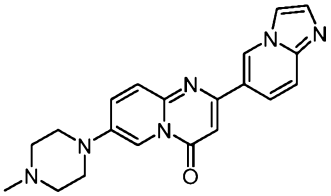
799



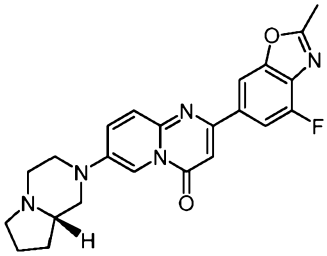
800



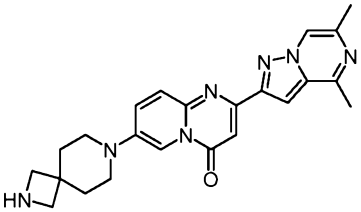
801



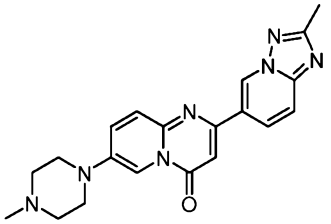
802



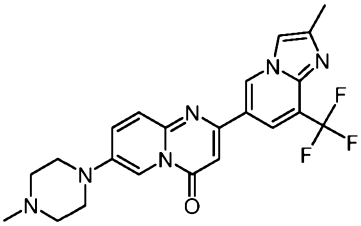
803



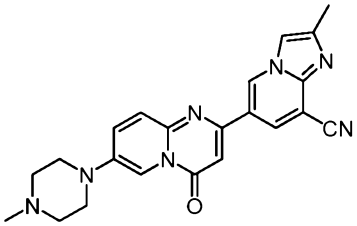
804



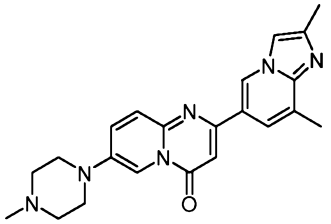
805



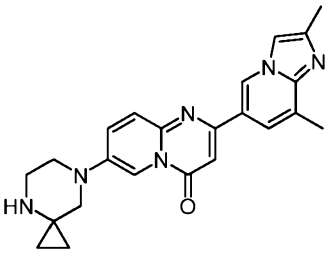
806



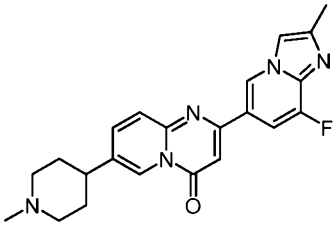
807



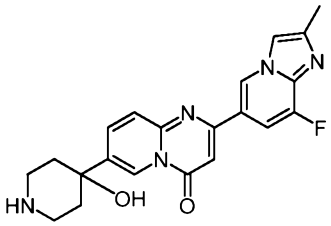
808



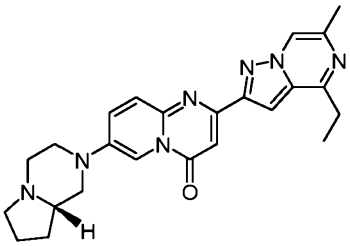
809



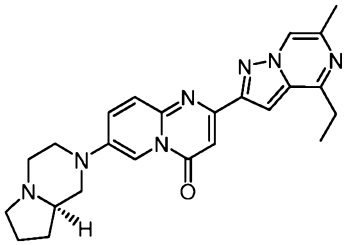
810



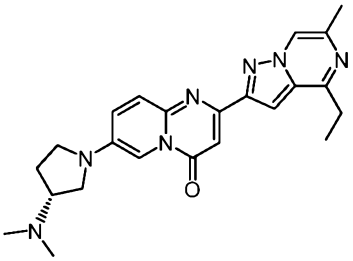
811



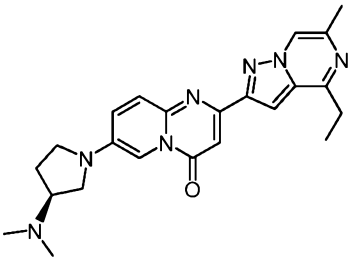
812



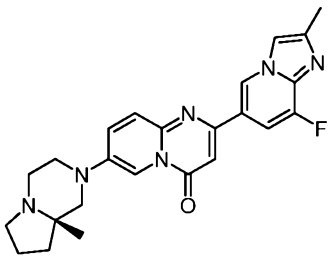
813



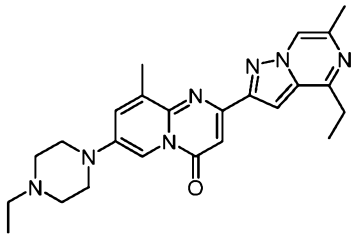
814



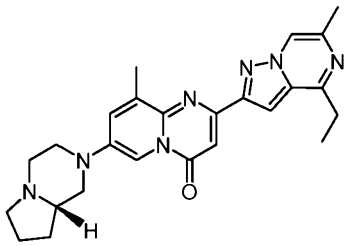
815



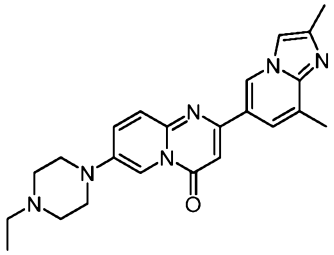
816



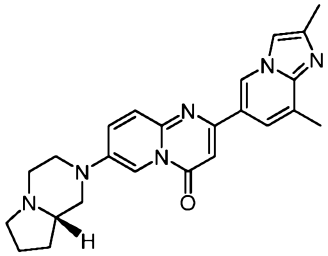
817



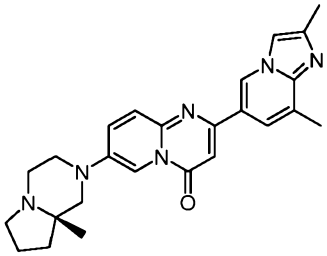
818



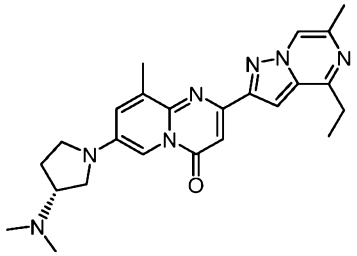
819



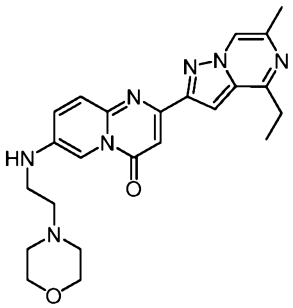
820



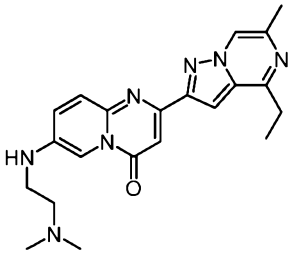
821



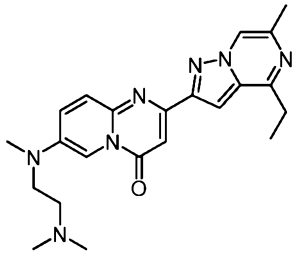
822



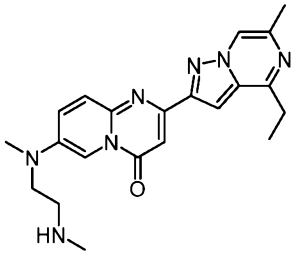
823



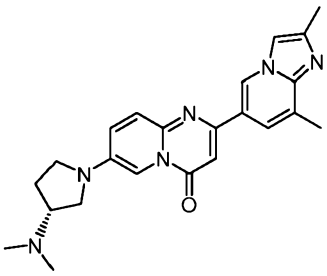
824



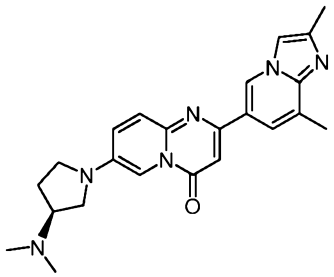
825



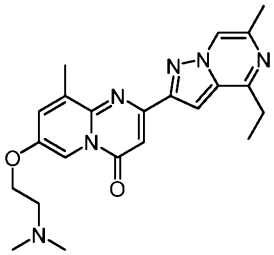
826



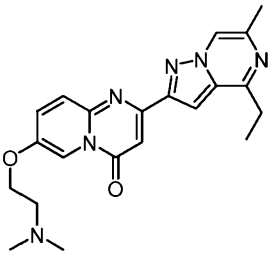
827



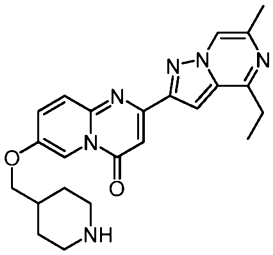
828



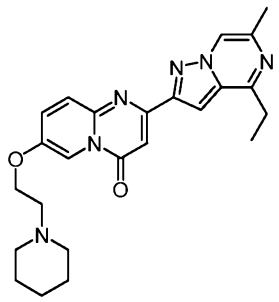
829



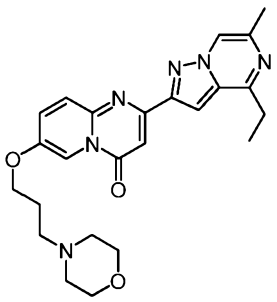
830



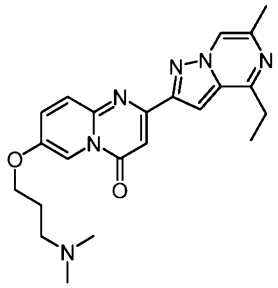
831



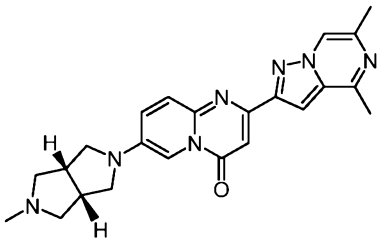
832



833



834



835

[00642] or a form thereof.

[00643] In another embodiment, the compound of Formula (I) used in a method disclosed herein is a compound selected from the group consisting of:

2-(4-methoxyphenyl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-methoxyphenyl)-7-(4-methylpiperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-methoxyphenyl)-7-[(3R)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3R,5S)-3,5-dimethylpiperazin-1-yl]-2-(4-methoxyphenyl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(1,4-diazepan-1-yl)-2-(4-methoxyphenyl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-(3,3-dimethylpiperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-[(3R)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-(4-ethylpiperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(1,4-diazepan-1-yl)-2-(3,4-dimethoxyphenyl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-(4-methyl-1,4-diazepan-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-methoxyphenyl)-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-(4-methylpiperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-[(3R,5S)-3,5-dimethylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-(4-propylpiperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-methoxyphenyl)-7-(4-methyl-1,4-diazepan-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(3,3-dimethylpiperazin-1-yl)-2-(4-methoxyphenyl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(1,3-benzodioxol-5-yl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(1,3-benzodioxol-5-yl)-7-(4-methylpiperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(1,3-benzodioxol-5-yl)-7-[(3R)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(1,3-benzodioxol-5-yl)-7-[(3R,5S)-3,5-dimethylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3-methoxyphenyl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3-methoxyphenyl)-7-(4-methylpiperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3-methoxyphenyl)-7-[(3R)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3R,5S)-3,5-dimethylpiperazin-1-yl]-2-(3-methoxyphenyl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(4-ethylpiperazin-1-yl)-2-(3-methoxyphenyl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(1,4-diazepan-1-yl)-2-(3-methoxyphenyl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3-methoxyphenyl)-7-(4-methyl-1,4-diazepan-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(6-methylimidazo[1,2-a]pyridin-2-yl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2,3-dihydro-1,4-benzodioxin-6-yl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2,3-dihydro-1,4-benzodioxin-6-yl)-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-phenyl-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3S)-3-methylpiperazin-1-yl]-2-phenyl-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2,3-dihydro-1,4-benzodioxin-6-yl)-7-[(3R)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2,3-dihydro-1,4-benzodioxin-6-yl)-7-(3,3-dimethylpiperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2,3-dihydro-1,4-benzodioxin-6-yl)-7-[(3R,5S)-3,5-dimethylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-(1,4-diazepan-1-yl)-2-(2,3-dihydro-1,4-benzodioxin-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2,3-dihydro-1,4-benzodioxin-6-yl)-7-(4-methyl-1,4-diazepan-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-9-fluoro-7-(4-methylpiperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3-chlorophenyl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-chlorophenyl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(piperazin-1-yl)-2-[3-(trifluoromethyl)phenyl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-(piperazin-1-yl)-2-[4-(trifluoromethyl)phenyl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3-methylphenyl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-fluorophenyl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-nitrophenyl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-9-fluoro-7-(piperidin-4-ylamino)-4H-pyrido[1,2-a]pyrimidin-4-one

2-[4-(dimethylamino)phenyl]-9-fluoro-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-[4-(dimethylamino)phenyl]-9-fluoro-7-[(3R)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-fluorophenyl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

3-(3,4-dimethoxyphenyl)-8-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-[4-(dimethylamino)phenyl]-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-[4-(dimethylamino)phenyl]-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethylphenyl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethylphenyl)-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-[3-(dimethylamino)phenyl]-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-[3-(dimethylamino)phenyl]-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-[4-(difluoromethoxy)phenyl]-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-[4-(difluoromethoxy)phenyl]-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3-fluorophenyl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3-nitrophenyl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-methylphenyl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-fluoro-4,5-dimethoxyphenyl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-fluoro-4,5-dimethoxyphenyl)-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-(3,8-diazabicyclo[3.2.1]oct-3-yl)-2-(3,4-dimethoxyphenyl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-[4-methoxy-3-(trifluoromethyl)phenyl]-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-[4-methoxy-3-(trifluoromethyl)phenyl]-7-[(3R)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-[4-methoxy-3-(trifluoromethyl)phenyl]-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-9-methoxy-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,5-difluoro-4-hydroxyphenyl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3-fluoro-4-methoxyphenyl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

4-[4-oxo-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-2-yl]benzonitrile

2-(6-methylimidazo[1,2-a]pyrazin-2-yl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(6-methylimidazo[1,2-a]pyrazin-2-yl)-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-[3-fluoro-5-(trifluoromethyl)phenyl]-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-[4-fluoro-3-(trifluoromethyl)phenyl]-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-[2-methoxy-3-(trifluoromethyl)phenyl]-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,5-difluorophenyl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(piperazin-1-yl)-2-[3-(trifluoromethoxy)phenyl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-[4-methoxy-3-(trifluoromethoxy)phenyl]-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-[4-hydroxy-3-(trifluoromethoxy)phenyl]-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-[4-methoxy-3-(trifluoromethoxy)phenyl]-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-[4-hydroxy-3-(trifluoromethoxy)phenyl]-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-4-oxo-7-(piperazin-1-yl)-4H-quinolizine-1-carbonitrile

2-(3-fluoro-4-methoxyphenyl)-7-[(3R)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3-fluoro-4-methoxyphenyl)-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(6-methoxypyridin-3-yl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2,4-dimethoxyphenyl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2,4-dimethoxyphenyl)-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-[(3S)-3-methylpiperazin-1-yl]-4H-quinolizin-4-one

2-(5-fluoropyridin-3-yl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(5-fluoropyridin-3-yl)-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(5-chloropyridin-3-yl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(5-chloropyridin-3-yl)-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(5-chloro-6-methoxypyridin-3-yl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(1H-indol-6-yl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(1H-indol-5-yl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-[3-(difluoromethoxy)-4-methoxyphenyl]-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-[3-(difluoromethoxy)-4-hydroxyphenyl]-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-[3-(difluoromethoxy)-4-methoxyphenyl]-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-[3-(difluoromethoxy)-4-hydroxyphenyl]-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3-fluoro-4-methoxyphenyl)-7-(piperazin-1-yl)-4H-quinolizin-4-one

2-(3-fluoro-4-methoxyphenyl)-7-[(3S)-3-methylpiperazin-1-yl]-4H-quinolizin-4-one

2-(3,5-difluorophenyl)-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-(piperazin-1-yl)-4H-quinolizin-4-one

2-(imidazo[1,2-a]pyridin-7-yl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(imidazo[1,2-a]pyridin-6-yl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methylimidazo[1,2-a]pyridin-6-yl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3-chloro-4-methoxyphenyl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3-chloro-4-methoxyphenyl)-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3-ethoxy-4-methoxyphenyl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3-ethoxy-4-methoxyphenyl)-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methylimidazo[1,2-a]pyridin-6-yl)-7-(4-methylpiperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methylimidazo[1,2-a]pyridin-6-yl)-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-(1,4-diazepan-1-yl)-2-(2-methylimidazo[1,2-a]pyridin-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3R,5S)-3,5-dimethylpiperazin-1-yl]-2-(2-methylimidazo[1,2-a]pyridin-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(6,8-dimethylimidazo[1,2-a]pyrazin-2-yl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(6,8-dimethylimidazo[1,2-a]pyrazin-2-yl)-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-(2-methylpyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(piperazin-1-yl)-2-[2-(trifluoromethyl)imidazo[1,2-a]pyridin-6-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-ethylimidazo[1,2-a]pyridin-6-yl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2,3-dimethylimidazo[1,2-a]pyridin-6-yl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-[(3aR,6aS)-hexahydropyrrolo[3,4-c]pyrrol-2(1H)-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-(4-aminopiperidin-1-yl)-2-(3,4-dimethoxyphenyl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(piperazin-1-yl)-2-(1H-pyrrolo[2,3-b]pyridin-5-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(1-methyl-1H-pyrrolo[2,3-b]pyridin-5-yl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3R,5S)-3,5-dimethylpiperazin-1-yl]-2-(1-methyl-1H-pyrrolo[2,3-b]pyridin-5-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3R,5S)-3,5-dimethylpiperazin-1-yl]-2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(1,4-diazepan-1-yl)-2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methyl-1,3-benzoxazol-6-yl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methyl-1,3-benzoxazol-6-yl)-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methyl-1,3-benzothiazol-5-yl)-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methyl-1,3-benzothiazol-5-yl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methyl-2H-indazol-5-yl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methyl-2H-indazol-5-yl)-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3-fluoro-5-methoxyphenyl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3-fluoro-5-methoxyphenyl)-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2,8-dimethylimidazo[1,2-a]pyridin-6-yl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-9-methyl-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-(1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-(piperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3-fluoro-4,5-dimethoxyphenyl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-(4-hydroxypiperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-[(3S)-3-(dimethylamino)pyrrolidin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-[4-(dimethylamino)piperidin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-methoxy-3-methylphenyl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

3-[4-oxo-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-2-yl]benzonitrile

2-methoxy-5-[4-oxo-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-2-yl]benzonitrile

2-(3-fluoro-4-hydroxyphenyl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-ethoxy-3-fluorophenyl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-[3-fluoro-4-(2,2,2-trifluoroethoxy)phenyl]-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methyl-1,3-benzoxazol-5-yl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methyl-1,3-benzoxazol-5-yl)-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3-fluoro-4-methylphenyl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3-fluoro-4-methylphenyl)-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3S)-3-aminopyrrolidin-1-yl]-2-(3,4-dimethoxyphenyl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-9-methyl-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(1,4-diazepan-1-yl)-2-(2-methyl-1,3-benzothiazol-5-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3S)-3-methylpiperazin-1-yl]-2-(4-methyl-1,3-thiazol-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-methyl-1,3-thiazol-2-yl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-(1-methylpiperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-[(3S)-3-(propan-2-ylamino)pyrrolidin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3-fluoro-4-methoxyphenyl)-7-(4-methyl-1,4-diazepan-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-methoxy-3-nitrophenyl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-[3-fluoro-4-(methylsulfanyl)phenyl]-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(4-methyl-1,4-diazepan-1-yl)-2-(2-methylimidazo[1,2-a]pyridin-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-(4-methylpiperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methyl-1,3-benzoxazol-6-yl)-7-(4-methylpiperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3R,5S)-3,5-dimethylpiperazin-1-yl]-2-(2-methyl-1,3-benzoxazol-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(5-fluoro-6-methoxypyridin-3-yl)-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3R,5S)-3,5-dimethylpiperazin-1-yl]-2-(5-fluoro-6-methoxypyridin-3-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3R,5S)-3,5-dimethylpiperazin-1-yl]-2-(2-methyl-1,3-benzothiazol-5-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methyl-1,3-benzothiazol-5-yl)-7-(4-methylpiperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methyl-1,3-benzothiazol-5-yl)-7-(4-methyl-1,4-diazepan-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(8aS)-hexahydropyrrolo[1,2-a]pyrazin-2(1H)-yl]-2-(2-methyl-1,3-benzothiazol-5-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-methyl-1H-imidazol-1-yl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-methyl-1H-imidazol-1-yl)-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-{[2-(methylamino)ethyl]amino}-4H-pyrido[1,2-a]pyrimidin-4-one

2-(5-fluoro-6-methoxypyridin-3-yl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,5-difluoro-4-methoxyphenyl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,5-difluoro-4-methoxyphenyl)-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-[4-(dimethylamino)piperidin-1-yl]-2-(3-fluoro-4-methoxyphenyl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3-fluoro-4-methoxyphenyl)-7-(1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-(piperidin-4-ylamino)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-(1-methyl-1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3-chloro-5-fluorophenyl)-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3-chloro-5-fluorophenyl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3S)-3-methylpiperazin-1-yl]-2-(1-methyl-1H-pyrazol-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(1-methyl-1H-pyrazol-4-yl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methyl-1,3-benzoxazol-6-yl)-7-[(3R)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-(3,3-dimethylpiperazin-1-yl)-2-(2-methyl-1,3-benzoxazol-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(1,4-diazepan-1-yl)-2-(2-methyl-1,3-benzoxazol-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methyl-1,3-benzoxazol-6-yl)-7-(4-methyl-1,4-diazepan-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(8aS)-hexahydropyrrolo[1,2-a]pyrazin-2(1H)-yl]-2-(2-methyl-1,3-benzoxazol-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(8aR)-hexahydropyrrolo[1,2-a]pyrazin-2(1H)-yl]-2-(2-methyl-1,3-benzoxazol-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,5-dimethoxypyridin-2-yl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[3-(dimethylamino)pyrrolidin-1-yl]-2-(3-fluoro-4-methoxyphenyl)-4H-quinolizin-4-one

7-(4-aminopiperidin-1-yl)-2-(3-fluoro-4-methoxyphenyl)-4H-quinolizin-4-one

7-(4-ethylpiperazin-1-yl)-2-(2-methyl-1,3-benzoxazol-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[4-(dimethylamino)piperidin-1-yl]-2-(3-fluoro-4-methoxyphenyl)-4H-quinolizin-4-one

2-(3-fluoro-4-methoxyphenyl)-7-(1-methyl-1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3S)-3-(dimethylamino)pyrrolidin-1-yl]-2-(3-fluoro-4-methoxyphenyl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3R,4R)-3-(dimethylamino)-4-hydroxypyrrolidin-1-yl]-2-(3-fluoro-4-methoxyphenyl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(4-aminopiperidin-1-yl)-2-(3-fluoro-4-methoxyphenyl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3-fluoro-4-methoxyphenyl)-7-[4-(methylamino)piperidin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-fluoro-2-methylimidazo[1,2-a]pyridin-6-yl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3R,5S)-3,5-dimethylpiperazin-1-yl]-2-(8-fluoro-2-methylimidazo[1,2-a]pyridin-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-fluoro-2-methylimidazo[1,2-a]pyridin-6-yl)-7-(4-methyl-1,4-diazepan-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3-fluoro-4-methoxyphenyl)-7-[(3aR,6aS)-hexahydropyrrolo[3,4-c]pyrrol-2(1H)-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3-fluoro-4-methoxyphenyl)-7-[(3aR,6aS)-5-methylhexahydropyrrolo[3,4-c]pyrrol-2(1H)-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-[1-(2-hydroxyethyl)piperidin-4-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-fluoro-3-methoxyphenyl)-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-fluoro-3-methoxyphenyl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-difluoro-5-methoxyphenyl)-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-difluoro-5-methoxyphenyl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methyl-1,3-benzothiazol-6-yl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(3-fluoro-4-methoxyphenyl)-2-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methyl-1,3-benzothiazol-6-yl)-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3-fluoro-4-methoxyphenyl)-7-[(3S)-3-(methylamino)pyrrolidin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3-fluoro-4-methoxyphenyl)-7-{4-[(methylamino)methyl]piperidin-1-yl}-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3S)-3-aminopyrrolidin-1-yl]-2-(3-fluoro-4-methoxyphenyl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3-fluoro-4-methoxyphenyl)-7-{[(3R)-1-methylpyrrolidin-3-yl]amino}-4H-pyrido[1,2-a]pyrimidin-4-one

7-{4-[(dimethylamino)methyl]piperidin-1-yl}-2-(3-fluoro-4-methoxyphenyl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(6-methoxypyridin-2-yl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(piperazin-1-yl)-2-(pyridin-3-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(5-methoxypyridin-3-yl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

3-fluoro-5-{7-[(3S)-3-methylpiperazin-1-yl]-4-oxo-4H-pyrido[1,2-a]pyrimidin-2-yl}benzonitrile

3-fluoro-5-[4-oxo-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-2-yl]benzonitrile

2-(3-fluoro-4-methoxyphenyl)-7-[(3'S,4'S)-4'-hydroxy-1,3'-bipyrrolidin-1'-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3-fluoro-4-methoxyphenyl)-7-{methyl[(3R)-pyrrolidin-3-yl]amino}-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3S)-3,4-dimethylpiperazin-1-yl]-2-(2-methyl-1,3-benzoxazol-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-[(1-methylpiperidin-4-yl)oxy]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-[(3S)-pyrrolidin-3-yloxy]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-(piperidin-4-yloxy)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(1,4-diazepan-1-yl)-2-(3,4-dimethoxyphenyl)-9-methyl-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3-fluoro-4-methoxyphenyl)-7-{methyl[(3R)-1-methylpyrrolidin-3-yl]amino}-4H-pyrido[1,2-a]pyrimidin-4-one

7-[4-(dimethylamino)piperidin-1-yl]-2-(2-methyl-1,3-benzoxazol-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3S)-3-(dimethylamino)pyrrolidin-1-yl]-2-(2-methyl-1,3-benzoxazol-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(4-aminopiperidin-1-yl)-2-(2-methyl-1,3-benzoxazol-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3aR,6aS)-hexahydropyrrolo[3,4-c]pyrrol-2(1H)-yl]-2-(2-methyl-1,3-benzoxazol-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3R)-3,4-dimethylpiperazin-1-yl]-2-(2-methyl-1,3-benzoxazol-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-(1,2,3,6-tetrahydropyridin-4-yl)-4H-quinolizin-4-one

2-(3-fluoro-4-methoxyphenyl)-7-[(3aR,6aR)-1-methylhexahydropyrrolo[3,4-b]pyrrol-5(1H)-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-9-methyl-7-(1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-[1-(2-hydroxyethyl)-1,2,3,6-tetrahydropyridin-4-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-(1-methyl-1,2,3,6-tetrahydropyridin-4-yl)-4H-quinolizin-4-one

2-(3,4-dimethoxyphenyl)-9-methyl-7-(piperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-9-methyl-7-(1-methyl-1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-9-methyl-7-(1-methylpiperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(1,4-diazepan-1-yl)-2-(2-methyl-1,3-benzothiazol-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methyl-1,3-benzothiazol-6-yl)-7-(4-methyl-1,4-diazepan-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(8aS)-hexahydropyrrolo[1,2-a]pyrazin-2(1H)-yl]-2-(2-methyl-1,3-benzothiazol-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methyl-1,3-benzothiazol-6-yl)-7-(4-methylpiperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-[(3aR,6aS)-hexahydropyrrolo[3,4-c]pyrrol-2(1H)-yl]-9-methyl-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3S)-3,4-dimethylpiperazin-1-yl]-2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-[(3R,5S)-3,4,5-trimethylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-9-methyl-7-[(3aR,6aS)-5-methylhexahydropyrrolo[3,4-c]pyrrol-2(1H)-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-[4-(dimethylamino)piperidin-1-yl]-9-methyl-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(1R,5S)-8-azabicyclo[3.2.1]oct-2-en-3-yl]-2-(3,4-dimethoxyphenyl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-(1,2,5,6-tetrahydropyridin-3-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3R)-3-(dimethylamino)pyrrolidin-1-yl]-2-(2-methyl-1,3-benzoxazol-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-ethyl-1,3-benzoxazol-6-yl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-ethyl-1,3-benzoxazol-6-yl)-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methyl-1,3-benzoxazol-6-yl)-7-[(3aR,6aS)-5-methylhexahydropyrrolo[3,4-c]pyrrol-2(1H)-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-(8-fluoro-2-methylimidazo[1,2-a]pyridin-6-yl)-2-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-fluoro-2-methylimidazo[1,2-a]pyridin-6-yl)-7-(4-methylpiperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-fluoro-2-methylimidazo[1,2-a]pyridin-6-yl)-7-[(3R)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-fluoro-2-methylimidazo[1,2-a]pyridin-6-yl)-7-[(8aS)-hexahydropyrrolo[1,2-a]pyrazin-2(1H)-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-fluoro-2-methylimidazo[1,2-a]pyridin-6-yl)-7-[(8aR)-hexahydropyrrolo[1,2-a]pyrazin-2(1H)-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-(4-aminopiperidin-1-yl)-2-(8-fluoro-2-methylimidazo[1,2-a]pyridin-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3R)-3-(dimethylamino)pyrrolidin-1-yl]-2-(8-fluoro-2-methylimidazo[1,2-a]pyridin-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3S)-3-(dimethylamino)pyrrolidin-1-yl]-2-(8-fluoro-2-methylimidazo[1,2-a]pyridin-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-aminopiperidin-1-yl)-7-(3-fluoro-4-methoxyphenyl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-[(3R)-3-(dimethylamino)pyrrolidin-1-yl]-7-(3-fluoro-4-methoxyphenyl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-[(3S)-3-(dimethylamino)pyrrolidin-1-yl]-7-(3-fluoro-4-methoxyphenyl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3-fluoro-4-methoxyphenyl)-7-[(3aR,6aS)-5-(2-hydroxyethyl)hexahydropyrrolo[3,4-c]pyrrol-2(1H)-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3-fluoro-4-methoxyphenyl)-7-[(3aS,6aS)-1-methylhexahydropyrrolo[3,4-b]pyrrol-5(1H)-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3-fluoro-4-methoxyphenyl)-7-[(3aR,6aS)-5-(propan-2-yl)hexahydropyrrolo[3,4-c]pyrrol-2(1H)-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3R)-3-(dimethylamino)pyrrolidin-1-yl]-2-(3-fluoro-4-methoxyphenyl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(3,3-dimethylpiperazin-1-yl)-2-(2-methyl-1,3-benzothiazol-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(8aR)-hexahydropyrrolo[1,2-a]pyrazin-2(1H)-yl]-2-(2-methyl-1,3-benzothiazol-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[4-(dimethylamino)piperidin-1-yl]-2-(2-methyl-1,3-benzothiazol-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methyl-1,3-benzothiazol-6-yl)-7-(piperidin-4-yloxy)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-chloro-2-methylimidazo[1,2-a]pyridin-6-yl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-chloro-2-methylimidazo[1,2-a]pyridin-6-yl)-7-[(3R,5S)-3,5-dimethylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-chloro-2-methylimidazo[1,2-a]pyridin-6-yl)-7-(4-methyl-1,4-diazepan-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-chloro-2-methylimidazo[1,2-a]pyridin-6-yl)-7-[(3R)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-chloro-2-methylimidazo[1,2-a]pyridin-6-yl)-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-chloro-2-methylimidazo[1,2-a]pyridin-6-yl)-7-[(8aR)-hexahydropyrrolo[1,2-a]pyrazin-2(1H)-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-chloro-2-methylimidazo[1,2-a]pyridin-6-yl)-7-[(8aS)-hexahydropyrrolo[1,2-a]pyrazin-2(1H)-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-(3-fluoro-4-methoxyphenyl)-2-(1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3S)-3,4-dimethylpiperazin-1-yl]-2-(8-fluoro-2-methylimidazo[1,2-a]pyridin-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3R)-3,4-dimethylpiperazin-1-yl]-2-(8-fluoro-2-methylimidazo[1,2-a]pyridin-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[4-(dimethylamino)piperidin-1-yl]-2-(8-fluoro-2-methylimidazo[1,2-a]pyridin-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-[4-(dimethylamino)piperidin-1-yl]-7-(3-fluoro-4-methoxyphenyl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-fluoro-2-methyl-1,3-benzoxazol-6-yl)-7-(1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-fluoro-2-methyl-1,3-benzoxazol-6-yl)-7-(1-methyl-1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3-fluoro-4-methoxyphenyl)-7-[(4aR,7aR)-octahydro-6H-pyrrolo[3,4-b]pyridin-6-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methyl-1,3-benzoxazol-6-yl)-7-(1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methyl-1,3-benzoxazol-6-yl)-7-(1-methyl-1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(1-ethyl-1,2,3,6-tetrahydropyridin-4-yl)-2-(2-methyl-1,3-benzoxazol-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-fluoro-2-methyl-1,3-benzoxazol-6-yl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-fluoro-2-methyl-1,3-benzoxazol-6-yl)-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3S)-3,4-dimethylpiperazin-1-yl]-2-(4-fluoro-2-methyl-1,3-benzoxazol-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-fluoro-2-methyl-1,3-benzoxazol-6-yl)-7-(4-methylpiperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(4-ethylpiperazin-1-yl)-2-(4-fluoro-2-methyl-1,3-benzoxazol-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-fluoro-2-methyl-1,3-benzoxazol-6-yl)-7-(4-propylpiperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3aR,6aS)-5-ethylhexahydropyrrolo[3,4-c]pyrrol-2(1H)-yl]-2-(3-fluoro-4-methoxyphenyl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3-fluoro-4-methoxyphenyl)-9-methyl-7-(1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3-fluoro-4-methoxyphenyl)-7-[(4aR,7aR)-1-methyloctahydro-6H-pyrrolo[3,4-b]pyridin-6-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-9-methyl-7-[(3R)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3-fluoro-4-methoxyphenyl)-9-methyl-7-(1-methyl-1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(3-fluoro-4-methoxyphenyl)-2-(piperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(3-fluoro-4-methoxyphenyl)-2-(1-methylpiperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(1-ethyl-1,2,3,6-tetrahydropyridin-4-yl)-2-(4-fluoro-2-methyl-1,3-benzoxazol-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-fluoro-2-methyl-1,3-benzoxazol-6-yl)-7-(1-propyl-1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-[(1R,5S)-8-methyl-8-azabicyclo[3.2.1]oct-3-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-[(2R)-2-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methyl-1,3-benzoxazol-6-yl)-7-[(3S)-3-methylpiperazin-1-yl]-4H-quinolizin-4-one

2-(2-methyl-1,3-benzoxazol-6-yl)-7-(4-methylpiperazin-1-yl)-4H-quinolizin-4-one

7-[(3S)-4-ethyl-3-methylpiperazin-1-yl]-2-(2-methyl-1,3-benzoxazol-6-yl)-4H-quinolizin-4-one

7-[(3S)-3,4-dimethylpiperazin-1-yl]-2-(2-methyl-1,3-benzoxazol-6-yl)-4H-quinolizin-4-one

7-(4-aminopiperidin-1-yl)-2-(2-methyl-1,3-benzoxazol-6-yl)-4H-quinolizin-4-one

2-(3-fluoro-4-methoxyphenyl)-9-methyl-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-[4-(dimethylamino)piperidin-1-yl]-2-(3-fluoro-4-methoxyphenyl)-9-methyl-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3-fluoro-4-methoxyphenyl)-9-methyl-7-(1-methylpiperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[4-(cyclopropylamino)piperidin-1-yl]-2-(3,4-dimethoxyphenyl)-9-methyl-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-chloro-2-methylimidazo[1,2-a]pyridin-6-yl)-7-[(3S)-3,4-dimethylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-[(3R,5S)-3,5-dimethylpiperazin-1-yl]-9-methyl-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-[(3R)-3,4-dimethylpiperazin-1-yl]-9-methyl-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-(4-methyl-1,4-diazepan-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-[(3R)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-[(8aS)-hexahydropyrrolo[1,2-a]pyrazin-2(1H)-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-[(8aR)-hexahydropyrrolo[1,2-a]pyrazin-2(1H)-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-(4-ethylpiperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[4-(dimethylamino)piperidin-1-yl]-2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(3,3-dimethylpiperazin-1-yl)-2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(4-cyclopropylpiperazin-1-yl)-2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-(1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-[(3R)-4-ethyl-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-9-methyl-7-(4-methylpiperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-[4-(dimethylamino)piperidin-1-yl]-9-ethyl-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-[1-(2-hydroxyethyl)-1,2,3,6-tetrahydropyridin-4-yl]-9-methyl-4H-pyrido[1,2-a]pyrimidin-4-one

7-[4-(dimethylamino)piperidin-1-yl]-2-(2-methyl-1,3-benzothiazol-5-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(4-aminopiperidin-1-yl)-2-(2-methyl-1,3-benzothiazol-5-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3aR,6aS)-hexahydropyrrolo[3,4-c]pyrrol-2(1H)-yl]-2-(2-methyl-1,3-benzothiazol-5-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-(1-methyl-1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-(1-ethyl-1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-(1-propyl-1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-(1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrimido[1,2-a]pyrimidin-4-one

7-(1-cyclopropyl-1,2,3,6-tetrahydropyridin-4-yl)-2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-[1-(propan-2-yl)-1,2,3,6-tetrahydropyridin-4-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-(1-cyclobutyl-1,2,3,6-tetrahydropyridin-4-yl)-2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-[1-(oxetan-3-yl)-1,2,3,6-tetrahydropyridin-4-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-9-methyl-7-[4-(methylamino)piperidin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-[4-(ethylamino)piperidin-1-yl]-9-methyl-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-8-methyl-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-[4-(propan-2-ylamino)piperidin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-(1-cyclobutyl-1,2,3,6-tetrahydropyridin-4-yl)-2-(3,4-dimethoxyphenyl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-[1-(propan-2-yl)-1,2,3,6-tetrahydropyridin-4-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-[1-(oxetan-3-yl)-1,2,3,6-tetrahydropyridin-4-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-(1-propyl-1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-[4-(methylamino)cyclohex-1-en-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-[4-(dimethylamino)cyclohex-1-en-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-{4-[ethyl(methyl)amino]cyclohex-1-en-1-yl}-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-{4-[methyl(propyl)amino]cyclohex-1-en-1-yl}-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-(1-ethyl-1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(3,4-dimethoxyphenyl)-2-(1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(8-fluoro-2-methylimidazo[1,2-a]pyridin-6-yl)-2-(1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-fluoro-2-methylimidazo[1,2-a]pyridin-6-yl)-7-[4-(propan-2-yl)piperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-chloro-2-methylimidazo[1,2-a]pyridin-6-yl)-7-[4-(propan-2-yl)piperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-(2-methylimidazo[1,2-a]pyridin-6-yl)-2-(1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(2-methylimidazo[1,2-a]pyridin-6-yl)-2-(1-methyl-1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(3,4-dimethoxyphenyl)-2-(1-methyl-1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-9-methyl-7-(1-propyl-1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(1-cyclobutyl-1,2,3,6-tetrahydropyridin-4-yl)-2-(3,4-dimethoxyphenyl)-9-methyl-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methyl-1,3-benzothiazol-6-yl)-7-(piperidin-4-yl)-4H-pyrimido[1,2-b]pyridazin-4-one

7-(4-aminopiperidin-1-yl)-2-(2-methyl-1,3-benzothiazol-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(3-aminopyrrolidin-1-yl)-2-(2-methyl-1,3-benzothiazol-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3R)-3-(dimethylamino)pyrrolidin-1-yl]-2-(2-methyl-1,3-benzothiazol-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methyl-1,3-benzothiazol-6-yl)-7-(1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-fluoro-2-methylimidazo[1,2-a]pyridin-6-yl)-7-[4-(2-methoxyethyl)piperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-9-methyl-7-[1-(oxetan-3-yl)-1,2,3,6-tetrahydropyridin-4-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-9-methyl-7-[1-(propan-2-yl)-1,2,3,6-tetrahydropyridin-4-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-(1-ethyl-1,2,3,6-tetrahydropyridin-4-yl)-9-methyl-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-8-methyl-7-(1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(1-cyclopropyl-1,2,3,6-tetrahydropyridin-4-yl)-2-(3,4-dimethoxyphenyl)-9-methyl-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-8-methyl-7-(1-methyl-1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methyl-1,3-benzothiazol-6-yl)-7-(1-methyl-1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[1-(2-hydroxyethyl)-1,2,3,6-tetrahydropyridin-4-yl]-2-(2-methyl-1,3-benzothiazol-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methyl-1,3-benzothiazol-6-yl)-7-[1-(propan-2-yl)-1,2,3,6-tetrahydropyridin-4-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-(1-cyclopropyl-1,2,3,6-tetrahydropyridin-4-yl)-2-(2-methyl-1,3-benzothiazol-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(1-ethyl-1,2,3,6-tetrahydropyridin-4-yl)-2-(2-methyl-1,3-benzothiazol-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3R)-3,4-dimethylpiperazin-1-yl]-2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-(1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrimido[1,2-b]pyridazin-4-one

7-[(1S,4S)-2,5-diazabicyclo[2.2.1]hept-2-yl]-2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-[(1S,4S)-5-methyl-2,5-diazabicyclo[2.2.1]hept-2-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-[(1S,4S)-5-ethyl-2,5-diazabicyclo[2.2.1]hept-2-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-(1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrazino[1,2-a]pyrimidin-4-one

2-(3-fluoro-4-methoxyphenyl)-7-(piperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-(1-ethylpiperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-[cis-4-(methylamino)cyclohexyl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-(piperidin-3-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-9-methyl-7-[4-(propylamino)piperidin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-9-ethyl-7-(1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(2-methylimidazo[1,2-a]pyridin-6-yl)-2-(piperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(8-fluoro-2-methylimidazo[1,2-a]pyridin-6-yl)-2-(piperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(8-fluoro-2-methylimidazo[1,2-a]pyridin-6-yl)-2-(1-methyl-1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(4-cyclopropylpiperazin-1-yl)-2-(8-fluoro-2-methylimidazo[1,2-a]pyridin-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(1,3-dimethylpyrrolo[1,2-a]pyrazin-7-yl)-7-(1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrazino[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-[(8aR)-hexahydropyrrolo[1,2-a]pyrazin-2(1H)-yl]-9-methyl-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-9-ethyl-7-(1-methyl-1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-9-methyl-7-[4-(propan-2-ylamino)piperidin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-[(8aS)-hexahydropyrrolo[1,2-a]pyrazin-2(1H)-yl]-9-methyl-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-9-ethyl-7-(1-ethyl-1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-9-methyl-7-[4-(morpholin-4-yl)piperidin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methyl-1,3-benzoxazol-6-yl)-7-(1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrazino[1,2-a]pyrimidin-4-one hydrochloride (1:1)

2-(2-methyl-1,3-benzoxazol-6-yl)-7-(1-methyl-1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrazino[1,2-a]pyrimidin-4-one

7-(1-ethyl-1,2,3,6-tetrahydropyridin-4-yl)-2-(2-methyl-1,3-benzoxazol-6-yl)-4H-pyrazino[1,2-a]pyrimidin-4-one

2-(2-methyl-1,3-benzothiazol-6-yl)-7-(piperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-[4-(pyrrolidin-1-yl)piperidin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-(1,4'-bipiperidin-1'-yl)-2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-[4-(4-methylpiperazin-1-yl)piperidin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-[4-(morpholin-4-yl)piperidin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methylimidazo[1,2-a]pyridin-6-yl)-7-(1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methylimidazo[1,2-a]pyridin-6-yl)-7-(1-methyl-1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(1-ethyl-1,2,3,6-tetrahydropyridin-4-yl)-2-(2-methylimidazo[1,2-a]pyridin-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[4-(dimethylamino)piperidin-1-yl]-2-(2-methylimidazo[1,2-a]pyridin-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-{4-[(2-hydroxyethyl)amino]piperidin-1-yl}-9-methyl-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-9-ethyl-7-(1-methylpiperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[4-(diethylamino)piperidin-1-yl]-2-(3,4-dimethoxyphenyl)-9-methyl-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-9-ethyl-7-(1-ethylpiperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methylimidazo[1,2-a]pyridin-6-yl)-7-[4-(pyrrolidin-1-yl)piperidin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methylimidazo[1,2-a]pyridin-6-yl)-7-(piperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methyl-1,3-benzothiazol-6-yl)-7-(1-methylpiperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(4-methylpiperazin-1-yl)-2-(6-methylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3S)-3-methylpiperazin-1-yl]-2-(6-methylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3R,5S)-3,5-dimethylpiperazin-1-yl]-2-(6-methylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(1-methyl-1H-indazol-5-yl)-7-(1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-[6-(dimethylamino)pyridin-3-yl]-7-(1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[4-(diethylamino)piperidin-1-yl]-2-(2-methylimidazo[1,2-a]pyridin-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-{4-[(2-hydroxyethyl)(methyl)amino]piperidin-1-yl}-9-methyl-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-9-ethyl-7-[(3R)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methylimidazo[1,2-a]pyridin-6-yl)-7-(1-methylpiperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(1-methyl-1H-indazol-5-yl)-7-(1-methyl-1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-[6-(dimethylamino)pyridin-3-yl]-7-(1-methyl-1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[4-(diethylamino)piperidin-1-yl]-2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-(piperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-(1-methylpiperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-(1-ethylpiperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-9-ethyl-7-[(8aR)-hexahydropyrrolo[1,2-a]pyrazin-2(1H)-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-{4-[(2-methoxyethyl)amino]piperidin-1-yl}-9-methyl-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-9-methyl-7-(4-methylpiperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-[(8aR)-hexahydropyrrolo[1,2-a]pyrazin-2(1H)-yl]-9-methyl-4H-pyrido[1,2-a]pyrimidin-4-one

7-[4-(dimethylamino)piperidin-1-yl]-2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-9-methyl-4H-pyrido[1,2-a]pyrimidin-4-one

7-(2-methylimidazo[1,2-a]pyridin-6-yl)-2-(1-methylpiperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(2-methylimidazo[1,2-a]pyridin-6-yl)-2-[1-(propan-2-yl)piperidin-4-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-(8-fluoro-2-methylimidazo[1,2-a]pyridin-6-yl)-2-(1-methylpiperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(1-ethyl-1,2,3,6-tetrahydropyridin-4-yl)-2-(1-methyl-1H-indazol-5-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(1-methyl-1H-indazol-5-yl)-7-(1-propyl-1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-[6-(dimethylamino)pyridin-3-yl]-7-(piperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(4-ethylpiperazin-1-yl)-2-(6-methylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(8aR)-hexahydropyrrolo[1,2-a]pyrazin-2(1H)-yl]-2-(6-methylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[4-(dimethylamino)piperidin-1-yl]-2-(6-methylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[4-(2-hydroxyethyl)piperazin-1-yl]-2-(6-methylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methylimidazo[1,2-a]pyridin-6-yl)-7-(1-propylpiperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[1-(2-hydroxyethyl)-1,2,3,6-tetrahydropyridin-4-yl]-2-(1-methyl-1H-indazol-5-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3R)-3-methylpiperazin-1-yl]-2-(6-methylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-(1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methyl-2H-indazol-5-yl)-7-(1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(1-methyl-1H-indazol-5-yl)-7-(1-methylpiperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methyl-2H-indazol-5-yl)-7-(1-methyl-1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(1-ethyl-1,2,3,6-tetrahydropyridin-4-yl)-2-(2-methyl-2H-indazol-5-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(1-ethylpiperidin-4-yl)-2-(2-methylimidazo[1,2-a]pyridin-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(1,3-dimethylpyrrolo[1,2-a]pyrazin-7-yl)-7-[1-(propan-2-yl)-1,2,3,6-tetrahydropyridin-4-yl]-4H-pyrazino[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-9-methyl-7-(1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-9-methyl-7-(1-methyl-1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-(1-ethyl-1,2,3,6-tetrahydropyridin-4-yl)-9-methyl-4H-pyrido[1,2-a]pyrimidin-4-one

7-(1-cyclopropyl-1,2,3,6-tetrahydropyridin-4-yl)-2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-9-methyl-4H-pyrido[1,2-a]pyrimidin-4-one

2-(6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-(1-methyl-1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(1-ethyl-1,2,3,6-tetrahydropyridin-4-yl)-2-(6-methylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(5,7-dimethylfuro[2,3-c]pyridin-2-yl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(5,7-dimethylfuro[2,3-c]pyridin-2-yl)-7-(4-methylpiperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(5,7-dimethylfuro[2,3-c]pyridin-2-yl)-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(1-methyl-1H-indazol-5-yl)-7-(4-methylpiperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(1-methyl-1H-indazol-5-yl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[4-(dimethylamino)piperidin-1-yl]-2-(1-methyl-1H-indazol-5-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(4-methyl-1,4-diazepan-1-yl)-2-(1-methyl-1H-indazol-5-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(1-ethyl-1,2,3,6-tetrahydropyridin-4-yl)-2-(2-methyl-1,3-benzoxazol-6-yl)-4H-pyrimido[1,2-b]pyridazin-4-one

2-(8-chloro-2-methylimidazo[1,2-a]pyridin-6-yl)-7-(4-ethylpiperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-chloro-2-methylimidazo[1,2-a]pyridin-6-yl)-7-[(3R)-4-ethyl-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-chloro-2-methylimidazo[1,2-a]pyridin-6-yl)-7-[(3S)-4-ethyl-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-chloro-2-methylimidazo[1,2-a]pyridin-6-yl)-7-[(3R)-3-methyl-4-(propan-2-yl)piperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-chloro-2-methylimidazo[1,2-a]pyridin-6-yl)-7-[(3S)-3-methyl-4-(propan-2-yl)piperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methyl-1,3-benzoxazol-6-yl)-7-(piperidin-4-yl)-4H-pyrimido[1,2-b]pyridazin-4-one

2-(2-methyl-1,3-benzoxazol-6-yl)-7-(1-methylpiperidin-4-yl)-4H-pyrimido[1,2-b]pyridazin-4-one

7-(1-ethylpiperidin-4-yl)-2-(2-methyl-1,3-benzoxazol-6-yl)-4H-pyrimido[1,2-b]pyridazin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-(piperidin-4-yl)-4H-pyrazino[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-(1-methylpiperidin-4-yl)-4H-pyrazino[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-(1-ethylpiperidin-4-yl)-4H-pyrazino[1,2-a]pyrimidin-4-one

2-(1-methyl-1H-indazol-5-yl)-7-(1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrazino[1,2-a]pyrimidin-4-one

2-(1-methyl-1H-indazol-5-yl)-7-(1-methyl-1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrazino[1,2-a]pyrimidin-4-one

7-(1-ethyl-1,2,3,6-tetrahydropyridin-4-yl)-2-(1-methyl-1H-indazol-5-yl)-4H-pyrazino[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-(4-ethylpiperazin-1-yl)-9-methyl-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-9-methyl-7-[(3R)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3R)-3,4-dimethylpiperazin-1-yl]-2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-9-methyl-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-[(3R)-4-ethyl-3-methylpiperazin-1-yl]-9-methyl-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-(piperidin-4-yl)-4H-pyrimido[1,2-b]pyridazin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-(1-methylpiperidin-4-yl)-4H-pyrimido[1,2-b]pyridazin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-(1-ethylpiperidin-4-yl)-4H-pyrimido[1,2-b]pyridazin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-(octahydro-5H-pyrrolo[3,2-c]pyridin-5-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-chloro-2-methylimidazo[1,2-a]pyridin-6-yl)-7-(piperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-chloro-2-methylimidazo[1,2-a]pyridin-6-yl)-7-(1-methylpiperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-chloro-2-methylimidazo[1,2-a]pyridin-6-yl)-7-(1-ethylpiperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-chloro-2-methylimidazo[1,2-a]pyridin-6-yl)-7-[1-(propan-2-yl)piperidin-4-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-9-methyl-7-(4-methyl-1,4-diazepan-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methyl-2H-indazol-5-yl)-7-(piperidin-4-yl)-4H-pyrimido[1,2-b]pyridazin-4-one

2-(2-methyl-2H-indazol-5-yl)-7-(1-methylpiperidin-4-yl)-4H-pyrimido[1,2-b]pyridazin-4-one

7-(1-ethylpiperidin-4-yl)-2-(2-methyl-2H-indazol-5-yl)-4H-pyrimido[1,2-b]pyridazin-4-one

2-(8-chloro-2-methylimidazo[1,2-a]pyridin-6-yl)-7-(1-methylpiperidin-4-yl)-4H-pyrimido[1,2-b]pyridazin-4-one

2-(8-chloro-2-methylimidazo[1,2-a]pyridin-6-yl)-7-(1-ethylpiperidin-4-yl)-4H-pyrimido[1,2-b]pyridazin-4-one

2-(8-chloro-2-methylimidazo[1,2-a]pyridin-6-yl)-7-[1-(2-hydroxyethyl)piperidin-4-yl]-4H-pyrimido[1,2-b]pyridazin-4-one

2-(5,7-dimethylfuro[2,3-c]pyridin-2-yl)-7-[(3R,5S)-3,5-dimethylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-[4-(dimethylamino)piperidin-1-yl]-2-(5,7-dimethylfuro[2,3-c]pyridin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(5,7-dimethylfuro[2,3-c]pyridin-2-yl)-7-[4-(2-hydroxyethyl)piperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-[1-(2-hydroxyethyl)piperidin-4-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-[4-(2-hydroxyethyl)piperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-[(3R)-4-(2-hydroxyethyl)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-chloro-2-methylimidazo[1,2-a]pyridin-6-yl)-7-[(3S)-4-(2-methoxyethyl)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-chloro-2-methylimidazo[1,2-a]pyridin-6-yl)-7-{(3S)-4-[2-(2-hydroxyethoxy)ethyl]-3-methylpiperazin-1-yl}-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-chloro-2-methylimidazo[1,2-a]pyridin-6-yl)-7-[(3S)-4-cyclopropyl-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-chloro-2-methylimidazo[1,2-a]pyridin-6-yl)-7-[(3S)-4-cyclobutyl-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-chloro-2-methylimidazo[1,2-a]pyridin-6-yl)-7-[(3S)-4-(2-hydroxyethyl)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-fluoro-2-methylimidazo[1,2-a]pyridin-6-yl)-7-[(3S)-4-(2-methoxyethyl)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-fluoro-2-methylimidazo[1,2-a]pyridin-6-yl)-7-[(3S)-4-(2-hydroxyethyl)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-fluoro-2-methylimidazo[1,2-a]pyridin-6-yl)-7-{(3S)-4-[2-(2-hydroxyethoxy)ethyl]-3-methylpiperazin-1-yl}-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-fluoro-2-methylimidazo[1,2-a]pyridin-6-yl)-7-[(3S)-3-methyl-4-(propan-2-yl)piperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3S)-4-cyclopropyl-3-methylpiperazin-1-yl]-2-(8-fluoro-2-methylimidazo[1,2-a]pyridin-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3S)-4-cyclobutyl-3-methylpiperazin-1-yl]-2-(8-fluoro-2-methylimidazo[1,2-a]pyridin-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(3,3-dimethylpiperazin-1-yl)-2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-9-methyl-4H-pyrido[1,2-a]pyrimidin-4-one

2-(1-methyl-1H-indazol-5-yl)-7-[(3R)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-(4-methylpiperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-(4-ethylpiperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-[4-(2-hydroxyethyl)piperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-[4-(dimethylamino)piperidin-1-yl]-2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[4-(diethylamino)piperidin-1-yl]-2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3R,5S)-3,5-dimethylpiperazin-1-yl]-2-(1-methyl-1H-indazol-5-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(1-methyl-1H-indazol-5-yl)-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methylimidazo[1,2-a]pyridin-6-yl)-7-[1-(propan-2-yl)piperidin-4-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methylimidazo[1,2-a]pyridin-7-yl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methylimidazo[1,2-a]pyridin-7-yl)-7-(piperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methylimidazo[1,2-a]pyridin-7-yl)-7-(4-methylpiperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(4-ethylpiperazin-1-yl)-2-(2-methylimidazo[1,2-a]pyridin-7-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methylimidazo[1,2-a]pyridin-7-yl)-7-(1-methylpiperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(1-ethylpiperidin-4-yl)-2-(2-methylimidazo[1,2-a]pyridin-7-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-9-methyl-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3R,5S)-3,5-dimethylpiperazin-1-yl]-2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-9-methyl-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3S)-3,4-dimethylpiperazin-1-yl]-2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-9-methyl-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-9-methyl-7-[(3R,5S)-3,4,5-trimethylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methylimidazo[1,2-a]pyridin-6-yl)-7-[1-(propan-2-yl)-1,2,3,6-tetrahydropyridin-4-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methyl-2H-indazol-5-yl)-7-(piperidin-4-yl)-4H-pyrazino[1,2-a]pyrimidin-4-one

2-(2-methyl-2H-indazol-5-yl)-7-(1-methylpiperidin-4-yl)-4H-pyrazino[1,2-a]pyrimidin-4-one

7-(1-ethylpiperidin-4-yl)-2-(2-methyl-2H-indazol-5-yl)-4H-pyrazino[1,2-a]pyrimidin-4-one

7-[1-(2-hydroxyethyl)piperidin-4-yl]-2-(2-methyl-2H-indazol-5-yl)-4H-pyrazino[1,2-a]pyrimidin-4-one

7-{4-[(dimethylamino)methyl]piperidin-1-yl}-2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-[4-(pyrrolidin-1-ylmethyl)piperidin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-[4-(piperidin-1-ylmethyl)piperidin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-{4-[(dimethylamino)methyl]piperidin-1-yl}-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-[4-(pyrrolidin-1-ylmethyl)piperidin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(3,4-dimethoxyphenyl)-7-[4-(piperidin-1-ylmethyl)piperidin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-[1-(2-hydroxyethyl)piperidin-4-yl]-2-(2-methylimidazo[1,2-a]pyridin-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[1-(2-hydroxyethyl)-1,2,3,6-tetrahydropyridin-4-yl]-2-(2-methylimidazo[1,2-a]pyridin-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methyl-2H-indazol-5-yl)-7-(1-methylpiperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methylimidazo[1,2-a]pyridin-6-yl)-7-(1-methylpiperidin-4-yl)-4H-pyrazino[1,2-a]pyrimidin-4-one

7-(1-ethylpiperidin-4-yl)-2-(2-methylimidazo[1,2-a]pyridin-6-yl)-4H-pyrazino[1,2-a]pyrimidin-4-one

7-[1-(2-hydroxyethyl)piperidin-4-yl]-2-(2-methylimidazo[1,2-a]pyridin-6-yl)-4H-pyrazino[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-{4-[(2-hydroxyethyl)(methyl)amino]piperidin-1-yl}-9-methyl-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-9-methyl-7-[4-(propylamino)piperidin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-(4-amino-4-methylpiperidin-1-yl)-2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methylimidazo[1,2-a]pyridin-6-yl)-7-(piperidin-4-yl)-4H-pyrazino[1,2-a]pyrimidin-4-one

2-(2-methyl-2H-indazol-5-yl)-7-(piperazin-1-yl)-4H-pyrazino[1,2-a]pyrimidin-4-one

2-(8-chloro-2-methylimidazo[1,2-a]pyridin-6-yl)-7-(piperidin-4-yl)-4H-pyrazino[1,2-a]pyrimidin-4-one

2-(2,8-dimethylimidazo[1,2-a]pyridin-6-yl)-7-(piperidin-4-yl)-4H-pyrazino[1,2-a]pyrimidin-4-one

2-(2-methyl-2H-indazol-5-yl)-7-(4-methylpiperazin-1-yl)-4H-pyrazino[1,2-a]pyrimidin-4-one

7-(4-ethylpiperazin-1-yl)-2-(2-methyl-2H-indazol-5-yl)-4H-pyrazino[1,2-a]pyrimidin-4-one

7-[4-(2-hydroxyethyl)piperazin-1-yl]-2-(2-methyl-2H-indazol-5-yl)-4H-pyrazino[1,2-a]pyrimidin-4-one

2-(2,8-dimethylimidazo[1,2-a]pyridin-6-yl)-7-(1-methylpiperidin-4-yl)-4H-pyrazino[1,2-a]pyrimidin-4-one

2-(2,8-dimethylimidazo[1,2-a]pyridin-6-yl)-7-(1-ethylpiperidin-4-yl)-4H-pyrazino[1,2-a]pyrimidin-4-one

2-(2,8-dimethylimidazo[1,2-a]pyridin-6-yl)-7-[1-(2-hydroxyethyl)piperidin-4-yl]-4H-pyrazino[1,2-a]pyrimidin-4-one

2-(8-chloro-2-methylimidazo[1,2-a]pyridin-6-yl)-7-[1-(propan-2-yl)piperidin-4-yl]-4H-pyrazino[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-[4-(ethylamino)piperidin-1-yl]-9-methyl-4H-pyrido[1,2-a]pyrimidin-4-one

7-{4-[bis(2-hydroxyethyl)amino]piperidin-1-yl}-2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-9-methyl-4H-pyrido[1,2-a]pyrimidin-4-one

7-[1-(2-hydroxyethyl)piperidin-4-yl]-2-(2-methyl-1,3-benzoxazol-6-yl)-4H-pyrimido[1,2-b]pyridazin-4-one

2-(8-chloro-2-methylimidazo[1,2-a]pyridin-6-yl)-7-[1-(2-hydroxyethyl)piperidin-4-yl]-4H-pyrazino[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-[1-(oxetan-3-yl)piperidin-4-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(5,7-dimethylfuro[2,3-c]pyridin-2-yl)-7-(4-ethylpiperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-(1-methyloctahydro-5H-pyrrolo[3,2-c]pyridin-5-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(1-methyl-1H-indazol-5-yl)-7-(piperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(1-ethylpiperidin-4-yl)-2-(1-methyl-1H-indazol-5-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[1-(2-hydroxyethyl)piperidin-4-yl]-2-(1-methyl-1H-indazol-5-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methyl-2H-indazol-5-yl)-7-(piperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2,8-dimethylimidazo[1,2-a]pyridin-6-yl)-7-(piperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methyl-2H-indazol-5-yl)-7-[1-(propan-2-yl)piperidin-4-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-{4-[(2-hydroxyethyl)amino]piperidin-1-yl}-9-methyl-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-9-methyl-7-[4-(methylamino)piperidin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-9-methyl-7-[4-(propan-2-ylamino)piperidin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-(1-ethylpiperidin-4-yl)-2-(2-methyl-2H-indazol-5-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[1-(2-hydroxyethyl)piperidin-4-yl]-2-(2-methyl-2H-indazol-5-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2,8-dimethylimidazo[1,2-a]pyridin-6-yl)-7-(1-methylpiperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2,8-dimethylimidazo[1,2-a]pyridin-6-yl)-7-(1-ethylpiperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2,8-dimethylimidazo[1,2-a]pyridin-6-yl)-7-[1-(propan-2-yl)piperidin-4-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2,8-dimethylimidazo[1,2-a]pyridin-6-yl)-7-[1-(2-hydroxyethyl)piperidin-4-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-(4-propylpiperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-[4-(propan-2-yl)piperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-(4-cyclopropylpiperazin-1-yl)-2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(4-cyclobutylpiperazin-1-yl)-2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-[4-(oxetan-3-yl)piperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-(1-ethyloctahydro-5H-pyrrolo[3,2-c]pyridin-5-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-[1-(2-hydroxyethyl)octahydro-5H-pyrrolo[3,2-c]pyridin-5-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-methoxy-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-(4-methylpiperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-hydroxy-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-(4-methylpiperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methylimidazo[1,2-a]pyridin-6-yl)-7-[1-(propan-2-yl)piperidin-4-yl]-4H-pyrazino[1,2-a]pyrimidin-4-one

7-(1-cyclobutylpiperidin-4-yl)-2-(2-methylimidazo[1,2-a]pyridin-6-yl)-4H-pyrazino[1,2-a]pyrimidin-4-one

7-[(3R)-3,4-dimethylpiperazin-1-yl]-2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3R)-4-ethyl-3-methylpiperazin-1-yl]-2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-[(3R)-3-methyl-4-propylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-[(3R)-4-(2-hydroxyethyl)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3R,5S)-3,5-dimethylpiperazin-1-yl]-2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-[4-(pyrrolidin-1-yl)piperidin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-(4-methyl-1,4-diazepan-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-ethyl-2-methylimidazo[1,2-a]pyridin-6-yl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-ethyl-2-methylimidazo[1,2-a]pyridin-6-yl)-7-[(3R)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-ethyl-2-methylimidazo[1,2-a]pyridin-6-yl)-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-[1-(propan-2-yl)piperidin-4-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-(1-cyclopropylpiperidin-4-yl)-2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(1-cyclobutylpiperidin-4-yl)-2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-[(3R)-3-methyl-4-(propan-2-yl)piperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3R)-4-cyclopropyl-3-methylpiperazin-1-yl]-2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3R)-4-cyclobutyl-3-methylpiperazin-1-yl]-2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-[(3R)-3-methyl-4-(oxetan-3-yl)piperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-ethyl-2-methylimidazo[1,2-a]pyridin-6-yl)-7-[4-(2-hydroxyethyl)piperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-(4-cyclobutylpiperazin-1-yl)-2-(8-ethyl-2-methylimidazo[1,2-a]pyridin-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-ethyl-2-methylimidazo[1,2-a]pyridin-6-yl)-7-[(3R)-4-(2-hydroxyethyl)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3R)-4-cyclobutyl-3-methylpiperazin-1-yl]-2-(8-ethyl-2-methylimidazo[1,2-a]pyridin-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-ethyl-2-methylimidazo[1,2-a]pyridin-6-yl)-7-[(3S)-4-(2-hydroxyethyl)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3S)-4-cyclobutyl-3-methylpiperazin-1-yl]-2-(8-ethyl-2-methylimidazo[1,2-a]pyridin-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-(piperidin-4-yl)-4H-pyrazino[1,2-a]pyrimidin-4-one

2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-(1-methylpiperidin-4-yl)-4H-pyrazino[1,2-a]pyrimidin-4-one

2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-(1-ethylpiperidin-4-yl)-4H-pyrazino[1,2-a]pyrimidin-4-one

2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-(piperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-(1-methylpiperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-(1-ethylpiperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-[1-(2-hydroxyethyl)piperidin-4-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-(1-propylpiperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-[(3R)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-[1-(2-fluoroethyl)piperidin-4-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-[1-(3-fluoropropyl)piperidin-4-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-[4-(2-fluoroethyl)piperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-[4-(3-fluoropropyl)piperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-[(3R)-4-(2-fluoroethyl)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-[(3R)-4-(3-fluoropropyl)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-[1-(2-fluoroethyl)piperidin-4-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-[1-(3-fluoropropyl)piperidin-4-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-{(3R)-4-[2-(2-hydroxyethoxy)ethyl]-3-methylpiperazin-1-yl}-9-methyl-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-9-methyl-7-(piperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-9-methyl-7-(1-methylpiperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-[(3R)-4-(2-hydroxyethyl)-3-methylpiperazin-1-yl]-9-methyl-4H-pyrido[1,2-a]pyrimidin-4-one

2-[8-(hydroxymethyl)-2-methylimidazo[1,2-a]pyridin-6-yl]-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3R,5S)-3,5-dimethylpiperazin-1-yl]-2-(8-ethyl-2-methylimidazo[1,2-a]pyridin-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-ethyl-2-methylimidazo[1,2-a]pyridin-6-yl)-7-(4-methyl-1,4-diazepan-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-[8-(hydroxymethyl)-2-methylimidazo[1,2-a]pyridin-6-yl]-7-(4-methylpiperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(4-ethylpiperazin-1-yl)-2-[8-(hydroxymethyl)-2-methylimidazo[1,2-a]pyridin-6-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-[1-(propan-2-yl)piperidin-4-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-(1-cyclopropylpiperidin-4-yl)-2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(1-cyclobutylpiperidin-4-yl)-2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-[1-(oxetan-3-yl)piperidin-4-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-cyclopropyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-cyclopropyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-(4-methylpiperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-cyclopropyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-(4-ethylpiperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-cyclopropyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-[4-(2-hydroxyethyl)piperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-(1-propylpiperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-[4-(dimethylamino)-6-methylpyrazolo[1,5-a]pyrazin-2-yl]-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2-methyl-1H-benzimidazol-6-yl)-7-(4-methylpiperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(4-ethylpiperazin-1-yl)-2-(2-methyl-1H-benzimidazol-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2,8-dimethylimidazo[1,2-a]pyridin-6-yl)-7-(piperidin-4-yl)-4H-pyrimido[1,2-b]pyridazin-4-one

2-(2-methylimidazo[1,2-a]pyridin-6-yl)-7-(piperidin-4-yl)-4H-pyrimido[1,2-b]pyridazin-4-one

7-[1-(2,2-dimethyl-1,3-dioxan-5-yl)piperidin-4-yl]-2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[1-(1,3-dihydroxypropan-2-yl)piperidin-4-yl]-2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3R,5S)-3,5-dimethylpiperazin-1-yl]-2-(1,3-dimethylpyrrolo[1,2-a]pyrazin-7-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-ethyl-2-methylimidazo[1,2-a]pyridin-6-yl)-7-(piperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-ethyl-2-methylimidazo[1,2-a]pyridin-6-yl)-7-(1-methylpiperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-ethyl-2-methylimidazo[1,2-a]pyridin-6-yl)-7-(1-ethylpiperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-ethyl-2-methylimidazo[1,2-a]pyridin-6-yl)-7-[1-(2-hydroxyethyl)piperidin-4-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3R)-3,4-dimethylpiperazin-1-yl]-2-(8-ethyl-2-methylimidazo[1,2-a]pyridin-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-ethyl-2-methylimidazo[1,2-a]pyridin-6-yl)-7-[(3R)-4-ethyl-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-(1-ethylpiperidin-4-yl)-9-methyl-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-[1-(2-hydroxyethyl)piperidin-4-yl]-9-methyl-4H-pyrido[1,2-a]pyrimidin-4-one

7-(1-cyclobutylpiperidin-4-yl)-2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-9-methyl-4H-pyrido[1,2-a]pyrimidin-4-one

9-methyl-2-(2-methyl-2H-indazol-5-yl)-7-(1-methylpiperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[4-(dimethylamino)-4-methylpiperidin-1-yl]-2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-[4-(ethylamino)-4-methylpiperidin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-[4-methyl-4-(propylamino)piperidin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-{4-[(2-hydroxyethyl)amino]-4-methylpiperidin-1-yl}-4H-pyrido[1,2-a]pyrimidin-4-one

7-(1-cyclobutylpiperidin-4-yl)-9-methyl-2-(2-methyl-2H-indazol-5-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[1-(2-hydroxyethyl)piperidin-4-yl]-9-methyl-2-(2-methyl-2H-indazol-5-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-9-methyl-7-(1-propylpiperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(1,3-dimethylpyrrolo[1,2-a]pyrazin-7-yl)-7-[(3R)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-cyclopropyl-2-methylimidazo[1,2-a]pyridin-6-yl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-cyclopropyl-2-methylimidazo[1,2-a]pyridin-6-yl)-7-[(3R)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-cyclopropyl-2-methylimidazo[1,2-a]pyridin-6-yl)-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-cyclopropyl-2-methylimidazo[1,2-a]pyridin-6-yl)-7-[(3R,5S)-3,5-dimethylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-(1-cyclopropylpiperidin-4-yl)-9-methyl-2-(2-methyl-2H-indazol-5-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(1-ethylpiperidin-4-yl)-9-methyl-2-(2-methyl-2H-indazol-5-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-9-methyl-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

9-methyl-2-(2-methyl-2H-indazol-5-yl)-7-(piperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-[(1-methylpiperidin-4-yl)oxy]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(6-methyl-4-propylpyrazolo[1,5-a]pyrazin-2-yl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(4-methylpiperazin-1-yl)-2-(6-methyl-4-propylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(4-ethylpiperazin-1-yl)-2-(6-methyl-4-propylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[4-(2-hydroxyethyl)piperazin-1-yl]-2-(6-methyl-4-propylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3R)-3-methylpiperazin-1-yl]-2-(6-methyl-4-propylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3S)-3-methylpiperazin-1-yl]-2-(6-methyl-4-propylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3R,5S)-3,5-dimethylpiperazin-1-yl]-2-(6-methyl-4-propylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(1,3-dimethylpyrrolo[1,2-a]pyrazin-7-yl)-7-[(3R)-3-methyl-4-(propan-2-yl)piperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-(4-amino-4-methylpiperidin-1-yl)-2-(1,3-dimethylpyrrolo[1,2-a]pyrazin-7-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-[(3S)-3-ethylpiperazin-1-yl]-9-methyl-4H-pyrido[1,2-a]pyrimidin-4-one

2-[2-methyl-8-(trifluoromethyl)imidazo[1,2-a]pyridin-6-yl]-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3R)-3-methylpiperazin-1-yl]-2-[2-methyl-8-(trifluoromethyl)imidazo[1,2-a]pyridin-6-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3S)-3-methylpiperazin-1-yl]-2-[2-methyl-8-(trifluoromethyl)imidazo[1,2-a]pyridin-6-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3R,5S)-3,5-dimethylpiperazin-1-yl]-2-[2-methyl-8-(trifluoromethyl)imidazo[1,2-a]pyridin-6-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-(4-amino-4-methylpiperidin-1-yl)-2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2,7-dimethyl-2H-indazol-5-yl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2,7-dimethyl-2H-indazol-5-yl)-7-(piperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(3-aminoprop-1-yn-1-yl)-2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2,7-dimethyl-2H-indazol-5-yl)-7-[(3R)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-(3-aminopropyl)-2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(1,3-dimethylpyrrolo[1,2-a]pyrazin-7-yl)-7-(1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-(2,2,6,6-tetramethyl-1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-(2,2,6,6-tetramethyl-1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-[(3aR,6aS)-hexahydropyrrolo[3,4-c]pyrrol-2(1H)-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-[(3aR,6aS)-hexahydropyrrolo[3,4-c]pyrrol-2(1H)-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3R,5S)-3,5-dimethylpiperazin-1-yl]-2-(1-ethyl-3-methylpyrrolo[1,2-a]pyrazin-7-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(1,4-diazepan-1-yl)-2-(1-ethyl-3-methylpyrrolo[1,2-a]pyrazin-7-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2,7-dimethyl-2H-indazol-5-yl)-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2,7-dimethyl-2H-indazol-5-yl)-7-[(3S)-3,4-dimethylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2,7-dimethyl-2H-indazol-5-yl)-7-(1-methylpiperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2,7-dimethyl-2H-indazol-5-yl)-7-(1-ethylpiperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

9-methyl-2-(2-methyl-2H-indazol-5-yl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

9-methyl-2-(2-methyl-2H-indazol-5-yl)-7-[(3R)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

9-methyl-2-(2-methyl-2H-indazol-5-yl)-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-[3-(dimethylamino)azetidin-1-yl]-2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[3-(diethylamino)azetidin-1-yl]-2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-[3-(pyrrolidin-1-yl)azetidin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-(1,4-diazepan-1-yl)-2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3aR,6aS)-hexahydropyrrolo[3,4-c]pyrrol-2(1H)-yl]-2-(6-methyl-4-propylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(6-methyl-4-propylpyrazolo[1,5-a]pyrazin-2-yl)-7-(1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-(1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3S)-3-(aminomethyl)pyrrolidin-1-yl]-2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-[3-(piperidin-1-yl)azetidin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(6-methyl-4-propylpyrazolo[1,5-a]pyrazin-2-yl)-7-(piperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(2,7-diazaspiro[4.4]non-2-yl)-2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2,7-dimethyl-2H-indazol-5-yl)-7-(4-methylpiperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[3-(dimethylamino)propyl]-2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-{(3S)-3-[(dimethylamino)methyl]pyrrolidin-1-yl}-2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-9-methyl-7-(piperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

9-methyl-2-(1-methyl-1H-indazol-5-yl)-7-(piperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-9-methyl-7-(1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-9-methyl-7-(1-methylpiperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(1,7-dimethyl-1H-indazol-5-yl)-7-(piperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(1,7-dimethyl-1H-indazol-5-yl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(1,7-dimethyl-1H-indazol-5-yl)-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-{(3S)-3-[(diethylamino)methyl]pyrrolidin-1-yl}-2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-{(3S)-3-[(ethylamino)methyl]pyrrolidin-1-yl}-4H-pyrido[1,2-a]pyrimidin-4-one

7-{3-[(dimethylamino)methyl]azetidin-1-yl}-2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-{3-[(diethylamino)methyl]azetidin-1-yl}-2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(1-ethyl-3-methylpyrrolo[1,2-a]pyrazin-7-yl)-7-[(8aS)-hexahydropyrrolo[1,2-a]pyrazin-2(1H)-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-9-methyl-7-[(3R)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

9-methyl-2-(1-methyl-1H-indazol-5-yl)-7-(1-methylpiperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3R)-3,4-dimethylpiperazin-1-yl]-2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-9-methyl-4H-pyrido[1,2-a]pyrimidin-4-one

7-(1-ethylpiperidin-4-yl)-9-methyl-2-(1-methyl-1H-indazol-5-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-9-methyl-7-[(3S)-3-methylpiperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-[1-(2-hydroxyethyl)piperidin-4-yl]-9-methyl-2-(1-methyl-1H-indazol-5-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3S)-3,4-dimethylpiperazin-1-yl]-2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-9-methyl-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-(1-ethylpiperidin-4-yl)-9-methyl-4H-pyrido[1,2-a]pyrimidin-4-one

9-methyl-2-(2-methyl-2H-indazol-5-yl)-7-(1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrazino[1,2-a]pyrimidin-4-one

7-(1-cyclobutylpiperidin-4-yl)-2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-9-methyl-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-[1-(2-hydroxyethyl)piperidin-4-yl]-9-methyl-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-ethyl-2-methylimidazo[1,2-a]pyridin-6-yl)-7-[(8aR)-hexahydropyrrolo[1,2-a]pyrazin-2(1H)-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-ethyl-2-methylimidazo[1,2-a]pyridin-6-yl)-7-[(8aS)-hexahydropyrrolo[1,2-a]pyrazin-2(1H)-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

9-methyl-2-(2-methyl-2H-indazol-5-yl)-7-(piperidin-4-yl)-4H-pyrazino[1,2-a]pyrimidin-4-one

7-[(3R)-3-(aminomethyl)pyrrolidin-1-yl]-2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-[(2S,6S)-2,6-dimethyl-1,2,3,6-tetrahydropyridin-4-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-{(3R)-3-[(dimethylamino)methyl]pyrrolidin-1-yl}-2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(2S,6S)-2,6-dimethylpiperidin-4-yl]-2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-fluoro-2-methylimidazo[1,2-a]pyridin-6-yl)-7-[4-(2-hydroxyethyl)piperazin-1-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(imidazo[1,2-a]pyridin-6-yl)-7-(4-methylpiperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-fluoro-2-methyl-1,3-benzoxazol-6-yl)-7-[(8aS)-hexahydropyrrolo[1,2-a]pyrazin-2(1H)-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-(2,7-diazaspiro[3.5]non-7-yl)-2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(4-methylpiperazin-1-yl)-2-(2-methyl[1,2,4]triazolo[1,5-a]pyridin-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(4-methylpiperazin-1-yl)-2-[2-methyl-8-(trifluoromethyl)imidazo[1,2-a]pyridin-6-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-methyl-6-[7-(4-methylpiperazin-1-yl)-4-oxo-4H-pyrido[1,2-a]pyrimidin-2-yl]imidazo[1,2-a]pyridine-8-carbonitrile

2-(2,8-dimethylimidazo[1,2-a]pyridin-6-yl)-7-(4-methylpiperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-(4,7-diazaspiro[2.5]oct-7-yl)-2-(2,8-dimethylimidazo[1,2-a]pyridin-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-fluoro-2-methylimidazo[1,2-a]pyridin-6-yl)-7-(1-methylpiperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-fluoro-2-methylimidazo[1,2-a]pyridin-6-yl)-7-(4-hydroxypiperidin-4-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-[(8aS)-hexahydropyrrolo[1,2-a]pyrazin-2(1H)-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-[(8aR)-hexahydropyrrolo[1,2-a]pyrazin-2(1H)-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3R)-3-(dimethylamino)pyrrolidin-1-yl]-2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3S)-3-(dimethylamino)pyrrolidin-1-yl]-2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(8-fluoro-2-methylimidazo[1,2-a]pyridin-6-yl)-7-[(8aS)-8a-methylhexahydropyrrolo[1,2-a]pyrazin-2(1H)-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-(4-ethylpiperazin-1-yl)-9-methyl-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-[(8aS)-hexahydropyrrolo[1,2-a]pyrazin-2(1H)-yl]-9-methyl-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2,8-dimethylimidazo[1,2-a]pyridin-6-yl)-7-(4-ethylpiperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2,8-dimethylimidazo[1,2-a]pyridin-6-yl)-7-[(8aS)-hexahydropyrrolo[1,2-a]pyrazin-2(1H)-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(2,8-dimethylimidazo[1,2-a]pyridin-6-yl)-7-(8a-methylhexahydropyrrolo[1,2-a]pyrazin-2(1H)-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3R)-3-(dimethylamino)pyrrolidin-1-yl]-2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-9-methyl-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-{[2-(morpholin-4-yl)ethyl]amino}-4H-pyrido[1,2-a]pyrimidin-4-one

7-{[2-(dimethylamino)ethyl]amino}-2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-{[2-(dimethylamino)ethyl](methyl)amino}-2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-{methyl[2-(methylamino)ethyl]amino}-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3R)-3-(dimethylamino)pyrrolidin-1-yl]-2-(2,8-dimethylimidazo[1,2-a]pyridin-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[(3S)-3-(dimethylamino)pyrrolidin-1-yl]-2-(2,8-dimethylimidazo[1,2-a]pyridin-6-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

7-[2-(dimethylamino)ethoxy]-2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-9-methyl-4H-pyrido[1,2-a]pyrimidin-4-one

7-[2-(dimethylamino)ethoxy]-2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-(piperidin-4-ylmethoxy)-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-[2-(piperidin-1-yl)ethoxy]-4H-pyrido[1,2-a]pyrimidin-4-one

2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-7-[3-(morpholin-4-yl)propoxy]-4H-pyrido[1,2-a]pyrimidin-4-one

7-[3-(dimethylamino)propoxy]-2-(4-ethyl-6-methylpyrazolo[1,5-a]pyrazin-2-yl)-4H-pyrido[1,2-a]pyrimidin-4-one, or

2-(4,6-dimethylpyrazolo[1,5-a]pyrazin-2-yl)-7-[(3aR,6aS)-5-methylhexahydropyrrolo[3,4-c]pyrrol-2(1H)-yl]-4H-pyrido[1,2-a]pyrimidin-4-one

or a salt, isotopologue, stereoisomer, racemate, enantiomer, diastereomer or tautomer thereof.

[00644] In another embodiment, the compound of Formula (I) used in a method disclosed herein is a compound selected from the group consisting of:

2-(3,5-difluoro-4-hydroxyphenyl)-7-(piperazin-1-yl)-4H-pyrido[1,2-a]pyrimidin-4-one hydrochloride

7-[4-(dimethylamino)piperidin-1-yl]-2-(3-fluoro-4-methoxyphenyl)-4H-quinolizin-4-one acetate

2-(2-methyl-1,3-benzothiazol-6-yl)-7-(piperidin-4-yl)-4H-pyrimido[1,2-b]pyridazin-4-one trifluoroacetate (1:1), or

2-(1,3-dimethylpyrrolo[1,2-a]pyrazin-7-yl)-7-(1,2,3,6-tetrahydropyridin-4-yl)-4H-pyrazino[1,2-a]pyrimidin-4-one hydrochloride (1:2)

or a free base, isotopologue, stereoisomer, racemate, enantiomer, diastereomer or tautomer thereof.

[00645] Compounds of Formula (I) can be prepared using reagents and methods known in the art, including the methods provided in International Application No. PCT/US2013/025292, filed on February 8, 2013, and published as International Publication No. WO 2013/119916 on August 15, 2013, the entire contents which are incorporated herein by reference (see in particular, General Synthetic Methods, Schemes A-J, at paragraphs [001126] to [001159]; and Specific Synthetic Examples, at paragraphs [001160] to [001573] and Table 1, therein).

TERMINOLOGY

[00646] The chemical terms used above and throughout the description herein, unless specifically defined otherwise, shall be understood by one of ordinary skill in the art to have the following indicated meanings.

[00647] As used herein, the term "C_{1-8}alkyl" generally refers to saturated hydrocarbon radicals having from one to eight carbon atoms in a straight or branched chain configuration, including, but not limited to, methyl, ethyl, n-propyl (also referred to as propyl or propanyl), isopropyl, n-butyl (also referred to as butyl or butanyl), isobutyl, sec-butyl, tert-butyl, n-pentyl (also referred to as pentyl or pentanyl), n-hexyl (also referred to as hexyl or hexanyl), n-heptyl (also referred to as heptyl or heptanyl), n-octyl and the like. In some embodiments, C_{1-8}alkyl includes, but is not limited to, C_{1-6}alkyl, C_{1-4}alkyl and the like. A C_{1-8}alkyl radical is optionally substituted with substituent species as described herein where allowed by available valences.

[00648] As used herein, the term "C_{2-8}alkenyl" generally refers to partially unsaturated hydrocarbon radicals having from two to eight carbon atoms in a straight or branched chain configuration and one or more carbon-carbon double bonds therein, including, but not limited to, ethenyl (also referred to as vinyl), allyl, propenyl and the like. In some embodiments, C_{2-8}alkenyl includes, but is not limited to, C_{2-6}alkenyl, C_{2-4}alkenyl and the like. A C_{2-8}alkenyl radical is optionally substituted with substituent species as described herein where allowed by available valences.

[00649] As used herein, the term "C_{2-8}alkynyl" generally refers to partially unsaturated hydrocarbon radicals having from two to eight carbon atoms in a straight or branched chain configuration and one or more carbon-carbon triple bonds therein, including, but not limited to, ethynyl, propynyl, butynyl and the like. In some embodiments, C_{2-8}alkynyl includes, but is not limited to, C_{2-6}alkynyl, C_{2-4}alkynyl and the like. A C_{2-8}alkynyl radical is optionally substituted with substituent species as described herein where allowed by available valences.

[00650] As used herein, the term "C_{1-8}alkoxy" generally refers to saturated hydrocarbon radicals having from one to eight carbon atoms in a straight or branched chain configuration of the formula: -O-C_{1-8}alkyl, including, but not limited to, methoxy, ethoxy, n-propoxy, isopropoxy, n-butoxy, isobutoxy, sec-butoxy, tert-butoxy, n-pentoxy, n-hexoxy and the like. In some embodiments, C_{1-8}alkoxy includes, but is not limited to, C_{1-6}alkoxy, C_{1-4}alkoxy and the like. A C_{1-8}alkoxy radical is optionally substituted with substituent species as described herein where allowed by available valences.

[00651] As used herein, the term "C_{3-14}cycloalkyl" generally refers to a saturated or partially unsaturated monocyclic, bicyclic or polycyclic hydrocarbon radical, including, but not limited to, cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, cyclohexenyl, cycloheptyl, cyclooctyl, 1H-indanyl, indenyl, tetrahydro-naphthalenyl and the like. In some embodiments, C_{3-14}cycloalkyl includes, but is not limited to, C_{3-8}cycloalkyl, C_{5-8}cycloalkyl, C_{3-10}cycloalkyl and the like. A C_{3-14}cycloalkyl radical is optionally substituted with substituent species as described herein where allowed by available valences.

[00652] As used herein, the term "aryl" generally refers to a monocyclic, bicyclic or polycyclic aromatic carbon atom ring structure radical, including, but not limited to, phenyl, naphthyl, anthracenyl, fluorenyl, azulenyl, phenanthrenyl and the like. An aryl radical is

optionally substituted with substituent species as described herein where allowed by available valences.

[00653] As used herein, the term "heteroaryl" generally refers to a monocyclic, bicyclic or polycyclic aromatic carbon atom ring structure radical in which one or more carbon atom ring members have been replaced, where allowed by structural stability, with one or more heteroatoms, such as an O, S or N atom, including, but not limited to, furanyl (also referred to as furyl), thienyl (also referred to as thiophenyl), pyrrolyl, 2H-pyrrolyl, 3H-pyrrolyl, pyrazolyl, 1H-pyrazolyl, imidazolyl, 1H-imidazolyl, isoxazolyl, isothiazolyl, oxazolyl, 1,3-thiazolyl, triazolyl (such as 1H-1,2,3-triazolyl and the like), oxadiazolyl (such as 1,2,4-oxadiazolyl, 1,3,4-oxadiazolyl and the like), thiadiazolyl, tetrazolyl (such as 1H-tetrazolyl, 2H-tetrazolyl and the like), pyridinyl (also referred to as pyridyl), pyrimidinyl, pyrazinyl, pyridazinyl, triazinyl, indolyl, 1H-indolyl, indazolyl, 1H-indazolyl, 2H-indazolyl, indolizinyl, isoindolyl, benzofuranyl, benzothienyl (also referred to as benzothiophenyl), benzoimidazolyl, 1H-benzoimidazolyl, 1,3-benzothiazolyl, 1,3-benzoxazolyl (also referred to as 1,3-benzooxazolyl), purinyl, 9H-purinyl, quinolinyl, isoquinolinyl, quinazolinyl, quinoxalinyl, 1,3-diazinyl, 1,2-diazinyl, 1,2-diazolyl, 1,4-diazanaphthalenyl, acridinyl, furo[3,2-b]pyridinyl, furo[3,2-c]pyridinyl, furo[2,3-c]pyridinyl, 6H-thieno[2,3-b]pyrrolyl, thieno[3,2-c]pyridinyl, thieno[2,3-d]pyrimidinyl, 1H-pyrrolo[2,3-b]pyridinyl, 1H-pyrrolo[2,3-c]pyridinyl, 1H-pyrrolo[3,2-b]pyridinyl, pyrrolo[1,2-a]pyrazinyl, pyrrolo[1,2-b]pyridazinyl, pyrazolo[1,5-a]pyridinyl, pyrazolo[1,5-a]pyrazinyl, imidazo[1,2-a]pyridinyl, 3H-imidazo[4,5-b]pyridinyl, imidazo[1,2-a]pyrimidinyl, imidazo[1,2-c]pyrimidinyl, imidazo[1,2-b]pyridazinyl, imidazo[1,2-a]pyrazinyl, imidazo[2,1-b][1,3]thiazolyl, imidazo[2,1-b][1,3,4]thiadiazolyl, [1,2,4]triazolo[1,5-a]pyridinyl, [1,2,4]triazolo[4,3-a]pyridinyl and the like. A heteroaryl radical is optionally substituted on a carbon or nitrogen atom ring member with substituent species as described herein where allowed by available valences.

[00654] As used herein, the term "heterocyclyl" generally refers to a saturated or partially unsaturated monocyclic, bicyclic or polycyclic carbon atom ring structure radical in which one or more carbon atom ring members have been replaced, where allowed by structural stability, with a heteroatom, such as an O, S or N atom, including, but not limited to, oxiranyl, oxetanyl, azetidinyl, tetrahydrofuranyl, pyrrolinyl, pyrrolidinyl, pyrazolinyl, pyrazolidinyl, imidazolinyl, imidazolidinyl, isoxazolinyl, isoxazolidinyl, isothiazolinyl, isothiazolidinyl, oxazolinyl,

oxazolidinyl, thiazolinyl, thiazolidinyl, triazolinyl, triazolidinyl, oxadiazolinyl, oxadiazolidinyl, thiadiazolinyl, thiadiazolidinyl, tetrazolinyl, tetrazolidinyl, pyranyl, dihydro-2H-pyranyl, thiopyranyl, 1,3-dioxanyl, 1,2,5,6-tetrahydropyridinyl, 1,2,3,6-tetrahydropyridinyl, piperidinyl, piperazinyl, morpholinyl, thiomorpholinyl, 1,4-diazepanyl, 1,3-benzodioxolyl (also referred to as benzo[d][1,3]dioxolyl), 1,4-benzodioxanyl, 2,3-dihydro-1,4-benzodioxinyl (also referred to as 2,3-dihydrobenzo[b][1,4]dioxinyl), hexahydropyrrolo[3,4-b]pyrrol-(1H)-yl, (3aS,6aS)-hexahydropyrrolo[3,4-b]pyrrol-(1H)-yl, (3aR,6aR)-hexahydropyrrolo[3,4-b]pyrrol-(1H)-yl, hexahydropyrrolo[3,4-b]pyrrol-(2H)-yl, (3aS,6aS)-hexahydropyrrolo[3,4-b]pyrrol-(2H)-yl, (3aR,6aR)-hexahydropyrrolo[3,4-b]pyrrol-(2H)-yl, hexahydropyrrolo[3,4-c]pyrrol-(1H)-yl, (3aR,6aS)-hexahydropyrrolo[3,4-c]pyrrol-(1H)-yl, (3aR,6aR)-hexahydropyrrolo[3,4-c]pyrrol-(1H)-yl, octahydro-5H-pyrrolo[3,2-c]pyridinyl, octahydro-6H-pyrrolo[3,4-b]pyridinyl, (4aR,7aR)-octahydro-6H-pyrrolo[3,4-b]pyridinyl, (4aS,7aS)-octahydro-6H-pyrrolo[3,4-b]pyridinyl, hexahydropyrrolo[1,2-a]pyrazin-(1H)-yl, (7R,8aS)-hexahydropyrrolo[1,2-a]pyrazin-(1H)-yl, (8aS)-hexahydropyrrolo[1,2-a]pyrazin-(1H)-yl, (8aR)-hexahydropyrrolo[1,2-a]pyrazin-(1H)-yl, (8aS)-octahydropyrrolo[1,2-a]pyrazin-(1H)-yl, (8aR)-octahydropyrrolo[1,2-a]pyrazin-(1H)-yl, hexahydropyrrolo[1,2-a]pyrazin-(2H)-one, octahydro-2H-pyrido[1,2-a]pyrazinyl, 3-azabicyclo[3.1.0]hexyl, (1R,5S)-3-azabicyclo[3.1.0]hexyl, 8-azabicyclo[3.2.1]octyl, (1R,5S)-8-azabicyclo[3.2.1]octyl, 8-azabicyclo[3.2.1]oct-2-enyl, (1R,5S)-8-azabicyclo[3.2.1]oct-2-enyl, 9-azabicyclo[3.3.1]nonyl, (1R,5S)-9-azabicyclo[3.3.1]nonyl, 2,5-diazabicyclo[2.2.1]heptyl, (1S,4S)-2,5-diazabicyclo[2.2.1]heptyl, 2,5-diazabicyclo[2.2.2]octyl, 3,8-diazabicyclo[3.2.1]octyl, (1R,5S)-3,8-diazabicyclo[3.2.1]octyl, 1,4-diazabicyclo[3.2.2]nonyl, azaspiro[3.3]heptyl, 2,6-diazaspiro[3.3]heptyl, 2,7-diazaspiro[3.5]nonyl, 5,8-diazaspiro[3.5]nonyl, 2,7-diazaspiro[4.4]nonyl, 6,9-diazaspiro[4.5]decyl and the like. A heterocyclyl radical is optionally substituted on a carbon or nitrogen atom ring member with substituent species as described herein where allowed by available valences.

[00655] As used herein, the term "C_{1-8}alkoxy-C_{1-8}alkyl" refers to a radical of the formula: -C_{1-8}alkyl-O-C_{1-8}alkyl.

[00656] As used herein, the term "C_{1-8}alkoxy-C_{1-8}alkyl-amino" refers to a radical of the formula: -NH-C_{1-8}alkyl-O-C_{1-8}alkyl.

[00657] As used herein, the term "(C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino" refers to a radical of the formula: -N(C_{1-8}alkyl-O-C_{1-8}alkyl)$_2$.

[00658] As used herein, the term "C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy" refers to a radical of the formula: -O-C_{1-8}alkyl-NH-C_{1-8}alkyl-O-C_{1-8}alkyl.

[00659] As used herein, the term "(C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy" refers to a radical of the formula: -O-C_{1-8}alkyl-N(C_{1-8}alkyl-O-C_{1-8}alkyl)$_2$.

[00660] As used herein, the term "(C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkoxy" refers to a radical of the formula: -O-C_{1-8}alkyl-N(C_{1-8}alkyl)(C_{1-8}alkyl-O-C_{1-8}alkyl).

[00661] As used herein, the term "C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkyl" refers to a radical of the formula: -C_{1-8}alkyl-NH-C_{1-8}alkyl-O-C_{1-8}alkyl.

[00662] As used herein, the term "(C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl" refers to a radical of the formula: -C_{1-8}alkyl-N(C_{1-8}alkyl-O-C_{1-8}alkyl)$_2$.

[00663] As used herein, the term "(C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl" refers to a radical of the formula: -C_{1-8}alkyl-N(C_{1-8}alkyl)(C_{1-8}alkyl-O-C_{1-8}alkyl).

[00664] As used herein, the term "C_{1-8}alkoxy-carbonyl" refers to a radical of the formula: -C(O)-O-C_{1-8}alkyl.

[00665] As used herein, the term "C_{1-8}alkoxy-carbonyl-C_{2-8}alkenyl" refers to a radical of the formula: -C_{2-8}alkenyl-C(O)-O-C_{1-8}alkyl.

[00666] As used herein, the term "C_{1-8}alkoxy-carbonyl-amino" refers to a radical of the formula: -NH-C(O)-O-C_{1-8}alkyl.

[00667] As used herein, the term "C_{1-8}alkyl-amino" refers to a radical of the formula: -NH-C_{1-8}alkyl.

[00668] As used herein, the term "(C_{1-8}alkyl)$_2$-amino" refers to a radical of the formula: -N(C_{1-8}alkyl)$_2$.

[00669] As used herein, the term "C_{1-8}alkyl-amino-C_{2-8}alkenyl" refers to a radical of the formula: -C_{2-8}alkenyl-NH-C_{1-8}alkyl.

[00670] As used herein, the term "(C_{1-8}alkyl)$_2$-amino-C_{2-8}alkenyl" refers to a radical of the formula: -C_{2-8}alkenyl-N(C_{1-8}alkyl)$_2$.

[00671] As used herein, the term "C_{1-8}alkyl-amino-C_{1-8}alkoxy" refers to a radical of the formula: -O-C_{1-8}alkyl-NH-C_{1-8}alkyl.

[00672] As used herein, the term "(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy" refers to a radical of the formula: -O-C_{1-8}alkyl-N(C_{1-8}alkyl)$_2$.

[00673] As used herein, the term "C_{1-8}alkyl-amino-C_{1-8}alkyl" refers to a radical of the formula: -C_{1-8}alkyl-NH-C_{1-8}alkyl.

[00674] As used herein, the term "(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl" refers to a radical of the formula: -C_{1-8}alkyl-N(C_{1-8}alkyl)$_2$.

[00675] As used herein, the term "C_{1-8}alkyl-amino-C_{1-8}alkyl-amino" refers to a radical of the formula: -NH-C_{1-8}alkyl-NH-C_{1-8}alkyl.

[00676] As used herein, the term "(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino" refers to a radical of the formula: -NH-C_{1-8}alkyl-N(C_{1-8}alkyl)$_2$.

[00677] As used herein, the term "(C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino" refers to a radical of the formula: -N(C_{1-8}alkyl-NH-C_{1-8}alkyl)$_2$.

[00678] As used herein, the term "[(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl]$_2$-amino" refers to a radical of the formula: -N[C_{1-8}alkyl-N(C_{1-8}alkyl)$_2$]$_2$.

[00679] As used herein, the term "(C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino" refers to a radical of the formula: -N(C_{1-8}alkyl)(C_{1-8}alkyl-NH-C_{1-8}alkyl).

[00680] As used herein, the term "[(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino" refers to a radical of the formula: -N(C_{1-8}alkyl)[C_{1-8}alkyl-N(C_{1-8}alkyl)$_2$].

[00681] As used herein, the term "C_{1-8}alkyl-amino-C_{2-8}alkynyl" refers to a radical of the formula: -C_{2-8}alkynyl-NH-C_{1-8}alkyl.

[00682] As used herein, the term "(C_{1-8}alkyl)$_2$-amino-C_{2-8}alkynyl" refers to a radical of the formula: -C_{2-8}alkynyl-N(C_{1-8}alkyl)$_2$.

[00683] As used herein, the term "C_{1-8}alkyl-carbonyl" refers to a radical of the formula: -C(O)-C_{1-8}alkyl.

[00684] As used herein, the term "C_{1-8}alkyl-carbonyl-amino" refers to a radical of the formula: -NH-C(O)-C_{1-8}alkyl.

[00685] As used herein, the term "C_{1-8}alkyl-thio" refers to a radical of the formula: -S-C_{1-8}alkyl.

[00686] As used herein, the term "amino-C_{2-8}alkenyl" refers to a radical of the formula: -C_{2-8}alkenyl-NH_2.

[00687] As used herein, the term "amino-C_{1-8}alkoxy" refers to a radical of the formula: -O-C_{1-8}alkyl-NH_2.

[00688] As used herein, the term "amino-C_{1-8}alkyl" refers to a radical of the formula: -C_{1-8}alkyl-NH_2.

[00689] As used herein, the term "amino-C_{1-8}alkyl-amino" refers to a radical of the formula: -NH-C_{1-8}alkyl-NH_2.

[00690] As used herein, the term "(amino-C_{1-8}alkyl)$_2$-amino" refers to a radical of the formula: -N(C_{1-8}alkyl-NH_2)$_2$.

[00691] As used herein, the term "(amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino" refers to a radical of the formula: -N(C_{1-8}alkyl)(C_{1-8}alkyl-NH_2).

[00692] As used herein, the term "amino-C_{2-8}alkynyl" refers to a radical of the formula: -C_{2-8}alkynyl-NH_2.

[00693] As used herein, the term "aryl-C_{1-8}alkoxy-carbonyl" refers to a radical of the formula: -C(O)-O-C_{1-8}alkyl-aryl.

[00694] As used herein, the term "aryl-C_{1-8}alkyl" refers to a radical of the formula: -C_{1-8}alkyl-aryl.

[00695] As used herein, the term "aryl-C_{1-8}alkyl-amino" refers to a radical of the formula: -NH-C_{1-8}alkyl-aryl.

[00696] As used herein, the term "(aryl-C_{1-8}alkyl)$_2$-amino" refers to a radical of the formula: -N(C_{1-8}alkyl-aryl)$_2$.

[00697] As used herein, the term "(aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino" refers to a radical of the formula: -N(C_{1-8}alkyl)(C_{1-8}alkyl-aryl).

[00698] As used herein, the term "aryl-C_{1-8}alkyl-amino-C_{1-8}alkyl" refers to a radical of the formula: -C_{1-8}alkyl-NH-C_{1-8}alkyl-aryl.

[00699] As used herein, the term "(aryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl" refers to a radical of the formula: -C_{1-8}alkyl-N(C_{1-8}alkyl-aryl)$_2$.

[00700] As used herein, the term "(aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl" refers to a radical of the formula: -C_{1-8}alkyl-N(C_{1-8}alkyl)(C_{1-8}alkyl-aryl).

[00701] As used herein, the term "aryl-amino" refers to a radical of the formula: -NH-aryl.

[00702] As used herein, the term "aryl-amino-carbonyl" refers to a radical of the formula: -C(O)-NH-aryl.

[00703] As used herein, the term "aryl-sulfonyloxy-C_{1-8}alkyl" refers to a radical of the formula: -C_{1-8}alkyl-O-SO_2-aryl.

[00704] As used herein, the term "benzoxy-carbonyl" refers to a radical of the formula: -C(O)O-CH_2-phenyl.

[00705] As used herein, the term "C_{3-14}cycloalkyl-C_{1-8}alkyl" refers to a radical of the formula: -C_{1-8}alkyl-C_{3-14}cycloalkyl.

[00706] As used herein, the term "C_{3-14}cycloalkyl-amino" refers to a radical of the formula: -NH-C_{3-14}cycloalkyl.

[00707] As used herein, the term "C_{3-14}cycloalkyl-oxy" refers to a radical of the formula: -O-C_{3-14}cycloalkyl.

[00708] As used herein, the term "halo" or "halogen" generally refers to a halogen atom radical, including fluoro, chloro, bromo and iodo.

[00709] As used herein, the term "halo-C_{1-8}alkoxy" refers to a radical of the formula: -O-C_{1-8}alkyl-halo, wherein C_{1-8}alkyl is partially or completely substituted with one or more halogen atoms where allowed by available valences.

[00710] As used herein, the term "halo-C_{1-8}alkyl" refers to a radical of the formula: -C_{1-8}alkyl-halo, wherein C_{1-8}alkyl is partially or completely substituted with one or more halogen atoms where allowed by available valences.

[00711] As used herein, the term "halo-C_{1-8}alkyl-amino" refers to a radical of the formula: -NH-C_{1-8}alkyl-halo.

[00712] As used herein, the term "(halo-C_{1-8}alkyl)(C_{1-8}alkyl)amino" refers to a radical of the formula: -N(C_{1-8}alkyl)(C_{1-8}alkyl-halo).

[00713] As used herein, the term "(halo-C_{1-8}alkyl)$_2$-amino" refers to a radical of the formula: -N(C_{1-8}alkyl-halo)$_2$.

[00714] As used herein, the term "heteroaryl-C_{1-8}alkoxy" refers to a radical of the formula: -O-C_{1-8}alkyl-heteroaryl.

[00715] As used herein, the term "heteroaryl-C_{1-8}alkyl" refers to a radical of the formula: -C_{1-8}alkyl-heteroaryl.

[00716] As used herein, the term "heteroaryl-C_{1-8}alkyl-amino" refers to a radical of the formula: -NH-C_{1-8}alkyl-heteroaryl.

[00717] As used herein, the term "(heteroaryl-C_{1-8}alkyl)$_2$-amino" refers to a radical of the formula: -N(C_{1-8}alkyl-heteroaryl)$_2$.

[00718] As used herein, the term "(heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino" refers to a radical of the formula: -N(C_{1-8}alkyl)(C_{1-8}alkyl-heteroaryl).

[00719] As used herein, the term "heteroaryl-C_{1-8}alkyl-amino-C_{1-8}alkyl" refers to a radical of the formula: -C_{1-8}alkyl-NH-C_{1-8}alkyl-heteroaryl.

[00720] As used herein, the term "(heteroaryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl" refers to a radical of the formula: -C_{1-8}alkyl-N(C_{1-8}alkyl-heteroaryl)$_2$.

[00721] As used herein, the term "(heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl" refers to a radical of the formula: -C_{1-8}alkyl-N(C_{1-8}alkyl)(C_{1-8}alkyl-heteroaryl).

[00722] As used herein, the term "heteroaryl-amino" refers to a radical of the formula: -NH-heteroaryl.

[00723] As used herein, the term "heterocyclyl-C_{1-8}alkoxy" refers to a radical of the formula: -O-C_{1-8}alkyl-heterocyclyl.

[00724] As used herein, the term "heterocyclyl-C_{1-8}alkyl" refers to a radical of the formula: -C_{1-8}alkyl-heterocyclyl.

[00725] As used herein, the term "heterocyclyl-C_{1-8}alkyl-amino" refers to a radical of the formula: -NH-C_{1-8}alkyl-heterocyclyl.

[00726] As used herein, the term "(heterocyclyl-C_{1-8}alkyl)$_2$-amino" refers to a radical of the formula: -N(C_{1-8}alkyl-heterocyclyl)$_2$.

[00727] As used herein, the term "(heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino" refers to a radical of the formula: -N(C_{1-8}alkyl)(C_{1-8}alkyl-heterocyclyl).

[00728] As used herein, the term "heterocyclyl-C_{1-8}alkyl-amino-C_{1-8}alkyl" refers to a radical of the formula: -C_{1-8}alkyl-NH-C_{1-8}alkyl-heterocyclyl.

[00729] As used herein, the term "(heterocyclyl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl" refers to a radical of the formula: -C_{1-8}alkyl-N(C_{1-8}alkyl-heterocyclyl)$_2$.

[00730] As used herein, the term "(heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl" refers to a radical of the formula: -C_{1-8}alkyl-N(C_{1-8}alkyl)(C_{1-8}alkyl-heterocyclyl).

[00731] As used herein, the term "heterocyclyl-amino" refers to a radical of the formula: -NH-heterocyclyl.

[00732] As used herein, the term "(heterocyclyl)(C_{1-8}alkyl)amino" refers to a radical of the formula: -N(C_{1-8}alkyl)(heterocyclyl).

[00733] As used herein, the term "heterocyclyl-amino-C_{1-8}alkyl" refers to a radical of the formula: -C_{1-8}alkyl-NH-heterocyclyl.

[00734] As used herein, the term "heterocyclyl-carbonyl" refers to a radical of the formula: -C(O)-heterocyclyl.

[00735] As used herein, the term "heterocyclyl-carbonyl-oxy" refers to a radical of the formula: -O-C(O)-heterocyclyl.

[00736] As used herein, the term "heterocyclyl-oxy" refers to a radical of the formula: -O-heterocyclyl.

[00737] As used herein, the term "hydroxy" refers to a radical of the formula: -OH.

[00738] As used herein, the term "hydroxy-C_{1-8}alkoxy-C_{1-8}alkyl" refers to a radical of the formula: -C_{1-8}alkyl-O-C_{1-8}alkyl-OH.

[00739] As used herein, the term "hydroxy-C_{1-8}alkyl" refers to a radical of the formula: -C_{1-8}alkyl-OH, whereinC_{1-8}alkyl is partially or completely substituted with one or more hydroxy radicals where allowed by available valences.

[00740] As used herein, the term "hydroxy-C_{1-8}alkyl-amino" refers to a radical of the formula: -NH-C_{1-8}alkyl-OH.

[00741] As used herein, the term "(hydroxy-C_{1-8}alkyl)$_2$-amino" refers to a radical of the formula: -N(C_{1-8}alkyl-OH)$_2$.

[00742] As used herein, the term "(hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino" refers to a radical of the formula: -N(C_{1-8}alkyl)(C_{1-8}alkyl-OH).

[00743] As used herein, the term "hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl" refers to a radical of the formula: -C_{1-8}alkyl-NH-C_{1-8}alkyl-OH.

[00744] As used herein, the term "(hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl" refers to a radical of the formula: -C_{1-8}alkyl-N(C_{1-8}alkyl-OH)$_2$.

[00745] As used herein, the term "(hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl" refers to a radical of the formula: -C_{1-8}alkyl-N(C_{1-8}alkyl)(C_{1-8}alkyl-OH).

[00746] As used herein, the term "hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy" refers to a radical of the formula: -O-C_{1-8}alkyl-NH-C_{1-8}alkyl-OH.

[00747] As used herein, the term "(hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy" refers to a radical of the formula: -O-C_{1-8}alkyl-N(C_{1-8}alkyl-OH)$_2$.

[00748] As used herein, the term "(hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkoxy" refers to a radical of the formula: -O-C_{1-8}alkyl-N(C_{1-8}alkyl)(C_{1-8}alkyl-OH).

[00749] As used herein, the term "hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl-amino" refers to a radical of the formula: -NH-C_{1-8}alkyl-NH-C_{1-8}alkyl-OH.

[00750] As used herein, the term "(hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino" refers to a radical of the formula: -N(C_{1-8}alkyl-NH-C_{1-8}alkyl-OH)$_2$.

[00751] As used herein, the term "(hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino" refers to a radical of the formula: -NH-C_{1-8}alkyl-N(C_{1-8}alkyl-OH)$_2$.

[00752] As used herein, the term "(hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino" refers to a radical of the formula: -N(C_{1-8}alkyl)(C_{1-8}alkyl-NH-C_{1-8}alkyl-OH).

[00753] As used herein, the term "[(hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino" refers to a radical of the formula: -N(C_{1-8}alkyl)[C_{1-8}alkyl-N(C_{1-8}alkyl-OH)$_2$].

[00754] As used herein, the term "(hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl-amino" refers to a radical of the formula: -NH-C_{1-8}alkyl-N(C_{1-8}alkyl,C_{1-8}alkyl-OH).

[00755] As used herein, the term "[(hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl](C_{1-8}alkyl)amino" refers to a radical of the formula: -N(C_{1-8}alkyl)[C_{1-8}alkyl -N(C_{1-8}alkyl)(C_{1-8}alkyl -OH)].

[00756] As used herein, the term "substituent" means positional variables on the atoms of a core molecule that are attached at a designated atom position, replacing one or more hydrogen atoms on the designated atom, provided that the atom of attachment does not exceed the available valence or shared valences, such that the substitution results in a stable compound. Accordingly, combinations of substituents and/or variables are permissible only if such combinations result in stable compounds. It should also be noted that any carbon as well as heteroatom with a valence level that appears to be unsatisfied as described or shown herein is assumed to have a sufficient number of hydrogen atom(s) to satisfy the valences described or shown.

[00757] For the purposes of this description, where one or more substituent variables for a compound of Formula (I) encompass functionalities incorporated into a compound of Formula (I), each functionality appearing at any location within the disclosed compound may be independently selected, and as appropriate, independently and/or optionally substituted.

[00758] As used herein, the terms "independently selected," or "each selected" refer to functional variables in a substituent list that may be attached more than once on the structure of a core molecule, where the pattern of substitution at each occurrence is independent of the pattern at any other occurrence. Further, the use of a generic substituent on a core structure for a compound provided herein is understood to include the replacement of the generic substituent with specie substituents that are included within the particular genus, e.g., aryl may be independently replaced with phenyl or naphthalenyl (also referred to as naphthyl) and the like, such that the resulting compound is intended to be included within the scope of the compounds described herein.

[00759] As used herein, the term "each instance of" when used in a phrase such as "…aryl, aryl-C_{1-8}alkyl, heterocyclyl and heterocyclyl-C_{1-8}alkyl, wherein each instance of aryl and heterocyclyl is optionally substituted with one or two substituents…" is intended to include optional, independent substitution on each of the aryl and heterocyclyl rings and on the aryl and heterocyclyl portions of aryl-C_{1-8}alkyl and heterocyclyl-C_{1-8}alkyl.

[00760] As used herein, the term "optionally substituted" means that the specified substituent variables, groups, radicals or moieties represent the scope of the genus and may be independently chosen as needed to replace one or more hydrogen atoms on the designated atom of attachment of a core molecule.

[00761] As used herein, the terms "stable compound' or "stable structure" mean a compound that is sufficiently robust to be isolated to a useful degree of purity from a reaction mixture and formulations thereof into an efficacious therapeutic agent.

[00762] Compound names provided herein were obtained using ACD Labs Index Name software provided by ACD Labs and/or ChemDraw Ultra software provided by CambridgeSoft®. When the compound name disclosed herein conflicts with the structure depicted, the structure shown will supercede the use of the name to define the compound intended. Nomenclature for substituent radicals defined herein may differ slightly from the chemical name from which they

are derived; one skilled in the art will recognize that the definition of the substituent radical is intended to include the radical as found in the chemical name.

[00763] As used herein the term "aberrant" refers to a deviation from the norm of, *e.g.*, the average healthy subject or a cell(s) or tissue sample from a healthy subject. The term "aberrant expression," as used herein, refers to abnormal expression (up-regulated or down-regulated resulting in an excessive or deficient amount thereof) of a gene product (*e.g.*, RNA transcript or protein) by a cell, tissue sample, or subject relative to a corresponding normal, healthy cell, tissue sample or subject. In a specific embodiment, the "aberrant expression" refers to an altered level of a gene product (*e.g.*, RNA transcript or protein) in a cell, tissue sample, or subject relative to a corresponding normal, healthy cell, tissue sample or subject. The term "aberrant amount" as used herein refers to an altered level of a gene product (*e.g.*, RNA, protein, polypeptide, or peptide) in a cell, tissue sample, or subject relative to a corresponding normal, healthy cell, tissue sample or subject. In specific embodiments, the amount of a gene product (*e.g.*, RNA, protein, polypeptide, or peptide) in a cell, tissue sample, or subject relative to a corresponding cell or tissue sample from a healthy subject or a healthy subject, is considered aberrant if it is 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6-fold or more above or below the amount of the gene product in the corresponding cell or tissue sample from a healthy subject or healthy subject.

[00764] The term "intronic REMS" refers to a REMS sequence present in an intron that functions as a 5' splice site in the presence of a compound described herein. The intronic REMS, when downstream of a first branch point (BP) sequence and a first 3' splice site (3' ss) sequence and upstream of a second branch point (BP) sequence and a second 3' splice site (3' ss) sequence) (as shown in Figure 1A) and in the presence of a compound described herein, can function as a 5' splice site. The intronic REMS may also function as a 5' splice site when upstream of a first branch point and a first 3' splice site in the presence of a compound described herein (see Figure 1B or 1C). Any one, two, three, or more or all of the following may be present endogenously or non-endogenously in the affected intron: the intronic REMS, the first BP, the second BP, the first 3' ss, and the second 3'ss.

[00765] As used herein, a "non-endogenous" nucleotide sequence (such as a non-endogenous 5' splice site, a non-endogenous branch point or a non-endogenous 3' splice site) is a nucleotide sequence not naturally found to be part of a pre-RNA or a DNA sequence encoding a pre-RNA

sequence. In other words, the hand of man is required to synthesize or manipulate the RNA or DNA sequence to introduce the nucleotide sequence.

[00766] As used herein, the term "non-endogenous intronic REMS" refers to a REMS sequence not naturally found to be part of an RNA sequence or naturally encoded by a DNA sequence. In other words, the hand of man is required to manipulate the RNA or DNA sequence to introduce the intronic REMS or the nucleotide sequence encoding the REMS into an intron.

[00767] As used herein, the terms "intron-derived exon," "intronic exon," "iExon" and "intronic exon" (collectively iExon) refers to the formation of an exon from an RNA sequence present in an intron following splicing of an RNA transcript in the presence of a compound described herein or another agent which results in an iREMS functioning as an intronic 5' splice site. In particular, an iExon comprises the following RNA sequence as an exon when RNA splicing of an RNA transcript comprising two exons and an intron occurs in the presence of a compound described herein, wherein a first exon is upstream of the intron and a second exon is downstream of the intron, and wherein the intron comprises a first 5' splice site, a first branch point, a first 3' splice site, an iREMS, a second branch point, and a second 3' splice site: the RNA sequence between the first 3' splice site and the iREMS, as shown in Figure 1A. One or more of the iREMS sequence, branch point and 3' splice site may be naturally present in an intron or may be introduced into the intron. When all such elements are present or introduced, in the presence of a compound described herein the elements define an exonic boundary that enables the splicing machinery to generate an iExon in RNA, a result that would not naturally occur without the addition of a splicing modulator compound.

[00768] As used herein, the term "pseudoexon" refers to a potential exon in intronic regions of pre-mRNA that is not normally spliced into mature mRNA. A subset of pseudoexons are spliced in the presence of a compound described herein or another agent resulting from an iREMS functioning as a 5' splice site within the pseudoexon, to form an iExon. An intronic REMS-containing pseudoexon is not known to be endogenously recognized by the splicing machinery for producing an iExon, but in the presence of a splicing modulator compound as described herein, the splicing machinery produces an iExon. Accordingly, production of an iExon from a pseudoexon is intended to be included within the scope of various aspects of the collective term "iExon."

[00769] As used herein, the term "unannotated exon" refers to endogenous sequences that are naturally present as exons in mature mRNA product according to experimental evidence but are not annotated in NCBI's RefSeq database (https://www.ncbi.nlm.nih.gov/refseq/). Some unannotated exons contain an intronic REMS at the 5' splice site. A REMS-containing unannotated exon is not known to be endogenously recognized by the splicing machinery for producing an iExon, but in the presence of a splicing modulator compound as described herein, the splicing machinery produces an iExon. Accordingly, production of an iExon from an unannotated exon is intended to be included within the scope of various aspects of the collective term "iExon."

[00770] As used herein, the term "substantial change" in the context of the amount of one or more RNA transcripts (*e.g.*, rRNA, tRNA, miRNA, siRNA, piRNA, lncRNA, pre-mRNA or mRNA transcripts), an alternative splice variant thereof or an isoform thereof, or one or more proteins thereof, each expressed as the product of one or more of genes, means that the amount of such products changes by a statistically significant amount such as, in a nonlimiting example, a p value less than a value selected from 0.1, 0.01, 0.001, or 0.0001.

[00771] As used herein, the terms "subject" and "patient" are used interchangeably to refer to an animal or any living organism having sensation and the power of voluntary movement, and which requires for its existence oxygen and organic food. Non-limiting examples include members of the human, equine, porcine, bovine, rattus, murine, canine and feline species. In some embodiments, the subject is a mammal or a warm-blooded vertebrate animal. In certain embodiments, the subject is a non-human animal. In specific embodiments, the subject is a human.

[00772] As used herein, the term "functional protein" refers to a form of a protein that retains a certain biological function or the functions of a full length protein or protein isoform encoded by a gene. Accordingly, inclusion of an iExon that is located in the protein coding region of an mRNA that expresses a functional protein is intended to be included within the scope of the description herein.

[00773] As used herein, the term "non-functional protein" refers to a form of a protein that does not retain any biological function compared to full length protein or a protein isoform encoded by a gene in the absence of a splicing modifier compound as described herein. Accordingly, inclusion of an iExon that is located in the protein coding region of an mRNA that

expresses a non-functional protein is intended to be included within the scope of the description herein.

[00774] As used herein, in the context of a functional protein produced from an artificial construct, the term "produce substantially less" means that the amount of functional protein produced in the presence of a compound described herein is at least substantially 20%, 25%, 30%, 35%, 40%, 45%, 50%, 55%, 60%, 70%, 75%, 80%, 85%, 90%, 95%, 98%, or 100% less than the amount of functional protein produced in the absence of the compound.

COMPOUND FORMS

[00775] As used herein, the terms "a compound of Formula (Ia)," "a compound of Formula (Ia1)," "a compound of Formula (Ia2)," "a compound of Formula (Ia3)," "a compound of Formula (Ia4)," "a compound of Formula (II)," "a compound of Formula (IIa)," "a compound of Formula (IIa1)," "a compound of Formula (IIa2)," "a compound of Formula (IIa3)," "a compound of Formula (IIa4)," "a compound of Formula (III)," "a compound of Formula (IIIa)," "a compound of Formula (IIIa1)," "a compound of Formula (IIIa2)," "a compound of Formula (IIIa3)," "a compound of Formula (IIIa4)," "a compound of Formula (IV)," "a compound of Formula (IVa)," "a compound of Formula (IVa1)," "a compound of Formula (IVa2)," "a compound of Formula (V)," "a compound of Formula (Va)," "a compound of Formula (Va1)," "a compound of Formula (Va2)," "a compound of Formula (VI)," "a compound of Formula (VIa)," "a compound of Formula (VIa1)," "a compound of Formula (VIa2)," "a compound of Formula (VIa3)," "a compound of Formula (VIa4)," "a compound of Formula (VII)," "a compound of Formula (VIIa)," "a compound of Formula (VIIa1)," "a compound of Formula (VIIa2)," "a compound of Formula (VIII)," "a compound of Formula (VIIIa)," "a compound of Formula (VIIIa1)," "a compound of Formula (VIIIa2)," "a compound of Formula (IX)," "a compound of Formula (IXa)," "a compound of Formula (IXa1)," "a compound of Formula (IXa2)," "a compound of Formula (IXa3)," "a compound of Formula (IXa4)," "a compound of Formula (X)," "a compound of Formula (Xa)," "a compound of Formula (Xa1)," "a compound of Formula (Xa2)," "a compound of Formula (XI)," "a compound of Formula (XIa)," "a compound of Formula (XIa1)," "a compound of Formula (XIa2)," "a compound of Formula (XII)," "a compound of Formula (XIIa)," "a compound of Formula (XIIa1)," "a compound of Formula (XIIa2)," "a compound of Formula (XIIa3)," "a compound of Formula (XIIa4)," "a

compound of Formula (XIII)," "a compound of Formula (XIIIa)," "a compound of Formula (XIIIa1)," "a compound of Formula (XIIIa2)," "a compound of Formula (XIV)," "a compound of Formula (XIVa)," "a compound of Formula (XIVa1)," and "a compound of Formula (XIVa2)," each refer to subgenera of the compound of Formula (I) or a form thereof.

[00776] Rather than repeat embodiments for the various subgenera of the compound of Formula (I), in certain embodiments, the term "a compound of Formula (I) or a form thereof" is used to inclusively to refer to a compound of Formula (Ia) or a form thereof, a compound of Formula (Ia1) or a form thereof, a compound of Formula (Ia2) or a form thereof, a compound of Formula (Ia3) or a form thereof, a compound of Formula (Ia4) or a form thereof, a compound of Formula (II) or a form thereof, a compound of Formula (IIa) or a form thereof, a compound of Formula (IIa1) or a form thereof, a compound of Formula (IIa2) or a form thereof, a compound of Formula (IIa3) or a form thereof, a compound of Formula (IIa4) or a form thereof, a compound of Formula (III) or a form thereof, a compound of Formula (IIIa) or a form thereof, a compound of Formula (IIIa1) or a form thereof, a compound of Formula (IIIa2) or a form thereof, a compound of Formula (IIIa3) or a form thereof, a compound of Formula (IIIa4) or a form thereof, a compound of Formula (IV) or a form thereof, a compound of Formula (IVa) or a form thereof, a compound of Formula (IVa1) or a form thereof, a compound of Formula (IVa2) or a form thereof, a compound of Formula (V) or a form thereof, a compound of Formula (Va) or a form thereof, a compound of Formula (Va1) or a form thereof, a compound of Formula (Va2) or a form thereof, a compound of Formula (VI) or a form thereof, a compound of Formula (VIa) or a form thereof, a compound of Formula (VIa1) or a form thereof, a compound of Formula (VIa2) or a form thereof, a compound of Formula (VIa3) or a form thereof, a compound of Formula (VIa4) or a form thereof, a compound of Formula (VII) or a form thereof, a compound of Formula (VIIa) or a form thereof, a compound of Formula (VIIa1) or a form thereof, a compound of Formula (VIIa2) or a form thereof, a compound of Formula (VIII) or a form thereof, a compound of Formula (VIIIa) or a form thereof, a compound of Formula (VIIIa1) or a form thereof, a compound of Formula (VIIIa2) or a form thereof, a compound of Formula (IX) or a form thereof, a compound of Formula (IXa) or a form thereof, a compound of Formula (IXa1) or a form thereof, a compound of Formula (IXa2) or a form thereof, a compound of Formula (IXa3) or a form thereof, a compound of Formula (IXa4) or a form thereof, a compound of Formula (X) or a form thereof, a compound of Formula (Xa) or a form thereof, a compound of

Formula (Xa1) or a form thereof, a compound of Formula (Xa2) or a form thereof, a compound of Formula (XI) or a form thereof, a compound of Formula (XIa) or a form thereof, a compound of Formula (XIa1) or a form thereof, a compound of Formula (XIa2) or a form thereof, a compound of Formula (XII) or a form thereof, a compound of Formula (XIIa) or a form thereof, a compound of Formula (XIIa1) or a form thereof, a compound of Formula (XIIa2) or a form thereof, a compound of Formula (XIIa3) or a form thereof, a compound of Formula (XIIa4) or a form thereof, a compound of Formula (XIII) or a form thereof, a compound of Formula (XIIIa) or a form thereof, a compound of Formula (XIIIa1) or a form thereof, a compound of Formula (XIIIa2) or a form thereof, a compound of Formula (XIV) or a form thereof, a compound of Formula (XIVa) or a form thereof, a compound of Formula (XIVa1) or a form thereof or a compound of Formula (XIVa2) or a form thereof, either separately or together.

[00777] Thus, embodiments and references to "a compound of Formula (I)" are intended to be inclusive of compounds of Formula (Ia), Formula (Ia1), Formula (Ia2), Formula (Ia3), Formula (Ia4), Formula (II), Formula (IIa), Formula (IIa1), Formula (IIa2), Formula (IIa3), Formula (IIa4), Formula (III), Formula (IIIa), Formula (IIIa1), Formula (IIIa2), Formula (IIIa3), Formula (IIIa4), Formula (IV), Formula (IVa), Formula (IVa1), Formula (IVa2), Formula (V), Formula (Va), Formula (Va1), Formula (Va2), Formula (VI), Formula (VIa), Formula (VIa1), Formula (VIa2), Formula (VIa3), Formula (VIa4), Formula (VII), Formula (VIIa), Formula (VIIa1), Formula (VIIa2), Formula (VIII), Formula (VIIIa), Formula (VIIIa1), Formula (VIIIa2), Formula (IX), Formula (IXa), Formula (IXa1), Formula (IXa2), Formula (IXa3), Formula (IXa4), Formula (X), Formula (Xa), Formula (Xa1), Formula (Xa2), Formula (XI), Formula (XIa), Formula (XIa1), Formula (XIa2), Formula (XII), Formula (XIIa), Formula (XIIa1), Formula (XIIa2), Formula (XIIa3), Formula (XIIa4), Formula (XIII), Formula (XIIIa), Formula (XIIIa1), Formula (XIIIa2), Formula (XIV), Formula (XIVa), Formula (XIVa1) and Formula (XIVa2).

[00778] As used herein, the term "form" means a compound of Formula (I) selected from a free acid, free base, salt, isotopologue, stereoisomer, racemate, enantiomer, diastereomer, or tautomer thereof.

[00779] In certain embodiments described herein, the form of the compound of Formula (I) is a selected from a salt, isotopologue, stereoisomer, racemate, enantiomer, diastereomer or tautomer thereof.

[00780] In certain embodiments described herein, the form of the compound of Formula (I) is a selected from a free acid, isotopologue, stereoisomer, racemate, enantiomer, diastereomer or tautomer thereof.

[00781] In certain embodiments described herein, the form of the compound of Formula (I) is a selected from a free base, isotopologue, stereoisomer, racemate, enantiomer, diastereomer or tautomer thereof.

[00782] In certain embodiments described herein, the form of the compound of Formula (I) is a free acid, free base or salt thereof.

[00783] In certain embodiments described herein, the form of the compound of Formula (I) is an isotopologue thereof.

[00784] In certain embodiments described herein, the form of the compound of Formula (I) is a stereoisomer, racemate, enantiomer or diastereomer thereof.

[00785] In certain embodiments described herein, the form of the compound of Formula (I) is a tautomer thereof.

[00786] In certain embodiments described herein, the form of the compound of Formula (I) is a pharmaceutically acceptable form.

[00787] In certain embodiments described herein, the compound of Formula (I) or a form thereof is isolated for use.

[00788] As used herein, the term "isolated" means the physical state of a compound of Formula (I) or a form thereof after being isolated and/or purified from a synthetic process (*e.g.*, from a reaction mixture) or natural source or combination thereof according to an isolation or purification process or processes described herein or which are well known to the skilled artisan (*e.g.*, chromatography, recrystallization and the like) in sufficient purity to be characterizable by standard analytical techniques described herein or well known to the skilled artisan.

[00789] As used herein, the term "protected" means that a functional group on a compound of Formula (I) is in a form modified to preclude undesired side reactions at the protected site when the compound is subjected to a reaction. Suitable protecting groups will be recognized by those with ordinary skill in the art as well as by reference to standard textbooks such as, for example, T. W. Greene et al, Protective Groups in Organic Synthesis (1991), Wiley, New York.

[00790] Prodrugs of a compound of Formula (I) or a form thereof are also contemplated herein.

[00791] As used herein, the term "prodrug" means that a functional group on a compound of Formula (I) is in a form (*e.g.*, acting as an active or inactive drug precursor) that is transformed in vivo to yield an active or more active compound of Formula (I) or a form thereof. The transformation may occur by various mechanisms (e.g., by metabolic and/or non-metabolic chemical processes), such as, for example, by hydrolysis and/or metabolism in blood, liver and/or other organs and tissues. A discussion of the use of prodrugs is provided by V.J.. Stella, et. al., "Biotechnology: Pharmaceutical Aspects, Prodrugs: Challenges and Rewards,"American Association of Pharmaceutical Scientists and Springer Press, 2007.

[00792] In one example, when a compound of Formula (I) or a form thereof contains a carboxylic acid functional group, a prodrug can comprise an ester formed by the replacement of the hydrogen atom of the acid group with a functional group such as alkyl and the like. In another example, when a compound of Formula (I) or a form thereof contains an alcohol functional group, a prodrug can be formed by the replacement of the hydrogen atom of the alcohol group with a functional group such as alkyl or substituted carbonyl and the like. In another example, when a compound of Formula (I) or a form thereof contains an amine functional group, a prodrug can be formed by the replacement of one or more amine hydrogen atoms with a functional group such as alkyl or substituted carbonyl. In another example, when a compound of Formula (I) or a form thereof contains a hydrogen substituent, a prodrug can be formed by the replacement of one or more hydrogen atoms with an alkyl substituent.

[00793] Pharmaceutically acceptable prodrugs of compounds of Formula (I) or a form thereof include those compounds substituted with one or more of the following groups: carboxylic acid esters, sulfonate esters, amino acid esters phosphonate esters, mono-, di- or triphosphate esters or alkyl substituents where appropriate. As described herein, it is understood by a person of ordinary skill in the art that one or more of such substituents may be used to provide a compound of Formula (I) or a form thereof for use as a prodrug.

[00794] The compounds of Formula (I) can form salts which are intended to be included within the scope of this description. Reference to a compound of Formula (I) herein is understood to include reference to salts thereof, unless otherwise indicated. The term "salt(s)", as employed herein, denotes acidic salts formed with inorganic and/or organic acids, as well as basic salts formed with inorganic and/or organic bases. In addition, when a compound of Formula (I) contains both a basic moiety, such as, but not limited to a pyridine or imidazole, and

an acidic moiety, such as, but not limited to a carboxylic acid, zwitterions ("inner salts") may be formed and are included within the term "salt(s)" as used herein.

[00795] The term "pharmaceutically acceptable salt(s)", as used herein, means those salts of compounds described herein that are safe and effective (i.e., non-toxic, physiologically acceptable) for use in mammals and that possess biological activity, although other salts are also useful. Salts of the compounds of Formula (I) may be formed, for example, by reacting a compound of Formula (I) with an amount of acid or base, such as an equivalent or stoichiometric amount, in a medium such as one in which the salt precipitates or in an aqueous medium followed by lyophilization.

[00796] Pharmaceutically acceptable salts include one or more salts of acidic or basic groups present in compounds described herein. Embodiments of acid addition salts include, and are not limited to, acetate, acid phosphate, ascorbate, benzoate, benzenesulfonate, bisulfate, bitartrate, borate, butyrate, chloride, citrate, camphorate, camphorsulfonate, ethanesulfonate, formate, fumarate, gentisinate, gluconate, glucaronate, glutamate, hydrobromide, hydrochloride, dihydrochloride, hydroiodide, isonicotinate, lactate, maleate, methanesulfonate, naphthalenesulfonate, nitrate, oxalate, pamoate, pantothenate, phosphate, propionate, saccharate, salicylate, succinate, sulfate, tartrate, thiocyanate, toluenesulfonate (also known as tosylate), trifluoroacetate salts and the like. One or more embodiments of acid addition salts include a chloride, hydrochloride, dihydrochloride, trihydrochloride, hydrobromide, acetate, diacetate or trifluoroacetate salt. More particular embodiments include a chloride, hydrochloride, dihydrochloride, hydrobromide or trifluoroacetate salt.

[00797] Additionally, acids which are generally considered suitable for the formation of pharmaceutically useful salts from basic pharmaceutical compounds are discussed, for example, by P. Stahl et al, Camille G. (eds.) Handbook of Pharmaceutical Salts. Properties, Selection and Use. (2002) Zurich: Wiley-VCH; S. Berge et al, Journal of Pharmaceutical Sciences (1977) 66(1) 1-19; P. Gould, International J. of Pharmaceutics (1986) 33, 201-217; Anderson et al, The Practice of Medicinal Chemistry (1996), Academic Press, New York; and in The Orange Book (see, website for Food & Drug Administration, Washington, D.C.). These disclosures are incorporated herein by reference thereto.

[00798] Suitable basic salts include, but are not limited to, aluminum, ammonium, calcium, lithium, magnesium, potassium, sodium, zinc, and diethanolamine salts. Certain compounds

described herein can also form pharmaceutically acceptable salts with organic bases (for example, organic amines) such as, but not limited to, dicyclohexylamines, tert-butyl amines and the like, and with various amino acids such as, but not limited to, arginine, lysine and the like. Basic nitrogen-containing groups may be quarternized with agents such as lower alkyl halides (*e.g.*, methyl, ethyl, and butyl chlorides, bromides and iodides), dialkyl sulfates (*e.g.*, dimethyl, diethyl, and dibutyl sulfates), long chain halides (*e.g.*, decyl, lauryl, and stearyl chlorides, bromides and iodides), aralkyl halides (*e.g.*, benzyl and phenethyl bromides), and others.

[00799] All such acid salts and base salts are intended to be pharmaceutically acceptable salts within the scope of the description herein and all such acid and base salts are considered equivalent to the free forms of the corresponding compounds for the purposes described herein.

[00800] Compounds of Formula I and forms thereof may further exist in a tautomeric form. All such tautomeric forms are contemplated herein as part of the present description.

[00801] The compounds of Formula (I) may contain asymmetric or chiral centers, and, therefore, may exist in different stereoisomeric forms. The present description is intended to include all stereoisomeric forms of the compounds of Formula (I) as well as mixtures thereof, including racemic mixtures.

[00802] The compounds of Formula (I) described herein may include one or more chiral centers, and as such may exist as racemic mixtures (R/S) or as substantially pure enantiomers and diastereomers. The compounds may also exist as substantially pure (R) or (S) enantiomers (when one chiral center is present). In one embodiment, the compounds of Formula (I) described herein are (S) isomers and may exist as enantiomerically pure compositions substantially comprising only the (S) isomer. In another embodiment, the compounds of Formula (I) described herein are (R) isomers and may exist as enantiomerically pure compositions substantially comprising only the (R) isomer. As one of skill in the art will recognize, when more than one chiral center is present, the compounds of Formula (I) described herein may also include portions described as an (R,R), (R,S), (S,R) or (S,S) isomer, as defined by IUPAC Nomenclature Recommendations.

[00803] As used herein, the term “substantially pure” refers to compounds consisting substantially of a single isomer in an amount greater than or equal to 90%, in an amount greater than or equal to 92%, in an amount greater than or equal to 95%, in an amount greater than or

equal to 98%, in an amount greater than or equal to 99%, or in an amount equal to 100% of the single isomer.

[00804] In one aspect, a compound of Formula (I) is a substantially pure (S) enantiomer present in an amount greater than or equal to 90%, in an amount greater than or equal to 92%, in an amount greater than or equal to 95%, in an amount greater than or equal to 98%, in an amount greater than or equal to 99%, or in an amount equal to 100%.

[00805] In one aspect, a compound of Formula (I) is a substantially pure (R) enantiomer present in an amount greater than or equal to 90%, in an amount greater than or equal to 92%, in an amount greater than or equal to 95%, in an amount greater than or equal to 98%, in an amount greater than or equal to 99%, or in an amount equal to 100%.

[00806] As used herein, a "racemate" is any mixture of isometric forms that are not "enantiomerically pure", including mixtures such as, without limitation, in a ratio of about 50/50, about 60/40, about 70/30, about 80/20, about 85/15 or about 90/10.

[00807] In addition, the present description embraces all geometric and positional isomers. For example, if a compound of Formula (I) incorporates a double bond or a fused ring, both the cis- and trans-forms, as well as mixtures, are embraced within the scope of the description herein.

[00808] Diastereomeric mixtures can be separated into their individual diastereomers on the basis of their physical chemical differences by methods well known to those skilled in the art, such as, for example, by chromatography and/or fractional crystallization. Enantiomers can be separated by use of chiral HPLC column or other chromatographic methods known to those skilled in the art.

[00809] Enantiomers can also be separated by converting the enantiomeric mixture into a diastereomeric mixture by reaction with an appropriate optically active compound (e.g., chiral auxiliary such as a chiral alcohol or Mosher's acid chloride), separating the diastereomers and converting (e.g., hydrolyzing) the individual diastereomers to the corresponding pure enantiomers. Also, some of the compounds of Formula (I) may be atropisomers (e.g., substituted biaryls) and are considered part of this description.

[00810] All stereoisomer forms (for example, geometric isomers, optical isomers, positional isomers and the like) of the present compounds (including salts, solvates, esters and prodrugs and transformed prodrugs thereof) which may exist due to asymmetric carbons on various

substituents, including enantiomeric forms (which may exist even in the absence of asymmetric carbons), rotameric forms, atropisomers, diastereomeric forms and regioisomeric forms are contemplated within the scope of the description herein. For example, if a compound of Formula (I) incorporates a double bond or a fused ring, both the cis- and trans-forms, as well as mixtures thereof, are embraced within the scope of the description herein. Also, for example, all keto-enol and imine-enamine tautomeric forms of the compounds are included in the description herein. Individual stereoisomers of the compounds of Formula (I) described herein may, for example, be substantially free of other isomers, or may be present in a racemic mixture, as described supra.

[00811] The use of the terms "salt," "prodrug" and "transformed prodrug" are intended to equally apply to the salts, prodrugs and transformed prodrugs of all contemplated isotopologues, stereoisomers, racemates or tautomers of the instant compounds.

[00812] The term "isotopologue" refers to isotopically-enriched compounds which are identical to those recited herein, but for the fact that one or more atoms are replaced by an atom having an atomic mass or mass number different from the atomic mass or mass number usually found in nature. Examples of isotopes that can be incorporated into compounds described herein include isotopes of hydrogen, carbon, nitrogen, oxygen, phosphorus, fluorine and chlorine, such as H^2, H^3, C^{13}, C^{14}, N^{15}, O^{18}, O^{17}, P^{31}, P^{32}, S^{35}, F^{18}, Cl^{35} and Cl^{36}, respectively, each of which is also within the scope of this description.

[00813] Certain isotopically-enriched compounds described herein (*e.g.*, those labeled with H^3 and C^{14}) are useful in compound and/or substrate tissue distribution assays. Tritiated (i.e., H^3) and carbon-14 (i.e., C^{14}) isotopes are particularly preferred for their ease of preparation and detectability. Further, substitution with heavier isotopes such as deuterium (i.e., "deuterium enriched") may afford certain therapeutic advantages resulting from greater metabolic stability (*e.g.*, increased in vivo half-life or reduced dosage requirements) and hence may be preferred in some circumstances. Isotopically-enriched compounds of Formula (I) can generally be prepared using procedures known to persons of ordinary skill in the art by substituting an appropriate isotopically-enriched reagent for a non-isotopically-enriched reagent.

[00814] When the compounds are enriched with deuterium, the deuterium-to-hydrogen ratio on the deuterated atoms of the molecule substantially exceeds the naturally occurring deuterium-to-hydrogen ratio.

[00815] An embodiment described herein may include an isotopologue form of the compound of Formula (I), wherein the isotopologue is substituted on one or more atom members of the compound of Formula (I) with one or more deuterium atoms in place of one or more hydrogen atoms.

[00816] An embodiment described herein may include a compound of Formula (I) and forms thereof, wherein a carbon atom may have from 1 to 3 hydrogen atoms optionally replaced with deuterium.

[00817] One or more compounds described herein may exist in unsolvated as well as solvated forms with pharmaceutically acceptable solvents such as water, ethanol, and the like, and the description herein is intended to embrace both solvated and unsolvated forms.

[00818] As used herein, the term "solvate" means a physical association of a compound described herein with one or more solvent molecules. This physical association involves varying degrees of ionic and covalent bonding, including hydrogen bonding. In certain instances the solvate will be capable of isolation, for example when one or more solvent molecules are incorporated in the crystal lattice of the crystalline solid. As used herein, "solvate" encompasses both solution-phase and isolatable solvates. Non-limiting examples of suitable solvates include ethanolates, methanolates, and the like.

[00819] One or more compounds described herein may optionally be converted to a solvate. Preparation of solvates is generally known. A typical, non-limiting process involves dissolving a compound in a desired amount of the desired solvent (organic or water or mixtures thereof) at a higher than ambient temperature, and cooling the solution at a rate sufficient to form crystals which are then isolated by standard methods. Analytical techniques such as, for example infrared spectroscopy, show the presence of the solvent (or water) in the crystals as a solvate (or hydrate).

[00820] As used herein, the term "hydrate" means a solvate wherein the solvent molecule is water.

[00821] Polymorphic crystalline and amorphous forms of the compounds of Formula (I), and of the salts, solvates, esters and prodrugs of the compounds of Formula (I), are further intended to be included in the scope of the compounds described herein

METHODS FOR DETERMINING WHICH GENES MAY BE MODULATED BY THE COMPOUNDS

[00822] In another aspect, provided herein are methods for determining whether the splicing of the precursor RNA of a gene is likely to be modulated by a compound of Formula (I) or a form thereof, comprising searching for the presence of an intronic REMS (i.e., a sequence functioning as a 5' splice site) in a gene intronic sequence, wherein the presence of the intronic REMS 3' splice site and an intronic branch point in the gene sequence indicates that the splicing of the precursor RNA of the gene is likely to be modulated by the compound of Formula (I) or a form thereof, and the absence of the intronic REMS and an intronic 3' splice site and an intronic branch point in the gene sequence indicates that the splicing of the precursor RNA of the gene is unlikely to be modulated by the compound of Formula (I) or a form thereof. In certain embodiments, a compound of Formula (I) is a compound of Formula (II), Formula (III), Formula (IV), Formula (V), Formula (VI), Formula (VII), Formula (VIII), Formula (IX), Formula (X), Formula (XI), Formula (XII), Formula (XIII), or Formula (XIV) described herein. In specific embodiments, the methods further comprise searching for the presence of the combination of an intronic REMS, an intronic 3' splice site and an intronic branch point in the gene sequence.

[00823] In another aspect, provided herein are methods for determining whether the amount of a product (*e.g.*, an mRNA transcript or protein) of a gene is likely to be modulated by a compound of Formula (I) or a form thereof, comprising searching for the presence of an intronic REMS in the gene sequence, wherein the presence of the combination of an intronic REMS, an intronic 3' splice site and an intronic branch point in the gene sequence indicates that the amount of a product (*e.g.*, an mRNA transcript or protein) of the gene is likely to be modulated by the compound of Formula (I) or a form thereof, and the absence of the combination of an intronic REMS, an intronic 3' splice site and an intronic branch point in the gene sequence indicates that the amount of a product (*e.g.*, an mRNA transcript or protein) of the gene is unlikely to be modulated by the compound of Formula (I) or a form thereof. In certain embodiments, a compound of Formula (I) is a compound of Formula (II), Formula (III), Formula (IV), Formula (V), Formula (VI), Formula (VII), Formula (VIII), Formula (IX), Formula (X), Formula (XI), Formula (XII), Formula (XIII), or Formula (XIV) described herein. In specific embodiments, the methods further comprise searching for the presence of any of an intronic REMS, an intronic 3' splice site, and an intronic branch point in the gene sequence.

[00824] The step of searching for the presence of an intronic REMS, an intronic 3' splice site, and an intronic branch point in the gene sequence described herein can be performed by a computer system comprising a memory storing instructions for searching for the presence of the intronic REMS, the intronic 3' splice site, and the intronic branch point in the gene sequence, or such a search can be performed manually.

[00825] In another aspect, provided herein are methods for determining whether the splicing of the precursor RNA of a gene is likely to be modulated via iExon inclusion by a compound of Formula (I) or a form thereof. In one particular aspect, the method comprises searching for the presence of an intronic REMS (i.e., a sequence functioning as a 5' splice site) in combination with, in order, an upstream branch point and an upstream 3' splice site in a gene intronic sequence. The presence of these elements with the intronic REMS and the endogenous presence of a downstream 3' splice site and a downstream branch point in the gene sequence indicates that the splicing of the precursor RNA of the gene is likely to be modulated by the compound of Formula (I) or a form thereof. In this aspect, the presence of an upstream branch point and upstream 3' splice site and the REMS in the intron enable the presence of the compound of Formula (I) or a form thereof to modulate iExon inclusion, i.e., splicing the iExon with the downstream endogenous exon (as shown in Figure 1A). Otherwise, in the absence of these elements, the iREMS will be either ignored by the spliceosome or, in a limited set of circumstances, will become an extended/cryptic 5' splice site for the upstream endogenous exon (as shown in Figure 1B and 1C). The absence of the intronic REMS in the gene sequence indicates that the splicing of the precursor RNA of the gene is unlikely to be modulated via iExon inclusion by the compound of Formula (I) or a form thereof. In certain embodiments, a compound of Formula (I) is a compound of Formula (II), Formula (III), Formula (IV), Formula (V), Formula (VI), Formula (VII), Formula (VIII), Formula (IX), Formula (X), Formula (XI), Formula (XII), Formula (XIII), or Formula (XIV) described herein. In other specific embodiments, the methods further comprise searching for the presence of the combination of, in 5' to 3' order: an upstream branch point, an upstream 3' splice site, an intronic REMS, a downstream branch point and a downstream 3' splice site in the gene sequence.

[00826] In another aspect, provided herein are methods for determining whether the amount of a product (*e.g.*, an mRNA transcript or protein) of a gene is likely to be modulated via iExon inclusion by a compound of Formula (I) or a form thereof, comprising searching for the presence

of an intronic REMS in the gene sequence, wherein the presence of the combination of at least an upstream branch point, an upstream 3' splice site and an intronic REMS in the gene sequence indicates that the amount of a product (*e.g.*, an mRNA transcript or protein) of the gene is likely to be modulated via iExon inclusion by the compound of Formula (I) or a form thereof, and the absence of the combination of an upstream branch point, an upstream 3' splice site and an intronic REMS in the gene sequence indicates that the amount of a product (*e.g.*, an mRNA transcript or protein) of the gene is unlikely to be modulated via iExon inclusion by the compound of Formula (I) or a form thereof. In certain embodiments, a compound of Formula (I) is a compound of Formula (II), Formula (III), Formula (IV), Formula (V), Formula (VI), Formula (VII), Formula (VIII), Formula (IX), Formula (X), Formula (XI), Formula (XII), Formula (XIII), or Formula (XIV) described herein. In specific embodiments, the methods further comprise searching for the presence of any of, in 5' to 3' order: an upstream branch point, an upstream 3' splice site, an intronic REMS, a downstream 3' splice site, and a downstream branch point in the gene sequence.

[00827] The step of searching for the presence of an upstream branch point, an upstream 3' splice site and an intronic REMS in any of the gene sequences in any of the genes described herein can be performed by a computer system comprising a memory storing instructions for searching for the presence of the intronic REMS, the upstream 3' splice site, and the upstream branch point in the gene sequence, or such a search can be performed manually.

[00828] In certain embodiments, the splicing of a precursor RNA containing an intronic REMS is assessed by contacting a compound described herein with the precursor RNA in cell culture. In some embodiments, the splicing of a precursor RNA containing an intronic REMS is assessed by contacting a compound described herein with the precursor RNA in a cell-free extract. In a specific embodiment, the compound is one known to modulate the splicing of a precursor RNA containing an exonic REMS. *See*, *e.g.*, the section below relating to methods for determining whether a compound modulates the expression of certain genes, and the example below for techniques that could be used in these assessments.

METHODS FOR DETERMINING WHICH COMPOUNDS OF FORMULA (I) MODULATE THE EXPRESSION OF CERTAIN GENES

[00829] Provided herein are methods for determining whether a compound of Formula (I) or a form thereof modulates the amount of one, two, three or more RNA transcripts (e.g., pre-mRNA or mRNA transcripts or isoforms thereof) of one, two, three or more genes. In some embodiments, the gene is any one of the genes disclosed in Tables 2-7 or any one of the genes disclosed in Table 1. In certain embodiments, the gene is a gene disclosed in Tables 2-6. In some embodiments, the gene is a gene disclosed in Table 7. In other embodiments, the gene is a gene disclosed in Table 1. In certain embodiments, the gene is a gene not disclosed in either International Publication No. WO 2015/105657, International Publication No. WO 2016/196386, or both.

[00830] In one embodiment, provided herein is a method for determining whether a compound of Formula (I) or a form thereof modulates the amount of an RNA transcript, comprising: (a) contacting a cell(s) with a compound of Formula (I) or a form thereof, and (b) determining the amount of the RNA transcript produced by the cell(s), wherein an alteration in the amount of the RNA transcript in the presence of the compound relative to the amount of the RNA transcript in the absence of the compound or the presence of a negative control (*e.g.*, a vehicle control such as PBS or DMSO) indicates that the compound of Formula (I) or a form thereof modulates the amount of the RNA transcript. In another embodiment, provided herein is a method for determining whether a compound of Formula (I) or a form thereof modulates the amount of an RNA transcript (*e.g.*, an mRNA transcript), comprising: (a) contacting a first cell(s) with a compound of Formula (I) or a form thereof, (b) contacting a second cell(s) with a negative control (e.g., a vehicle control, such as PBS or DMSO); and (c) determining the amount of the RNA transcript produced by the first cell(s) and the second cell(s); and (d) comparing the amount of the RNA transcript produced by the first cell(s) to the amount of the RNA transcript expressed by the second cell(s), wherein an alteration in the amount of the RNA transcript produced by the first cell(s) relative to the amount of the RNA transcript produced by the second cell(s) indicates that the compound of Formula (I) or a form thereof modulates the amount of the RNA transcript. In certain embodiments, the contacting of the cell(s) with the compound occurs in cell culture. In other embodiments, the contacting of the cell(s) with the compound occurs in a subject, such as a non-human animal subject.

[00831] In another embodiment, provided herein is a method for determining whether a compound of Formula (I) or a form thereof modulates the splicing of an RNA transcript (*e.g.*, an mRNA transcript), comprising: (a) culturing a cell(s) in the presence of a compound of Formula (I) or a form thereof; and (b) determining the amount of the two or more RNA transcript splice variants produced by the cell(s), wherein an alteration in the amount of the two or more RNA transcript in the presence of the compound relative to the amount of the two or more RNA transcript splice variants in the absence of the compound or the presence of a negative control (*e.g.*, a vehicle control such as PBS or DMSO) indicates that the compound of Formula (I) or a form thereof modulates the splicing of the RNA transcript.

[00832] In another embodiment, provided herein is a method for determining whether a compound of Formula (I) or a form thereof modulates the splicing of an RNA transcript (*e.g.*, an mRNA transcript), comprising: (a) culturing a cell(s) in the presence of a compound of Formula (I) or a form thereof; (b) isolating two or more RNA transcript splice variants from the cell(s) after a certain period of time; and (c) determining the amount of the two or more RNA transcript splice variants produced by the cell(s), wherein an alteration in the amount of the two or more RNA transcript in the presence of the compound relative to the amount of the two or more RNA transcript splice variants in the absence of the compound or the presence of a negative control (*e.g.*, a vehicle control such as PBS or DMSO) indicates that the compound of Formula (I) or a form thereof modulates the splicing of the RNA transcript. In another embodiment, provided herein is a method for determining whether a compound of Formula (I) or a form thereof modulates the splicing of an RNA transcript (e.g., an mRNA transcript), comprising (a) culturing a first cell(s) in the presence of a compound of Formula (I) or a form thereof; (b) culturing a second cell(s) in the presence of a negative control (e.g., a vehicle control, such as PBS or DMSO); (c) isolating two or more RNA transcript splice variants produced by the first cell(s) and isolating two or more RNA transcript splice variants produced by the second cell(s); (d) determining the amount of the two or more RNA transcript splice variants produced by the first cell(s) and the second cell(s); and (e) comparing the amount of the two or more RNA transcript splice variants produced by the first cell(s) to the amount of the two or more RNA transcript splice variants produced by the second cell(s), wherein an alteration in the amount of the two or more RNA transcript splice variants produced by the first cell(s) relative to the amount of the

two or more RNA transcript splice variants produced by the second cell(s) indicates that the compound of Formula (I) or a form thereof modulates the aplicing of the RNA transcript.

[00833] In another embodiment, provided herein is a method for determining whether a compound of Formula (I) or a form thereof modulates the amount of an RNA transcript (e.g., an mRNA transcript), comprising: (a) contacting a cell-free system with a compound of Formula (I) or a form thereof, and (b) determining the amount of the RNA transcript produced by the cell-free system, wherein an alteration in the amount of the RNA transcript in the presence of the compound relative to the amount of the RNA transcript in the absence of the compound or the presence of a negative control (e.g., a vehicle control such as PBS or DMSO) indicates that the compound of Formula (I) or a form thereof modulates the amount of the RNA transcript. In another embodiment, provided herein is a method for determining whether a compound of Formula (I) or a form thereof modulates the amount of an RNA transcript (e.g., an mRNA transcript), comprising: (a) contacting a first cell-free system with a compound of Formula (I) or a form thereof, (b) contacting a second cell-free system with a negative control (e.g., a vehicle control, such as PBS or DMSO); and (c) determining the amount of the RNA transcript produced by the first cell-free system and the second cell-free system; and (d) comparing the amount of the RNA transcript produced by the first cell-free system to the amount of the RNA transcript expressed by the second cell-free system, wherein an alteration in the amount of the RNA transcript produced by the first cell-free system relative to the amount of the RNA transcript produced by the second cell-free system indicates that the compound of Formula (I) or a form thereof modulates the amount of the RNA transcript. In certain embodiments, the cell-free system comprises purely synthetic RNA, synthetic or recombinant (purified) enzymes, and protein factors. In other embodiments, the cell-free system comprises RNA transcribed from a synthetic DNA template, synthetic or recombinant (purified) enzymes, and protein factors. In other embodiments, the cell-free system comprises purely synthetic RNA and nuclear extract. In other embodiments, the cell-free system comprises RNA transcribed from a synthetic DNA template and nuclear extract. In other embodiments, the cell-free system comprises purely synthetic RNA and whole cell extract. In other embodiments, the cell-free system comprises RNA transcribed from a synthetic DNA template and whole cell extract. In certain embodiments, the cell-free system additionally comprises regulatory RNAs (e.g., microRNAs).

[00834] In another embodiment, provided herein is a method for determining whether a compound of Formula (I) or a form thereof modulates the splicing of an RNA transcript (e.g., an mRNA transcript), comprising: (a) contacting a cell-free system with a compound of Formula (I) or a form thereof; and (b) determining the amount of two or more RNA transcript splice variants produced by the cell-free system, wherein an alteration in the amount of the two or more RNA transcript splice variants in the presence of the compound relative to the amount of the two or more RNA transcript splice variants in the absence of the compound or the presence of a negative control (e.g., a vehicle control such as PBS or DMSO) indicates that the compound of Formula (I) or a form thereof modulates the splicing of the RNA transcript. In another embodiment, provided herein is a method for determining whether a compound of Formula (I) or a form thereof modulates the splicing of an RNA transcript (e.g., an mRNA transcript), comprising: (a) contacting a first cell-free system with a compound of Formula (I) or a form thereof; (b) contacting a second cell-free system with a negative control (e.g., a vehicle control, such as PBS or DMSO); and (c) determining the amount of two or more RNA transcript splice variants produced by the first cell-free system and the second cell-free system; and (d) comparing the amount of the two or more RNA transcript splice variants produced by the first cell-free system to the amount of the RNA transcript expressed by the second cell-free system, wherein an alteration in the amount of the two or more RNA transcript splice variants produced by the first cell-free system relative to the amount of the two or more RNA transcript splice variants produced by the second cell-free system indicates that the compound of Formula (I) or a form thereof modulates the splicing of the RNA transcript. In certain embodiments, the cell-free system comprises purely synthetic RNA, synthetic or recombinant (purified) enzymes, and protein factors. In other embodiments, the cell-free system comprises RNA transcribed from a synthetic DNA template, synthetic or recombinant (purified) enzymes, and protein factors. In other embodiments, the cell-free system comprises purely synthetic RNA and nuclear extract. In other embodiments, the cell-free system comprises RNA transcribed from a synthetic DNA template and nuclear extract. In other embodiments, the cell-free system comprises purely synthetic RNA and whole cell extract. In other embodiments, the cell-free system comprises RNA transcribed from a synthetic DNA template and whole cell extract. In certain embodiments, the cell-free system additionally comprises regulatory RNAs (e.g., microRNAs).

[00835] In another embodiment, provided herein is a method for determining whether a compound of Formula (I) or a form thereof modulates the amount of an RNA transcript (*e.g.*, an mRNA transcript), comprising: (a) culturing a cell(s) in the presence of a compound of Formula (I) or a form thereof, (b) isolating the RNA transcript from the cell(s) after a certain period of time; and (c) determining the amount of the RNA transcript produced by the cell(s), wherein an alteration in the amount of the RNA transcript in the presence of the compound relative to the amount of the RNA transcript in the absence of the compound or the presence of a negative control (*e.g.*, a vehicle control such as PBS or DMSO) indicates that the compound of Formula (I) or a form thereof modulates the amount of the RNA transcript. In another embodiment, provided herein is a method for determining whether a compound of Formula (I) or a form thereof modulates the amount of an RNA transcript (e.g., an mRNA transcript), comprising (a) culturing a first cell(s) in the presence of a compound of Formula (I) or a form thereof, (b) culturing a second cell(s) in the presence of a negative control (e.g., a vehicle control, such as PBS or DMSO); (c) isolating the RNA transcript produced by the first cell(s) and isolating the RNA transcript produced by the second cell(s); (d) determining the amount of the RNA transcript produced by the first cell(s) and the second cell(s); and (e) comparing the amount of the RNA transcript produced by the first cell(s) to the amount of the RNA transcript produced by the second cell(s), wherein an alteration in the amount of the RNA transcript produced by the first cell(s) relative to the amount of the RNA transcript produced by the second cell(s) indicates that the compound of Formula (I) or a form thereof modulates the amount of the RNA transcript.

[00836] In certain embodiments, the cell(s) contacted or cultured with a compound of Formula (I) or a form thereof is a primary cell(s) from a subject. In some embodiments, the cell(s) contacted or cultured with a compound of Formula (I) or a form thereof is a primary cell(s) from a subject with a disease. In specific embodiments, the cell(s) contacted or cultured with a compound of Formula (I) or a form thereof is a primary cell(s) from a subject with a disease associated with an aberrant amount of an RNA transcript(s) for a particular gene(s). In some specific embodiments, the cell(s) contacted or cultured with a compound of Formula (I) or a form thereof is a primary cell(s) from a subject with a disease associated with an aberrant amount of an isoform(s) of a particular gene(s). In some embodiments, the cell(s) contacted or cultured with a compound of Formula (I) or a form thereof is a fibroblast (*e.g.*, GM03813 or PNN 1-46 fibroblasts), an immune cell (*e.g.*, a T cell, B cell, natural killer cell, macrophage), or

a muscle cell. In certain embodiments, the cell(s) contacted or cultured with a compound of Formula (I) or a form thereof is a cancer cell.

[00837] In certain embodiments, the cell(s) contacted or cultured with a compound of Formula (I) or a form thereof is from a cell line. In some embodiments, the cell(s) contacted or cultured with a compound of Formula (I) or a form thereof is a cell line derived from a subject with a disease. In certain embodiments, the cell(s) contacted or cultured with a compound of Formula (I) or a form thereof is from a cell line known to have aberrant RNA transcript levels for a particular gene(s). In specific embodiments, the cell(s) contacted or cultured with a compound of Formula (I) or a form thereof is from a cell line derived from a subject with a disease known to have aberrant RNA transcript levels for a particular gene(s). In certain embodiments, the cell(s) contacted or cultured with a compound of Formula (I) or a form thereof is a cancer cell line. In some specific embodiments, the cell(s) contacted or culured with the compound of Formula (I) or a form thereof is from a cell line derived from a subject with a disease known to have an aberrant amount of an RNA isoform(s) and/or protein isoform(s) of a particular gene(s). Non-limiting examples of cell lines include 3T3, 4T1, 721, 9L, A2780, A172, A20, A253, A431, A-549, ALC, B16, B35, BCP-1, BEAS-2B, bEnd.3, BHK, BR 293, BT2O, BT483, BxPC3, C2C12, C3H-10T1/2, C6/36, C6, Cal-27, CHO, COR-L23, COS, COV-434, CML T1, CMT, CRL7O3O, CT26, D17, DH82, DU145, DuCaP, EL4, EM2, EM3, EMT6, FM3, H1299, H69, HB54, HB55, HCA2, HDF (human dermal fibroblasts), HEK-293, HeLa, Hepa1c1c7, HL-60, HMEC, Hs578T, HsS78Bst, HT-29, HTB2, HUVEC, Jurkat, J558L, JY, K562, Ku812, KCL22, KG1, KYO1, LNCap, Ma-Mel, MC-38, MCF-7, MCF-10A, MDA-MB-231, MDA-MB-468, MDA-MB-435, MDCK, MG63, MOR/0.2R, MONO-MAC 6, MRC5, MTD-1A, NCI-H69, NIH-3T3, NALM-1, NS0, NW-145, OPCN, OPCT, PNT-1A, PNT-2, Raji, RBL, RenCa, RIN-5F, RMA, Saos-2, Sf21, Sf9, SH-SY5Y, SiHa, SKBR3, SKOV-3, T2, T-47D, T84, THP1, U373, U87, U937, VCaP, Vero, VERY, W138, WM39, WT-49, X63, YAC-1, and YAR cells. In one embodiment, the cells are from a patient. In another embodiment, the patient cells are GM03813 cells.

[00838] In another embodiment, provided herein is a method for determining whether a compound of Formula (I) or a form thereof modulates the amount of an RNA transcript (*e.g.*, an mRNA transcript), comprising: (a) contacting a tissue sample with a compound of Formula (I) or a form thereof; and (b) determining the amount of the RNA transcript produced by the tissue

sample, wherein an alteration in the amount of the RNA transcript in the presence of the compound relative to the amount of the RNA transcript in the absence of the compound or the presence of a negative control (*e.g.*, a vehicle control such as PBS or DMSO) indicates that the compound of Formula (I) or a form thereof modulates the amount of the RNA transcript. In another embodiment, provided herein is a method for determining whether a compound of Formula (I) or a form thereof modulates the amount of an RNA transcript (e.g., an mRNA transcript), comprising: (a) contacting a first tissue sample with a compound of Formula (I) or a form thereof, (b) contacting a second tissue sample with a negative control (e.g., a vehicle control, such as PBS or DMSO); and (c) determining the amount of the RNA transcript produced by the first tissue sample and the second tissue sample; and (d) comparing the amount of the RNA transcript produced by the first tissue sample to the amount of the RNA transcript produced by the second tissue sample, wherein an alteration in the amount of the RNA transcript produced by the first tissue sample relative to the amount of the RNA transcript produced by the second tissue sample indicates that the compound of Formula (I) or a form thereof modulates the amount of the RNA transcript. Any tissue sample containing cells may be used in the accordance with these methods. In certain embodiments, the tissue sample is a blood sample, a skin sample, a muscle sample, or a tumor sample. Techniques known to one skilled in the art may be used to obtain a tissue sample from a subject.

[00839] In some embodiments, a dose-response assay is performed. In one embodiment, the dose response assay comprises: (a) contacting a cell(s) with a concentration of a compound of Formula (I) or a form thereof; (b) determining the amount of the RNA transcript produced by the cell(s), wherein an alteration in the amount of the RNA transcript in the presence of the compound relative to the amount of the RNA transcript in the absence of the compound or the presence of a negative control (e.g., a vehicle control such as PBS or DMSO) indicates that the compound of Formula (I) or a form thereof modulates the amount of the RNA transcript; (c) repeating steps (a) and (b), wherein the only experimental variable changed is the concentration of the compound or a form thereof; and (d) comparing the amount of the RNA transcript produced at the different concentrations of the compound or a form thereof. In another embodiment, the dose response assay comprises: (a) culturing a cell(s) in the presence of a compound of Formula (I) or a form thereof, (b) isolating the RNA transcript from the cell(s) after a certain period of time; (c) determining the amount of the RNA transcript produced by the

cell(s), wherein an alteration in the amount of the RNA transcript in the presence of the compound relative to the amount of the RNA transcript in the absence of the compound or the presence of a negative control (e.g., a vehicle control such as PBS or DMSO) indicates that the compound of Formula (I) or a form thereof modulates the amount of the RNA transcript;
(d) repeating steps (a), (b), and (c), wherein the only experimental variable changed is the concentration of the compound or a form thereof; and (e) comparing the amount of the RNA transcript produced at the different concentrations of the compound or a form thereof. In another embodiment, the dose-response assay comprises: (a) contacting each well of a microtiter plate containing cells with a different concentration of a compound of Formula (I) or a form thereof;
(b) determining the amount of an RNA transcript produced by cells in each well; and
(c) assessing the change of the amount of the RNA transcript at the different concentrations of the compound or form thereof.

[00840] In one embodiment, the dose response assay comprises: (a) contacting a cell(s) with a concentration of a compound of Formula (I) or a form thereof, wherein the cells are within the wells of a tissue culture container (e.g., a 96-well plate) at about the same density within each well, and wherein the cells are contacted with different concentrations of compound in different wells; (b) isolating the RNA from said cells in each well; (c) determining the amount of the RNA transcript produced by the cell(s) in each well; and (d) assessing change in the amount of the RNA transcript in the presence of one or more concentrations of compound relative to the amount of the RNA transcript in the presence of a different concentration of the compound or the absence of the compound or the presence of a negative control (*e.g.*, a vehicle control such as PBS or DMSO).

[00841] In certain embodiments, the contacting of the cell(s) with the compound occurs in cell culture. In other embodiments, the contacting of the cell(s) with the compound occurs in a subject, such as a non-human animal subject.

[00842] In certain embodiments described herein, the cell(s) is contacted or cultured with a compound of Formula (I) or a form thereof, or a tissue sample is contacted with a compound of Formula (I) or a form thereof, or a negative control for a period of 15 minutes, 30 minutes, 45 minutes, 1 hour, 2 hours, 3 hours, 4 hours, 5 hours, 6 hours, 8 hours, 12 hours, 18 hours, 24 hours, 48 hours, 72 hours or more. In other embodiments described herein, the cell(s) is contacted or cultured with a compound of Formula (I) or a form thereof, or a tissue sample is

contacted with a compound of Formula (I) or a form thereof, or a negative control for a period of 15 minutes to 1 hour, 1 to 2 hours, 2 to 4 hours, 6 to 12 hours, 12 to 18 hours, 12 to 24 hours, 28 to 24 hours, 24 to 48 hours, 48 to 72 hours.

[00843] In certain embodiments described herein, the cell(s) is contacted or cultured with a certain concentration of a compound of Formula (I) or a form thereof, or a tissue sample is contacted with a certain concentration of a compound of Formula (I) or a form thereof, wherein the certain concentration is 0.0001 μM, 0.0003 μM, 0.001 μM, 0.003 μM, 0.01 μM, 0.05 μM, 1 μM, 2 μM, 5 μM, 10 μM, 15 μM, 20 μM, 25 μM, 50 μM, 75 μM, 100 μM, or 150 μM. In other embodiments described herein, the cell(s) is contacted or cultured with a certain concentration of a compound of Formula (I) or a form thereof, or a tissue sample is contacted with a certain concentration of a compound of Formula (I) or a form thereof, wherein the certain concentration is 0.0001 μM, 0.0003 μM, 0.0005 μM, 0.001 μM, 0.003 μM, 0.005 μM, 0.01 μM, 0.03 μM, 0.05 μM, 0.1 μM, 0.3 μM, 0.5 μM or 1 μM. In other embodiments described herein, the cell(s) is contacted or cultured with a certain concentration of a compound of Formula (I) or a form thereof, or a tissue sample is contacted with a certain concentration of a compound of Formula (I) or a form thereof, wherein the certain concentration is 175 μM, 200 μM, 250 μM, 275 μM, 300 μM, 350 μM, 400 μM, 450 μM, 500 μM, 550 μM 600 μM, 650 μM, 700 μM, 750 μM, 800 μM, 850 μM, 900 μM, 950 μM or 1 mM. In some embodiments described herein, the cell(s) is contacted or cultured with a certain concentration of a compound of Formula (I) or a form thereof, or a tissue sample is contacted with a certain concentration of a compound of Formula (I) or a form thereof, wherein the certain concentration is 5 nM, 10 nM, 20 nM, 30 nM, 40 nM, 50 nM, 60 nM, 70 nM, 80 nM, 90 nM, 100 nM, 150 nM, 200 nM, 250 nM, 300 nM, 350 nM, 400 nM, 450 nM, 500 nM, 550 nM, 600 nM, 650 nM, 700 nM, 750 nM, 800 nM, 850 nM, 900 nM, or 950 nM. In certain embodiments described herein, the cell(s) is contacted or cultured with a certain concentration of a compound of Formula (I) or a form thereof, or a tissue sample is contacted with a certain concentration of a compound of Formula (I) or a form thereof, wherein the certain concentration is between 0.0001 μM to 0.001 μM, 0.0001 μM to 0.01 μM, 0.0003 μM to 0.001 μM, 0.0003 μM to 0.01 μM, 0.001 μM to 0.01 μM, 0.003 μM to 0.01 μM, 0.01 μM to 0.1 μM, 0.1 μM to 1 μM, 1 μM to 50 μM, 50 μM to 100 μM, 100 μM to 500 μM, 500 μM to 1 nM, 1 nM to 10 nM, 10 nM to 50 nM, 50 nM to 100 nM, 100 nM to 500 nM, 500 nM to 1000 nM.

[00844] In another embodiment, provided herein is a method for determining whether a compound of Formula (I) or a form thereof modulates the amount of an RNA transcript (e.g., an mRNA transcript), comprising: (a) administering a compound of Formula (I) or a form thereof to a subject (in certain embodiments, a non-human animal); and (b) determining the amount of the RNA transcript in a sample obtained from the subject, wherein an alteration in the amount of the RNA transcript measured in the sample from the subject administered the compound or form thereof relative to the amount of the RNA transcript in a sample from the subject prior to administration of the compound or form thereof or a sample from a different subject from the same species not administered the compound or form thereof indicates that the compound of Formula (I) or a form thereof modulates the amount of the RNA transcript. In another embodiment, provided herein is a method for determining whether a compound of Formula (I) or a form thereof modulates the amount of an RNA transcript (e.g., an mRNA transcript), comprising: (a) administering a compound of Formula (I) or a form thereof to a first subject (in certain embodiments, a non-human animal); (b) administering a negative control (e.g., a pharmaceutical carrier) to a second subject (in certain embodiments, a non-human animal) of the same species as the first subject; and (c) determining the amount of the RNA transcript in a first tissue sample from the first subject and the amount of the RNA transcript in the second tissue sample from the second subject; and (d) comparing the amount of the RNA transcript in the first tissue sample to the amount of the RNA transcript in the second tissue sample, wherein an alteration in the amount of the RNA transcript in the first tissue sample relative to the amount of the RNA transcript in the second tissue sample indicates that the compound of Formula (I) or a form thereof modulates the amount of the RNA transcript. In certain embodiments, a compound of Formula (I) or form thereof is administered to a subject at a dose of about 0.001 mg/kg/day to about 500 mg/kg/day. In some embodiments, a single dose of a compound of Formula (I) or a form thereof is administered to a subject in accordance with the methods described herein. In other embodiments, 2, 3, 4, 5 or more doses of a compound of Formula (I) is administered to a subject in accordance with the methods described herein. In specific embodiments, the compound of Formula (I) or a form thereof is administered in a subject in a pharmaceutically acceptable carrier, excipient or diluent.

[00845] In another embodiment, provided herein is a method for determining whether a compound of Formula (I) or a form thereof modulates the splicing of an RNA transcript (e.g., an

mRNA transcript), comprising: (a) administering a compound of Formula (I) or a form thereof to a subject (in certain embodiments, a non-human animal); and (b) determining the amount of two or more RNA transcript splice variants in a sample obtained from the subject, wherein an alteration in the amount of the two or more RNA transcript splice variants measured in the sample from the subject administered the compound or form thereof relative to the amount of the two or more RNA transcript splice variants in a sample from the subject prior to administration of the compound or form thereof or a sample from a different subject from the same species not administered the compound or form thereof indicates that the compound of Formula (I) or a form thereof modulates the splicing of the RNA transcript. In another embodiment, provided herein is a method for determining whether a compound of Formula (I) or a form thereof modulates the splicing of an RNA transcript (e.g., an mRNA transcript), comprising: (a) administering a compound of Formula (I) or a form thereof to a first subject (in certain embodiments, a non-human animal); (b) administering a negative control (e.g., a pharmaceutical carrier) to a second subject (in certain embodiments, a non-human animal) of the same species as the first subject; and (c) determining the amount of two or more RNA transcript splice variants in a first tissue sample from the first subject and the amount of two or more RNA transcript splice variants in the second tissue sample from the second subject; and (d) comparing the amount of the two or more RNA transcript splice variants in the first tissue sample to the amount of the two or more RNA transcript splice variants in the second tissue sample, wherein an alteration in the amount of the two or more RNA transcript splice variants in the first tissue sample relative to the amount of the two or more RNA transcript splice variants in the second tissue sample indicates that the compound of Formula (I) or a form thereof modulates the splicing of the RNA transcript. In certain embodiments, a compound of Formula (I) or form thereof is administered to a subject at a dose of about 0.001 mg/kg/day to about 500 mg/kg/day. In some embodiments, a single dose of a compound of Formula (I) or a form thereof is administered to a subject in accordance with the methods described herein. In other embodiments, 2, 3, 4, 5 or more doses of a compound of Formula (I) is administered to a subject in accordance with the methods described herein. In specific embodiments, the compound of Formula (I) or a form thereof is administered in a subject in a pharmaceutically acceptable carrier, excipient or diluent.

[00846] In some embodiments, the compound of Formula (I) or a form thereof that is contacted or cultured with a cell(s) or a tissue sample, or administered to a subject is a compound

of Formula (II), Formula (III), Formula (IV), Formula (V), Formula (VI), Formula (VII), Formula (VIII), Formula (IX), Formula (X), Formula (XI), Formula (XII), Formula (XIII), or Formula (XIV). In some embodiments, the compound of Formula (I) or a form thereof that is contacted or cultured with a cell(s) or a tissue sample, or administered to a subject is a compound described herein.

[00847] Techniques known to one skilled in the art may be used to determine the amount of an RNA transcript(s). In some embodiments, the amount of one, two, three or more RNA transcripts is measured using deep sequencing, such as ILLUMINA® RNASeq, ILLUMINA® next generation sequencing (NGS), ION TORRENT™ RNA next generation sequencing, 454™ pyrosequencing, or Sequencing by Oligo Ligation Detection (SOLID™). In other embodiments, the amount of multiple RNA transcripts is measured using an exon array, such as the GENECHIP® human exon array. In certain embodiments, the amount of one, two, three or more RNA transcripts is determined by RT-PCR. In other embodiments, the amount of one, two, three or more RNA transcripts is measured by RT-qPCR or digital color-coded barcode technology. Techniques for conducting these assays are known to one skilled in the art.

[00848] In some embodiments, analysis is perfomed on data derived from the assay to measure the magnitude of splicing to determine the amount of exons spliced into an mRNA transcript that is produced in the presence of the compound relative to the amount in the absence of the compound or presence of a negative control. In a preferred embodiment, the method utilized is calculation of change in Percent Spliced In (ΔPSI). The method utilizes read data from RNAseq (or any other method that can distinguish mRNA splice isoforms) to calculate the ratio (percentage) between reads that either demonstrate inclusion (junctions between the upstream exon and the exon of interest) or exclusion (junction between the upstream and downstream exons, exluding the exon of interest), to demonstrate whether the presence of the compound affects the amount of exon inclusion relative to the amount of inclusion in the absence of the compound or the presence of a negative control.

[00849] The ΔPSI value is derived from the formula:

[00850] $\Delta PSI\ (\%) = \{(a+b)/2/[(a+b)/2 + c]\}^{C} - \{(a+b)/2/[(a+b)/2 + c]\}^{U} x100$

[00851] Where "U" represents the value for probability of iExon inclusion $(a+b)/2/[(a+b)/2+c]^{U}$ in the absence of the compound; and, where "C" represents the value for probability of iExon inclusion $(a+b)/2/[(a+b)/2 + c]^{C}$ in the presence of the compound. The

values for "a" and "b" represent the number of reads supporting inclusion of an iExon in an RNA transcript. In other words, the "a" value is derived from the amount of reads for a first intronic nucleotide sequence comprising, in 5' to 3' order: a first exon having a 5' splice site operably linked and upstream from a first intronic nucleotide sequence comprising a first branch point further operably linked and upstream from a first intronic 3' splice site (upstream of the nascent iExon). The "b" value is derived from the amount of reads for a second intronic nucleotide sequence comprising, in 5' to 3' order: an iREMS sequence operably linked downstream from the first intronic 3' splice site and upstream from a second intronic nucleotide sequence comprising a second branch point further operably linked and upstream from a second intronic 3' splice site of a second exon. The value for "c" represents the number of reads supporting exclusion of an iExon. Accordingly, when a compound enables the splicing machinery to recognize a nascent iExon, the value for $(a+b)/2/[(a+b)/2+c]^{C}$ in the presence of the splicing modifier compound will differ from the value for $(a+b)/2/[(a+b)/2+c]^{U}$ in the absence of the compound. The statistically significant value for the likelihood of iExon inclusion may be obtained according to statistical analysis methods or other probability analysis methods known to those of ordinary skill in the art.

[00852] In some embodiments, a statistical analysis or other probability analysis is performed on data from the assay utilized to measure an RNA transcript. In certain embodiments, for example, a Fisher's Exact Test statistical analysis is performed by comparing the total number of reads for the inclusion and exclusion of an iExon (or region) based on data from one or more assays used to measure whether the amount of an RNA transcript is altered in the presence of the compound relative to the amount in the absence of the compound or presence of a negative control. In specific embodiments, the statistical analysis results in a confidence value for those RNA transcripts with the alternation of 10%, 5%, 4%, 3%, 2%, 1%, 0.5%, 0.1%, 0.01%, 0.001% or 0.0001%. In some specific embodiments, the confidence value is a p value of those altered RNA transcripts of is 10%, 5%, 4%, 3%, 2%, 1%, 0.5%, 0.1%, 0.01%, 0.001% or 0.0001%. In certain specific embodiments, an exact test, student t-test or p value of those RNA transcripts with the alteration is 10%, 5%, 4%, 3%, 2%, 1%, 0.5% or 0.1% and 10%, 5%, 4%, 3%, 2%, 1%, 0.5%, 0.1%, 0.01%, 0.001% or 0.0001%, respectively.

[00853] In certain embodiments, a further analysis is performed to determine how the compound of Formula (I) or a form thereof is changing the amount of an RNA transcript(s). In

specific embodiments, a further analysis is performed to determine if an alternation in the amount of an RNA transcript(s) in the presence of a compound of Formula (I) or a form thereof relative the amount of the RNA transcript(s) in the absence of the compound or a form thereof, or the presence of a negative control is due to changes in transcription, splicing, and/or stability of the RNA transcript(s). Techniques known to one skilled in the art may be used to determine whether a compound of Formula (I) or a form thereof changes, *e.g.*, the transcription, splicing and/or stability of an RNA transcript(s).

[00854] In certain embodiments, the stability of one or more RNA transcripts is determined by serial analysis of gene expression (SAGE), differential display analysis (DD), RNA arbitrary primer (RAP)-PCR, restriction endonuclease-lytic analysis of differentially expressed sequences (READS), amplified restriction fragment-length polymorphism (ALFP), total gene expression analysis (TOGA), RT-PCR, RT-qPCR, RNA-Seq, digital color-coded barcode technology, high-density cDNA filter hybridization analysis (HDFCA), suppression subtractive hybridization (SSH), differential screening (DS), cDNA arrays, oligonucleotide chips, or tissue microarrays. In other embodiments, the stability of one or more RNA transcripts is determined by Northern blot, RNase protection, or slot blot.

[00855] In some embodiments, the transcription in a cell(s) or tissue sample is inhibited before (e.g., 5 minutes, 10 minutes, 30 minutes, 1 hour, 2 hours, 4 hours, 6 hours, 8 hours, 12 hours, 18 hours, 24 hours, 36 hours, 48 hours, or 72 hours before) or after (e.g., 5 minutes, 10 minutes, 30 minutes, 1 hour, 2 hours, 4 hours, 6 hours, 8 hours, 12 hours, 18 hours, 24 hours, 36 hours, 48 hours, or 72 hours after) the cell or the tissue sample is contacted or cultured with an inhibitor of transcription, such as α-amanitin, DRB, flavopiridol, triptolide, or actinomycin-D. In other embodiments, the transcription in a cell(s) or tissue sample is inhibited with an inhibitor of transcription, such as α-amanitin, DRB, flavopiridol, triptolide, or actinomycin-D, while the cell(s) or tissue sample is contacted or cultured with a compound of Formula (I) or a form thereof.

[00856] In certain embodiments, the level of transcription of one or more RNA transcripts is determined by nuclear run-on assay or an *in vitro* transcription initiation and elongation assay. In some embodiments, the detection of transcription is based on measuring radioactivity or fluorescence. In some embodiments, a PCR-based amplification step is used.

[00857] In specific embodiments, the amount of alternatively spliced forms of the RNA transcripts of a particular gene are measured to see if there is an alteration in the amount of one, two or more alternatively spliced forms of the RNA transcripts of the gene. In some embodiments, the amount of an isoform(s) encoded by a particular gene is measured to see if there is an alteration in the amount of the isoform(s). In certain embodiments, the levels of spliced forms of RNA are quantified by RT-PCR, RT-qPCR, RNA-Seq, digital color-coded barcode technology, or Northern blot. In other embodiments, sequence-specific techniques may be used to detect the levels of an individual spliceoform. In certain embodiments, splicing is measured *in vitro* using nuclear extracts. In some embodiments, detection is based on measuring radioactivity or fluorescence. Techniques known to one skilled in the art may be used to measure alterations in the amount of alternatively spliced forms of an RNA transcript of a gene and alterations in the amount of an isoform encoded by a gene. In a specific embodiment, modulation of RNA transcripts is assessed as described in the Examples described herein.

[00858] Also provided herein are methods of screening for new compounds that can be used to modulate the amount of a product (*e.g.*, a precursor RNA, an mRNA, or protein) of a gene comprising an intronic REMS in its DNA or RNA sequence. The methods described above in this section with respect to determining whether the amount of a product (*e.g.*, a precursor RNA, an mRNA, or protein) of a gene is likely to be modulated by a compound of Formula (I) or a form thereof can be also used in the methods of screening for new compounds. In a specific embodiment, the method comprises contacting a candidate compound with an RNA transcript, wherein the RNA transcript comprises exons and one or more introns, wherein at least one intron comprises, in 5' to 3' order, a branch point, a 3' splice site, and an intronic REMS. In another specific embodiment, the method comprises contacting a candidate compound with an RNA transcript, wherein the RNA transcript comprises exons and one or more introns, wherein at least one intron comprises an intronic REMS downstream of a branch point and a 3' splice site. The RNA transcript may be present in a cell or cell lysate. The methods described above regarding the techniques of contacting a compound with an RNA transcript, the dosage, *etc.*, may be used in the methods of screening. The candidate compounds to be screened can be provided by any source. For example, the candidate compounds to be screened can be from a compound library, such as a commercial compound library.

PHARMACEUTICAL COMPOSITIONS AND MODES OF ADMINISTRATION

[00859] When administered to a patient, a compound of Formula (I) or a form thereof is preferably administered as a component of a composition that optionally comprises a pharmaceutically acceptable carrier, excipient or diluent. The composition can be administered orally, or by any other convenient route, for example, by infusion or bolus injection, by absorption through epithelial or mucocutaneous linings (*e.g.*, oral mucosa, rectal, and intestinal mucosa) and may be administered together with another biologically active agent. Administration can be systemic or local. Various delivery systems are known, e.g., encapsulation in liposomes, microparticles, microcapsules, capsules, and can be used to administer the compound.

[00860] Methods of administration include, but are not limited to, parenteral, intradermal, intramuscular, intraperitoneal, intravenous, subcutaneous, intranasal, epidural, oral, sublingual, intranasal, intraocular, intratumoral, intracerebral, intravaginal, transdermal, ocularly, rectally, by inhalation, or topically, particularly to the ears, nose, eyes, or skin. The mode of administration is left to the discretion of the practitioner. In most instances, administration will result in the release of a compound into the bloodstream, tissue or cell(s). In a specific embodiment, a compound is administered orally.

[00861] The amount of a compound of Formula (I) or a form thereof that will be effective in the treatment of a disease resulting from an aberrant amount of mRNA transcripts depends, *e.g.*, on the route of administration, the disease being treated, the general health of the subject, ethnicity, age, weight, and gender of the subject, diet, time, and the severity of disease progress, and should be decided according to the judgment of the practitioner and each patient's or subject's circumstances.

[00862] In specific embodiments, an "effective amount" in the context of the administration of a compound of Formula (I) or a form thereof, or composition or medicament thereof refers to an amount of a compound of Formula (I) or a form thereof to a patient which has a therapeutic effect and/or beneficial effect. In certain specific embodiments, an "effective amount" in the context of the administration of a compound of Formula (I) or a form thereof, or composition or medicament thereof to a patient results in one, two or more of the following effects: (i) reduces or ameliorates the severity of a disease; (ii) delays onset of a disease; (iii) inhibits the progression of a disease; (iv) reduces hospitalization of a subject; (v) reduces hospitalization length for a

subject; (vi) increases the survival of a subject; (vii) improves the quality of life of a subject; (viii) reduces the number of symptoms associated with a disease; (ix) reduces or ameliorates the severity of a symptom(s) associated with a disease; (x) reduces the duration of a symptom associated with a disease associated; (xi) prevents the recurrence of a symptom associated with a disease; (xii) inhibits the development or onset of a symptom of a disease; and/or (xiii) inhibits of the progression of a symptom associated with a disease. In certain embodiments, an effective amount of a compound of Formula (I) or a form thereof is an amount effective to restore the amount of a RNA transcript of a gene to the amount of the RNA transcript detectable in healthy patients or cells from healthy patients. In other embodiments, an effective amount of a compound of Formula (I) or a form thereof is an amount effective to restore the amount an RNA isoform and/or protein isoform of gene to the amount of the RNA isoform and/or protein isoform detectable in healthy patients or cells from healthy patients.

[00863] In certain embodiments, an effective amount of a compound of Formula (I) or a form thereof is an amount effective to decrease the aberrant amount of an RNA transcript of a gene which associated with a disease. In certain embodiments, an effective amount of a compound of Formula (I) or a form thereof is an amount effective to decrease the amount of the aberrant expression of an isoform of a gene. In some embodiments, an effective amount of a compound of Formula (I) or a form thereof is an amount effective to result in a substantial change in the amount of an RNA transcript (*e.g.*, mRNA transcript), alternative splice variant or isoform.

[00864] In certain embodiments, an effective amount of a compound of Formula (I) or a form thereof is an amount effective to increase or decrease the amount of an RNA transcript (*e.g.*, an mRNA transcript) of gene which is beneficial for the prevention and/or treatment of a disease. In certain embodiments, an effective amount of a compound of Formula (I) or a form thereof is an amount effective to increase or decrease the amount of an alternative splice variant of an RNA transcript of gene which is beneficial for the prevention and/or treatment of a disease. In certain embodiments, an effective amount of a compound of Formula (I) or a form thereof is an amount effective to increase or decrease the amount of an isoform of gene which is beneficial for the prevention and/or treatment of a disease. Non-limiting examples of effective amounts of a compound of Formula (I) or a form thereof are described herein.

[00865] For example, the effective amount may be the amount required to prevent and/or treat a disease associated with the aberrant amount of an mRNA transcript of gene in a human subject.

[00866] In general, the effective amount will be in a range of from about 0.001 mg/kg/day to about 500 mg/kg/day for a patient having a weight in a range of between about 1 kg to about 200 kg. The typical adult subject is expected to have a median weight in a range of between about 70 and about 100 kg.

[00867] Within the scope of the present description, the "effective amount" of a compound of Formula (I) or a form thereof for use in the manufacture of a medicament, the preparation of a pharmaceutical kit or in a method for preventing and/or treating a disease in a human subject in need thereof, is intended to include an amount in a range of from about 0.001 mg to about 35,000 mg.

[00868] The compositions described herein are formulated for administration to the subject via any drug delivery route known in the art. Non-limiting examples include oral, ocular, rectal, buccal, topical, nasal, ophthalmic, subcutaneous, intramuscular, intraveneous (bolus and infusion), intracerebral, transdermal, and pulmonary routes of administration.

[00869] Embodiments described herein include the use of a compound of Formula (I) or a form thereof in a pharmaceutical composition. In a specific embodiment, described herein is the use of a compound of Formula (I) or a form thereof in a pharmaceutical composition for preventing and/or treating a disease in a human subject in need thereof comprising administering an effective amount of a compound of Formula (I) or a form thereof in admixture with a pharmaceutically acceptable carrier, excipient or diluent.In a specific embodiment, the human subject is a patient with a disease associated with the aberrant amount of an mRNA transcript(s).

[00870] A compound of Formula (I) or a form thereof may optionally be in the form of a composition comprising the compound or a form thereof and an optional carrier, excipient or diluent. Other embodiments provided herein include pharmaceutical compositions comprising an effective amount of a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient, or diluent. In a specific embodiment, the pharmaceutical compositions are suitable for veterinary and/or human administration. The pharmaceutical compositions provided herein can be in any form that allows for the composition to be administered to a subject.

[00871] In a specific embodiment and in this context, the term "pharmaceutically acceptable carrier, excipient or diluent" means a carrier, excipient or diluent approved by a regulatory agency of the Federal or a state government or listed in the U.S. Pharmacopeia or other generally

recognized pharmacopeia for use in animals, and more particularly in humans. The term "carrier" refers to a diluent, adjuvant (*e.g.*, Freund's adjuvant (complete and incomplete)), excipient, or vehicle with which a therapeutic agent is administered. Such pharmaceutical carriers can be sterile liquids, such as water and oils, including those of petroleum, animal, vegetable or synthetic origin, such as peanut oil, soybean oil, mineral oil, sesame oil and the like. Water is a specific carrier for intravenously administered pharmaceutical compositions. Saline solutions and aqueous dextrose and glycerol solutions can also be employed as liquid carriers, particularly for injectable solutions.

[00872] Typical compositions and dosage forms comprise one or more excipients. Suitable excipients are well-known to those skilled in the art of pharmacy, and non limiting examples of suitable excipients include starch, glucose, lactose, sucrose, gelatin, malt, rice, flour, chalk, silica gel, sodium stearate, glycerol monostearate, talc, sodium chloride, dried skim milk, glycerol, propylene, glycol, water, ethanol and the like. Whether a particular excipient is suitable for incorporation into a pharmaceutical composition or dosage form depends on a variety of factors well known in the art including, but not limited to, the way in which the dosage form will be administered to a patient and the specific active ingredients in the dosage form. Further provided herein are anhydrous pharmaceutical compositions and dosage forms comprising one or more compounds of Formula (I) or a form thereof as described herein. The compositions and single unit dosage forms can take the form of solutions or syrups (optionally with a flavoring agent), suspensions (optionally with a flavoring agent), emulsions, tablets (*e.g.*, chewable tablets), pills, capsules, granules, powder (optionally for reconstitution), taste-masked or sustained-release formulations and the like.

[00873] Pharmaceutical compositions provided herein that are suitable for oral administration can be presented as discrete dosage forms, such as, but are not limited to, tablets, caplets, capsules, granules, powder, and liquids. Such dosage forms contain predetermined amounts of active ingredients, and may be prepared by methods of pharmacy well known to those skilled in the art.

[00874] Examples of excipients that can be used in oral dosage forms provided herein include, but are not limited to, binders, fillers, disintegrants, and lubricants.

METHODS OF MODULATING THE AMOUNT OF RNA TRANSCRIPTS ENCODED BY CERTAIN GENES

[00875] In one aspect, described herein are methods for modulating the amount of a product of a gene, wherein a precursor RNA transcript transcribed from the gene contains an intronic REMS, and the methods utilize a compound described herein. In certain embodiments, the gene contains a nucleotide sequence encoding an endogenous intronic REMS. In a specific embodiment, the precursor RNA transcript further contains a branch point and a 3' splice site upstream from the intronic REMS. In certain embodiments, the gene is any one of the genes disclosed in Tables 2-7 or 1. In certain embodiments, the gene contains a nucleotide sequence encoding a non-endogenous intronic REMS. In one embodiment, provided herein are methods for modulating the amount of one, two, three or more RNA transcripts of a gene, by way of nonlimiting example, disclosed in Tables 2-7 or 1, *infra*, the method comprising contacting a cell with a compound of Formula (I) or a form thereof.

[00876] In another embodiment, provided herein is a method for modulating the amount of a product of a gene (such as an RNA transcript or a protein), wherein the gene comprises a DNA nucleotide sequence encoding two exons and an intron, wherein the nucleotide sequence encoding one exon is upstream of the nucleotide sequence encoding the intron and the nucleotide sequence encoding the other exon is downstream of the nucleotide sequence encoding the intron, wherein the DNA nucleotide sequence encoding the intron comprises in 5' to 3' order: a nucleotide sequence encoding a first 5' splice site, a nucleotide sequence encoding a first branch point, a nucleotide sequence encoding a first 3' splice site, an iREMS, a nucleotide sequence encoding a second branch point and a nucleotide sequence encoding a second 3' splice site, wherein the iREMS comprises a DNA sequence GAgtrngn (SEQ ID NO: 4), and wherein r is adenine or guanine and n is any nucleotide, the method comprising contacting a cell with a compound described herein (for example, a compound of Formula (I) or a form thereof).

[00877] In another embodiment, provided herein is a method for modulating the amount of a product of a gene (such as an RNA transcript or protein), wherein the gene comprises a DNA nucleotide sequence encoding two exons and an intron, wherein the nucleotide sequence encoding one exon is upstream of the nucleotide sequence encoding the intron and the nucleotide sequence encoding the other exon is downstream of the nucleotide sequence encoding the intron, wherein the DNA nucleotide sequence of the intron comprises in 5' to 3' order: an iREMS, a

nucleotide sequence encoding a first branch point and a nucleotide sequence encoding a first 3' splice site, wherein the iREMS comprises a DNA sequence GAgtrngn (SEQ ID NO: 4), and wherein r is adenine or guanine and n is any nucleotide, the method comprising contacting a cell with a compound described herein (for example, a compound of Formula (I) or a form thereof).

[00878] In another embodiment, provided herein is a method for modulating the amount of a product of a gene (such as an RNA transcript or protein), wherein the gene comprises a DNA nucleotide sequence encoding two exons and an intron, and wherein the DNA nucleotide sequence comprises exonic and intronic elements illustrated in Figure 1A, the method comprising contacting a cell with a compound described herein.

[00879] In another embodiment, provided herein is a method for modulating the amount of a product of a gene (such as an RNA transcript or protein), wherein the gene comprises a DNA nucleotide sequence encoding two exons and an intron, and wherein the DNA nucleotide sequence comprises exonic and intronic elements illustrated in Figure 1B, the method comprising contacting a cell with a compound described herein.

[00880] In another embodiment, provided herein is a method for modulating the amount of a product of a gene (such as an RNA transcript or protein), wherein the gene comprises a DNA nucleotide sequence encoding two exons and an intron, and wherein the DNA nucleotide sequence comprises exonic and intronic elements illustrated in Figure 1C, the method comprising contacting a cell with a compound described herein.

[00881] In a specific embodiment, the gene is a gene described in a table in this disclosure.

[00882] In another embodiment, provided herein are methods for modulating the amount of one, two, three or more RNA transcripts of a gene, disclosed in Tables 2-7, *infra*, wherein the precursor transcript transcribed from the gene comprises an intronic REMS, the method comprising contacting a cell with a compound of Formula (I) or a form thereof.

[00883] In another embodiment, provided herein are methods for modulating the amount of one, two, three or more RNA transcripts of a gene, disclosed in International Patent Application No. PCT/US2014/071252 (International Publication No. WO 2015/105657), wherein the precursor transcript transcribed from the gene comprises an intronic REMS, the method comprising contacting a cell with a compound of Formula (I) or a form thereof. In another embodiment, provided herein are methods for modulating the amount of one, two, three or more RNA transcripts of a gene, disclosed in International Patent Application No.

PCT/US2016/034864 (International Publication No. WO 2016/196386), wherein the precursor transcript transcribed from the gene comprises an intronic REMS, the method comprising contacting a cell with a compound of Formula (I) or a form thereof. In a specific embodiment, the precursor RNA transcript further contains a branch point and a 3' splice site upstream from the intronic REMS.

[00884] In certain embodiments, the gene is a gene not disclosed in either International Publication No. WO 2015/105657, International Publication No. WO 2016/196386, or both.

[00885] In another embodiment, provided herein are methods for modulating the amount of one, two, three or more RNA transcripts of a gene, disclosed in Table 1, *infra*, wherein the precursor transcript transcribed from the gene comprises an intronic REMS, the method comprising contacting a cell with a compound of Formula (I) or a form thereof. In a specific embodiment, the precursor RNA transcript further contains a branch point and a 3' splice site upstream from the intronic REMS.

[00886] In another embodiment, provided herein are methods for modulating the amount of one, two, three or more RNA transcripts of a gene, disclosed in Table 7, *infra*, comprising contacting a cell with a compound of Formula (I) or a form thereof. *See* the example section for additional information regarding the genes in Table 7. In certain embodiments, the cell is contacted with the compound of Formula (I) or a form thereof in a cell culture. In other embodiments, the cell is contacted with the compound of Formula (I) or a form thereof in a subject (*e.g.*, a non-human animal subject or a human subject). In a specific embodiment, the RNA transcript contains in 5' to 3' order: a branch point, a 3' splice site and an intronic REMS.

[00887] In one aspect, provided herein is a method for producing a mature mRNA transcript comprising iExon from a pre-mRNA transcript, wherein the pre-mRNA transcript comprises two exons and an intron, wherein one exon is upstream of the intron and the other exon is downstream of the intron, wherein the intron comprises in 5' to 3' order: a first 5' splice site, a first branch point, a first 3' splice site, an endogenous or non-endogenous intronic recognition element for splicing modifier (iREMS), a second branch point, and a second 3' splice site, wherein the iREMS comprises an RNA sequence GAgurngn (SEQ ID NO: 2), wherein r is adenine or guanine and n is any nucleotide. In one embodiment, provided herein is a method for producing a mature mRNA transcript comprising an iExon, the method comprising contacting a pre-mRNA transcript with a compound described herein (e.g., a compound of Formula (I) or a

form thereof), wherein the pre-mRNA transcript comprises two exons and an intron, wherein one exon is upstream of the intron and the other exon is downstream of the intron, wherein the intron comprises in 5' to 3' order: a first 5' splice site, a first branch point, a first 3' splice site, an endogenous or non-endogenous intronic recognition element for splicing modifier (iREMS), a second branch point, and a second 3' splice site, wherein the iREMS comprises an RNA sequence GAgurngn (SEQ ID NO: 2), wherein r is adenine or guanine and n is any nucleotide. In another embodiment, provided herein is a method for producing a mature mRNA transcript comprising an iExon, the method comprising contacting a cell or cell lysate containing a pre-mRNA transcript with a compound described herein (e.g., a compound of Formula (I) or a form thereof), wherein the pre-mRNA transcript comprises two exons and an intron, wherein one exon is upstream of the intron and the other exon is downstream of the intron, wherein the intron comprises in 5' to 3' order: a first 5' splice site, a first branch point, a first 3' splice site, an endogenous or non-endogenous intronic recognition element for splicing modifier (iREMS), a second branch point, and a second 3' splice site, wherein the iREMS comprises an RNA sequence GAgurngn (SEQ ID NO: 2), wherein r is adenine or guanine and n is any nucleotide. In some embodiments, the pre-mRNA transcript is encoded by a gene disclosed herein (e.g., in a table herein).

[00888] In a particular embodiment, provided herein is a method for producing a mature mRNA transcript comprising an iExon, the method comprising contacting a pre-mRNA transcript with a compound described herein (e.g., a compound of Formula (I) or a form thereof), wherein the pre-mRNA transcript comprises two exons and an intron, wherein one exon is upstream of the intron and the other exon is downstream of the intron, wherein the intron comprises in 5' to 3' order: a first 5' splice site, a first branch point, a first 3' splice site, an endogenous intronic recognition element for splicing modifier (iREMS), a second branch point, and a second 3' splice site, wherein the iREMS comprises an RNA sequence GAgurngn (SEQ ID NO: 2), wherein r is adenine or guanine and n is any nucleotide, wherein the pre-mRNA transcript is a pre-mRNA transcript of a gene that is selected from ABCB8, ABCC3, ADAM17, ADCY3, AGPAT4, ANKRA2, ANXA11, APIP, APPL2, ARHGAP1, ARL15, ASAP1, ASPH, ATAD2B, ATXN1, BECN1, BHMT2, BICD1, BTN3A1, C11orf30, C11orf73, C12orf4, C14orf132, C8orf44, C8orf44-SGK3, C8orf88, CASC3, CASP7, CCDC122, CDH13, CECR7, CENPI, CEP112, CEP192, CHEK1, CMAHP, CNRIP1, COPS7B, CPSF4, CRISPLD2,

CRYBG3, CSNK1E, CSNK1G1, DCAF17, DCUN1D4, DDX42, DENND1A, DENND5A, DGKA, DHFR, DIAPH3, DNAJC13, DNMBP, DOCK1, DYRK1A, EIF2B3, ENAH, ENOX1, EP300, ERC1, ERLIN2, ERRFI1, EVC, FAF1, FAIM, FAM126A, FAM13A, FAM162A, FAM174A, FBN2, FER, FHOD3, FOCAD, GALC, GCFC2, GGACT, GLCE, GOLGA4, GOLGB1, GPSM2, GULP1, GXYLT1, HDX, HLTF, HMGA2, HNMT, HSD17B12, HSD17B4, HTT, IFT57, IVD, KDM6A, KIAA1524, KIAA1715, LETM2, LOC400927, LRRC42, LUC7L3, LYRM1, MB21D2, MCM10, MED13L, MEDAG, MEMO1, MFN2, MMS19, MRPL45, MRPS28, MTERF3, MYCBP2, MYLK, MYOF, NGF, NREP, NSUN4, NT5C2, OSMR, OXCT1, PAPD4, PCM1, PDE7A, PDS5B, PDXDC1, PIGN, PIK3CD, PIK3R1, PIKFYVE, PITPNB, PLEKHA1, PLSCR1, PMS1, POMT2, PPARG, PPIP5K2, PPP1R26, PRPF31, PRSS23, PSMA4, PXK, RAF1, RAPGEF1, RARS2, RBKS, RERE, RFWD2, RPA1, RPS10, SAMD4A, SAR1A, SCO1, SEC24A, SENP6, SERGEF, SGK3, SLC12A2, SLC25A17, SLC44A2, SMYD3, SNAP23, SNHG16, SNX7, SOS2, SPATA5, SPIDR, SPRYD7, SRGAP1, SRRM1, STAT1, STXBP6, SUPT20H, TAF2, TASP1, TBC1D15, TCF12, TCF4, TIAM1, TJP2, TMC3, TMEM214, TNRC6A, TNS3, TOE1, TRAF3, TSPAN2, TTC7B, TYW5, UBAP2L, URGCP, VAV2, WDR27, WDR37, WDR91, WNK1, XRN2, ZCCHC8, ZFP82, ZNF138, ZNF232 or ZNF37BP. In another particular embodiment, provided herein is a method for producing a mature mRNA transcript comprising an iExon, the method comprising contacting a cell or cell lysate containing a pre-mRNA transcript with a compound described herein (e.g., a compound of Formula (I) or a form thereof), wherein the pre-mRNA transcript comprises two exons and an intron, wherein one exon is upstream of the intron and the other exon is downstream of the intron, wherein the intron comprises in 5' to 3' order: a first 5' splice site, a first branch point, a first 3' splice site, an endogenous intronic recognition element for splicing modifier (iREMS), a second branch point, and a second 3' splice site, wherein the iREMS comprises an RNA sequence GAgurngn (SEQ ID NO: 2), wherein r is adenine or guanine and n is any nucleotide, wherein the pre-mRNA transcript is a pre-mRNA transcript of a gene that is selected from ABCB8, ABCC3, ADAM17, ADCY3, AGPAT4, ANKRA2, ANXA11, APIP, APPL2, ARHGAP1, ARL15, ASAP1, ASPH, ATAD2B, ATXN1, BECN1, BHMT2, BICD1, BTN3A1, C11orf30, C11orf73, C12orf4, C14orf132, C8orf44, C8orf44-SGK3, C8orf88, CASC3, CASP7, CCDC122, CDH13, CECR7, CENPI, CEP112, CEP192, CHEK1, CMAHP, CNRIP1, COPS7B, CPSF4, CRISPLD2, CRYBG3, CSNK1E, CSNK1G1,

DCAF17, DCUN1D4, DDX42, DENND1A, DENND5A, DGKA, DHFR, DIAPH3, DNAJC13, DNMBP, DOCK1, DYRK1A, EIF2B3, ENAH, ENOX1, EP300, ERC1, ERLIN2, ERRFI1, EVC, FAF1, FAIM, FAM126A, FAM13A, FAM162A, FAM174A, FBN2, FER, FHOD3, FOCAD, GALC, GCFC2, GGACT, GLCE, GOLGA4, GOLGB1, GPSM2, GULP1, GXYLT1, HDX, HLTF, HMGA2, HNMT, HSD17B12, HSD17B4, HTT, IFT57, IVD, KDM6A, KIAA1524, KIAA1715, LETM2, LOC400927, LRRC42, LUC7L3, LYRM1, MB21D2, MCM10, MED13L, MEDAG, MEMO1, MFN2, MMS19, MRPL45, MRPS28, MTERF3, MYCBP2, MYLK, MYOF, NGF, NREP, NSUN4, NT5C2, OSMR, OXCT1, PAPD4, PCM1, PDE7A, PDS5B, PDXDC1, PIGN, PIK3CD, PIK3R1, PIKFYVE, PITPNB, PLEKHA1, PLSCR1, PMS1, POMT2, PPARG, PPIP5K2, PPP1R26, PRPF31, PRSS23, PSMA4, PXK, RAF1, RAPGEF1, RARS2, RBKS, RERE, RFWD2, RPA1, RPS10, SAMD4A, SAR1A, SCO1, SEC24A, SENP6, SERGEF, SGK3, SLC12A2, SLC25A17, SLC44A2, SMYD3, SNAP23, SNHG16, SNX7, SOS2, SPATA5, SPIDR, SPRYD7, SRGAP1, SRRM1, STAT1, STXBP6, SUPT20H, TAF2, TASP1, TBC1D15, TCF12, TCF4, TIAM1, TJP2, TMC3, TMEM214, TNRC6A, TNS3, TOE1, TRAF3, TSPAN2, TTC7B, TYW5, UBAP2L, URGCP, VAV2, WDR27, WDR37, WDR91, WNK1, XRN2, ZCCHC8, ZFP82, ZNF138, ZNF232 or ZNF37BP.

[00889] In another aspect, provided herein is a method modulating the amount of a mature mRNA transcript produced by a pre-mRNA transcript, wherein the pre-mRNA transcript comprises two exons and an intron, wherein one exon is upstream of the intron and the other exon is downstream of the intron, wherein the intron comprises a RNA nucleotide sequence comprising in 5' to 3' order: an endogenous or non-endogenous intronic recognition element for splicing modifier (iREMS), a first branch point, and a first 3' splice site, wherein the iREMS comprises an RNA sequence GAgurngn (SEQ ID NO: 2), wherein r is adenine or guanine and n is any nucleotide. In one embodiment, provided herein is a method for modulating the amount of a mature mRNA transcript produced by a pre-mRNA transcript, the method comprising contacting the pre-mRNA transcript with a compound described herein (e.g., a compound of Formula (I) or a form thereof), wherein the pre-mRNA transcript comprises two exons and an intron, wherein one exon is upstream of the intron and the other exon is downstream of the intron, wherein the intron comprises a RNA nucleotide sequence comprising in 5' to 3' order: an endogenous or non-endogenous intronic recognition element for splicing modifier (iREMS), a first branch point, and a first 3' splice site, wherein the iREMS comprises an RNA sequence

GAgurngn (SEQ ID NO: 2), wherein r is adenine or guanine and n is any nucleotide. In another embodiment, provided herein is a method for modulating the amount of a mature mRNA transcript produced by a pre-mRNA transcript, the method comprising contacting a cell or cell lysate containing the pre-mRNA transcript with a compound described herein (e.g., a compound of Formula (I) or a form thereof), wherein the pre-mRNA transcript comprises two exons and an intron, wherein one exon is upstream of the intron and the other exon is downstream of the intron, wherein the intron comprises a RNA nucleotide sequence comprising in 5' to 3' order: an endogenous or non-endogenous intronic recognition element for splicing modifier (iREMS), a first branch point, and a first 3' splice site, wherein the iREMS comprises an RNA sequence GAgurngn (SEQ ID NO: 2), wherein r is adenine or guanine and n is any nucleotide. In some embodiments, the intron further comprises a first 5' splice site, a second branch point, and a second 3' splice site upstream of the iREMS. In some embodiments, the pre-mRNA transcript is encoded by a gene disclosed herein (e.g., in a table herein).

[00890] In a particular embodiment, provided herein is a method for modulating the amount of a mature mRNA transcript produced by a pre-mRNA transcript, the method comprising contacting the pre-mRNA transcript with a compound described herein (e.g., a compound of Formula (I) or a form thereof), wherein the pre-mRNA transcript comprises two exons and an intron, wherein one exon is upstream of the intron and the other exon is downstream of the intron, wherein the intron comprises a RNA nucleotide sequence comprising in 5' to 3' order: an endogenous intronic recognition element for splicing modifier (iREMS), a first branch point, and a first 3' splice site, wherein the iREMS comprises an RNA sequence GAgurngn (SEQ ID NO: 2), wherein r is adenine or guanine and n is any nucleotide, and wherein the pre-mRNA transcript is a pre-mRNA transcript of a gene that is selected from ABCA10, ABCB8, ABCC3, ACTA2, ADAL, ADAMTS1, ADCY3, ADD1, ADGRG6, ADH6, ADHFE1, AFF3, AGPAT4, AKAP3, ANK1, ANK3, ANKRA2, ANKRD33B, ANKRD36, AP4B1-AS1, APIP, ARHGAP1, ARHGAP12, ARHGEF16, ARID5B, ARL15, ARL9, ARMCX6, ASIC1, ATG5, ATP2A3, ATXN1, B3GALT2, B3GNT6, BCL2L15, BCYRN1, BECN1, BHMT2, BIN3-IT1, BIRC3, BIRC6, BTG2, BTN3A1, C10orf54, C11orf70, C11orf94, C12orf4, C12orf56, C14orf132, C19orf47, C1orf86, C3, C7orf31, C8orf34, C8orf44, C8orf44-SGK3, C8orf88, CA13, CA3, CACNA2D2, CACNB1, CADM1, CAND2, CASP7, CCDC122, CCDC79, CCER2, CCNF, CECR7, CELSR1, CEMIP, CENPI, CEP112, CEP170, CEP192, CFH, CHEK1, CIITA,

CLDN23, CLTA, CMAHP, CNGA4, CNRIP1, CNTD1, COL11A1, COL14A1, COL15A1, COL5A1, COL5A3, COL6A6, COL8A1, COLEC12, COMP, CPA4, CPQ, CPSF4, CRISPLD2, CRLF1, CRYBG3, CRYL1, CSNK1E, CSNK1G1, CYB5R2, CYGB, CYP1B1, DAGLB, DCAF17, DCLK1, DCN, DDIT4L, DDX50, DEGS1, DEPTOR, DFNB59, DIRAS3, DLG5, DLGAP4, DNAH8, DNAJC13, DNAJC27, DNMBP, DOCK11, DYNC1I1, DYRK1A, DZIP1L, EFEMP1, EGR3, ELN, ELP4, EMX2OS, ENAH, ENPP1, EP300, ERCC1, ERCC8, ERGIC3, ERLIN2, ERRFI1, ESM1, EVC, EVC2, F2R, FAIM, FAM126A, FAM13A, FAM160A1, FAM162A, FAM174A, FAM20A, FAM46B, FAM65B, FAP, FARP1, FBLN2, FBN2, FBXL6, FCHO1, FGFR2, FGL2, FLT1, FRAS1, FSCN2, GAL3ST4, GALNT15, GATA6, GBGT1, GCNT1, GDF6, GGACT, GLCE, GNAQ, GPR183, GPR50, GPRC5A, GPRC5B, GRTP1, GUCA1B, GULP1, GXYLT1, HAPLN1, HAPLN2, HAS3, HAVCR2, HDAC5, HDX, HECTD2-AS1, HEPH, HEY1, HMGA2, HMGN3-AS1, HNMT, HOOK3, HPS1, HSPA1L, HTATIP2, IFT57, IGDCC4, IGF2R, IGFBP3, IL16, INA, INPP5K, INTU, IQCG, ITGA11, ITGA8, ITGB8, ITIH1, ITPKA, IVD, KAT6B, KCNS1, KCNS2, KDM6A, KDSR, KIAA1456, KIAA1462, KIAA1755, KIT, KLF17, KLRG1, KMT2D, KRT7, KRTAP1-1, KRTAP1-5, L3MBTL2, LAMB2P1, LETM2, LGI2, LGR4, LHX9, LINC00472, LINC00570, LINC00578, LINC00607, LINC00678, LINC00702, LINC00886, LINC00961, LINC01011, LINC01118, LINC01204, LMOD1, LOC400927, LRBA, LRP4, LRRC32, LRRC39, LRRC42, LSAMP, LUM, LYPD1, LYRM1, MAFB, MAMDC2, MAN2A1, MAN2C1, MAPK13, MASP1, MB, MB21D2, MC4R, MCM10, MED13L, MEGF6, MFN2, MIAT, MIR612, MLLT10, MMP10, MMP24, MN1, MOXD1, MRPL45, MRPL55, MRPS28, MRVI1, MSH4, MTERF3, MXRA5, MYCBP2, NA, NAALADL2, NAE1, NAGS, NDNF, NGF, NGFR, NHLH1, NLN, NOTCH3, NOTUM, NOVA2, NOX4, NRROS, OCLN, OLR1, OSBPL10, OXCT1, OXCT2, PAIP2B, PBLD, PDE1C, PDE5A, PDGFD, PDGFRB, PDS5B, PEAR1, PHACTR3, PIGN, PIK3CD, PIK3R1, PIKFYVE, PIM2, PITPNM3, PLEK2, PLEKHA1, PLEKHA6, PLEKHH2, PLSCR1, PNISR, PODN, POLN, POLR1A, POMT2, PPARG, PPIP5K2, PPM1E, PPP1R26, PPP3CA, PRKCA, PRKG1, PRPF31, PRPH2, PRRG4, PRUNE2, PSMD6-AS2, PTGIS, PTX3, PXK, RAB30, RAB38, RAB44, RAD9B, RAF1, RAPGEF1, RARS, RARS2, RBBP8, RBKS, RDX, RERE, RFX3-AS1, RGCC, ROR1, ROR2, RPA1, RPS10, RPS6KB2, SAMD4A, SCARNA9, SEC24A, SENP6, SERGEF, SGK3, SH3YL1, SHROOM3, SIGLEC10, SKA2, SLC12A2, SLC24A3, SLC35F3, SLC39A10, SLC44A2, SLC46A2, SLC4A11, SLC6A15, SLC7A11,

SLC9A3, SLIT3, SMG1P3, SMTN, SNED1, SNX7, SORBS2, SORCS2, SOX7, SPATA18, SPATA5, SPDYA, SPEF2, SPIDR, SPRYD7, SRGAP1, SRRM1, STAC2, STAT4, STK32B, STRN4, STS, STXBP6, SULF1, SVEP1, SYNGR2, SYNPO, SYNPO2, SYNPO2L, TAGLN3, TANGO6, TASP1, TCF12, TCF4, TGFA, TGFB2, TGFB3, TGM2, THBS2, TIAM1, TMC3, TMEM102, TMEM119, TMEM134, TMEM189-UBE2V1, TMEM214, TMEM256-PLSCR3, TMEM50B, TNFAIP8L3, TNFRSF14, TNRC18P1, TNRC6A, TNXB, TP53AIP1, TPRG1, TRIM66, TRPC4, TSHZ2, TSPAN11, TSPAN18, TSPAN7, TSSK3, TTC7B, TUBE1, TXNIP, TYW5, URGCP, USP27X, UVRAG, VAV2, VIM-AS1, VPS41, VSTM2L, VWF, WDR27, WDR91, WISP1, WNK1, WNT10B, YDJC, ZBTB26, ZCCHC5, ZCCHC8, ZFP82, ZMIZ1-AS1, ZNF138, ZNF212, ZNF232, ZNF350, ZNF431, ZNF660, ZNF680, ZNF79, or ZNF837. In a particular embodiment, provided herein is a method for modulating the amount of a mature mRNA transcript produced by a pre-mRNA transcript, the method comprising contacting a cell or cell lysate containing the pre-mRNA transcript with a compound described herein (e.g., a compound of Formula (I) or a form thereof), wherein the pre-mRNA transcript comprises two exons and an intron, wherein one exon is upstream of the intron and the other exon is downstream of the intron, wherein the intron comprises a RNA nucleotide sequence comprising in 5' to 3' order: an endogenous intronic recognition element for splicing modifier (iREMS), a first branch point, and a first 3' splice site, wherein the iREMS comprises an RNA sequence GAgurngn (SEQ ID NO: 2), wherein r is adenine or guanine and n is any nucleotide, and wherein the pre-mRNA transcript is a pre-mRNA transcript of a gene that is selected from ABCA10, ABCB8, ABCC3, ACTA2, ADAL, ADAMTS1, ADCY3, ADD1, ADGRG6, ADH6, ADHFE1, AFF3, AGPAT4, AKAP3, ANK1, ANK3, ANKRA2, ANKRD33B, ANKRD36, AP4B1-AS1, APIP, ARHGAP1, ARHGAP12, ARHGEF16, ARID5B, ARL15, ARL9, ARMCX6, ASIC1, ATG5, ATP2A3, ATXN1, B3GALT2, B3GNT6, BCL2L15, BCYRN1, BECN1, BHMT2, BIN3-IT1, BIRC3, BIRC6, BTG2, BTN3A1, C10orf54, C11orf70, C11orf94, C12orf4, C12orf56, C14orf132, C19orf47, C1orf86, C3, C7orf31, C8orf34, C8orf44, C8orf44-SGK3, C8orf88, CA13, CA3, CACNA2D2, CACNB1, CADM1, CAND2, CASP7, CCDC122, CCDC79, CCER2, CCNF, CECR7, CELSR1, CEMIP, CENPI, CEP112, CEP170, CEP192, CFH, CHEK1, CIITA, CLDN23, CLTA, CMAHP, CNGA4, CNRIP1, CNTD1, COL11A1, COL14A1, COL15A1, COL5A1, COL5A3, COL6A6, COL8A1, COLEC12, COMP, CPA4, CPQ, CPSF4, CRISPLD2, CRLF1, CRYBG3, CRYL1, CSNK1E, CSNK1G1, CYB5R2, CYGB,

CYP1B1, DAGLB, DCAF17, DCLK1, DCN, DDIT4L, DDX50, DEGS1, DEPTOR, DFNB59, DIRAS3, DLG5, DLGAP4, DNAH8, DNAJC13, DNAJC27, DNMBP, DOCK11, DYNC1I1, DYRK1A, DZIP1L, EFEMP1, EGR3, ELN, ELP4, EMX2OS, ENAH, ENPP1, EP300, ERCC1, ERCC8, ERGIC3, ERLIN2, ERRFI1, ESM1, EVC, EVC2, F2R, FAIM, FAM126A, FAM13A, FAM160A1, FAM162A, FAM174A, FAM20A, FAM46B, FAM65B, FAP, FARP1, FBLN2, FBN2, FBXL6, FCHO1, FGFR2, FGL2, FLT1, FRAS1, FSCN2, GAL3ST4, GALNT15, GATA6, GBGT1, GCNT1, GDF6, GGACT, GLCE, GNAQ, GPR183, GPR50, GPRC5A, GPRC5B, GRTP1, GUCA1B, GULP1, GXYLT1, HAPLN1, HAPLN2, HAS3, HAVCR2, HDAC5, HDX, HECTD2-AS1, HEPH, HEY1, HMGA2, HMGN3-AS1, HNMT, HOOK3, HPS1, HSPA1L, HTATIP2, IFT57, IGDCC4, IGF2R, IGFBP3, IL16, INA, INPP5K, INTU, IQCG, ITGA11, ITGA8, ITGB8, ITIH1, ITPKA, IVD, KAT6B, KCNS1, KCNS2, KDM6A, KDSR, KIAA1456, KIAA1462, KIAA1755, KIT, KLF17, KLRG1, KMT2D, KRT7, KRTAP1-1, KRTAP1-5, L3MBTL2, LAMB2P1, LETM2, LGI2, LGR4, LHX9, LINC00472, LINC00570, LINC00578, LINC00607, LINC00678, LINC00702, LINC00886, LINC00961, LINC01011, LINC01118, LINC01204, LMOD1, LOC400927, LRBA, LRP4, LRRC32, LRRC39, LRRC42, LSAMP, LUM, LYPD1, LYRM1, MAFB, MAMDC2, MAN2A1, MAN2C1, MAPK13, MASP1, MB, MB21D2, MC4R, MCM10, MED13L, MEGF6, MFN2, MIAT, MIR612, MLLT10, MMP10, MMP24, MN1, MOXD1, MRPL45, MRPL55, MRPS28, MRVI1, MSH4, MTERF3, MXRA5, MYCBP2, NA, NAALADL2, NAE1, NAGS, NDNF, NGF, NGFR, NHLH1, NLN, NOTCH3, NOTUM, NOVA2, NOX4, NRROS, OCLN, OLR1, OSBPL10, OXCT1, OXCT2, PAIP2B, PBLD, PDE1C, PDE5A, PDGFD, PDGFRB, PDS5B, PEAR1, PHACTR3, PIGN, PIK3CD, PIK3R1, PIKFYVE, PIM2, PITPNM3, PLEK2, PLEKHA1, PLEKHA6, PLEKHH2, PLSCR1, PNISR, PODN, POLN, POLR1A, POMT2, PPARG, PPIP5K2, PPM1E, PPP1R26, PPP3CA, PRKCA, PRKG1, PRPF31, PRPH2, PRRG4, PRUNE2, PSMD6-AS2, PTGIS, PTX3, PXK, RAB30, RAB38, RAB44, RAD9B, RAF1, RAPGEF1, RARS, RARS2, RBBP8, RBKS, RDX, RERE, RFX3-AS1, RGCC, ROR1, ROR2, RPA1, RPS10, RPS6KB2, SAMD4A, SCARNA9, SEC24A, SENP6, SERGEF, SGK3, SH3YL1, SHROOM3, SIGLEC10, SKA2, SLC12A2, SLC24A3, SLC35F3, SLC39A10, SLC44A2, SLC46A2, SLC4A11, SLC6A15, SLC7A11, SLC9A3, SLIT3, SMG1P3, SMTN, SNED1, SNX7, SORBS2, SORCS2, SOX7, SPATA18, SPATA5, SPDYA, SPEF2, SPIDR, SPRYD7, SRGAP1, SRRM1, STAC2, STAT4, STK32B, STRN4, STS, STXBP6, SULF1, SVEP1,

SYNGR2, SYNPO, SYNPO2, SYNPO2L, TAGLN3, TANGO6, TASP1, TCF12, TCF4, TGFA, TGFB2, TGFB3, TGM2, THBS2, TIAM1, TMC3, TMEM102, TMEM119, TMEM134, TMEM189-UBE2V1, TMEM214, TMEM256-PLSCR3, TMEM50B, TNFAIP8L3, TNFRSF14, TNRC18P1, TNRC6A, TNXB, TP53AIP1, TPRG1, TRIM66, TRPC4, TSHZ2, TSPAN11, TSPAN18, TSPAN7, TSSK3, TTC7B, TUBE1, TXNIP, TYW5, URGCP, USP27X, UVRAG, VAV2, VIM-AS1, VPS41, VSTM2L, VWF, WDR27, WDR91, WISP1, WNK1, WNT10B, YDJC, ZBTB26, ZCCHC5, ZCCHC8, ZFP82, ZMIZ1-AS1, ZNF138, ZNF212, ZNF232, ZNF350, ZNF431, ZNF660, ZNF680, ZNF79, or ZNF837. In some embodiments, the intron further comprises a first 5' splice site, a second branch point, and a second 3' splice site upstream of the iREMS.

[00891] In certain embodiments, the cell(s) contacted or cultured with a compound of Formula (I) or a form thereof is primary cell(s) or cell(s) from a cell line. In some embodiments, the cell(s) contacted or cultured with a compound of Formula (I) or a form thereof is a fibroblast(s), an immune cell(s), or a muscle cell(s). In some enbodiments, the cell(s) contacted or cultured with a compound of Formula (I) or a form thereof is a cancer cell. Non-limiting examples of cell lines include 3T3, 4T1, 721, 9L, A2780, A172, A20, A253, A431, A-549, ALC, B16, B35, BCP-1, BEAS-2B, bEnd.3, BHK, BR 293, BT2O, BT483, BxPC3, C2C12, C3H-10T1/2, C6/36, C6, Cal-27, CHO, COR-L23, COS, COV-434, CML T1, CMT, CRL7O3O, CT26, D17, DH82, DU145, DuCaP, EL4, EM2, EM3, EMT6, FM3, H1299, H69, HB54, HB55, HCA2, HDF, HEK-293, HeLa, Hepa1c1c7, HL-60, HMEC, Hs578T, HsS78Bst, HT-29, HTB2, HUVEC, Jurkat, J558L, JY, K562, Ku812, KCL22, KG1, KYO1, LNCap, Ma-Mel, MC-38, MCF-7, MCF-10A, MDA-MB-231, MDA-MB-468, MDA-MB-435, MDCK, MG63, MOR/0.2R, MONO-MAC 6, MRC5, MTD-1A, NCI-H69, NIH-3T3, NALM-1, NS0, NW-145, OPCN, OPCT, PNT-1A, PNT-2, Raji, RBL, RenCa, RIN-5F, RMA, Saos-2, Sf21, Sf9, SH-SY5Y, SiHa, SKBR3, SKOV-3, T2, T-47D, T84, THP1, U373, U87, U937, VCaP, Vero, VERY, W138, WM39, WT-49, X63, YAC-1, and YAR cells. In one embodiment, the cells are from a patient. In another embodiment, the patient cells are GM03813 cells.

[00892] In certain embodiments described herein, the cell(s) is contacted or cultured with a compound of Formula (I) or a form thereof with a compound of Formula (I) or a form thereof for a period of 15 minutes, 30 minutes, 45 minutes, 1 hour, 2 hours, 3 hours, 4 hours, 5 hours, 6 hours, 8 hours, 12 hours, 18 hours, 24 hours, 48 hours, 72 hours or more. In other embodiments

described herein, the cell(s) is contacted or cultured with a compound of Formula (I) or a form thereof with a compound of Formula (I) or a form thereof for a period of 15 minutes to 1 hour, 1 to 2 hours, 2 to 4 hours, 6 to 12 hours, 12 to 18 hours, 12 to 24 hours, 28 to 24 hours, 24 to 48 hours, 48 to 72 hours.

[00893] In certain embodiments described herein, the cell(s) is contacted or cultured with a certain concentration of a compound of Formula (I) or a form thereof, wherein the certain concentration is 0.01 μM, 0.05 μM, 1 μM, 2 μM, 5 μM, 10 μM, 15 μM, 20 μM, 25 μM, 50 μM, 75 μM, 100 μM, or 150 μM. In other embodiments described herein, the cell(s) is contacted or cultured with a certain concentration of a compound of Formula (I) or a form thereof, wherein the certain concentration is 175 μM, 200 μM, 250 μM, 275 μM, 300 μM, 350 μM, 400 μM, 450 μM, 500 μM, 550 μM 600 μM, 650 μM, 700 μM, 750 μM, 800 μM, 850 μM, 900 μM, 950 μM or 1 mM. In some embodiments described herein, the cell(s) is contacted or cultured with a certain concentration of a compound of Formula (I) or a form thereof, wherein the certain concentration is 5 nM, 10 nM, 20 nM, 30 nM, 40 nM, 50 nM, 60 nM, 70 nM, 80 nM, 90 nM, 100 nM, 150 nM, 200 nM, 250 nM, 300 nM, 350 nM, 400 nM, 450 nM, 500 nM, 550 nM, 600 nM, 650 nM, 700 nM, 750 nM, 800 nM, 850 nM, 900 nM, or 950 nM. In certain embodiments described herein, the cell(s) is contacted or cultured with a certain concentration of a compound of Formula (I) or a form thereof, wherein the certain concentration is between 0.01 μM to 0.1 μM, 0.1 μM to 1 μM, 1 μM to 50 μM, 50 μM to 100 μM, 100 μM to 500 μM, 500 μM to 1 nM, 1 nM to 10 nM, 10 nM to 50 nM, 50 nM to 100 nM, 100 nM to 500 nM, 500 nM to 1000 nM. In certain embodiments described herein, the cell(s) is contacted or cultured with a certain concentration of a compound of Formula (I) or a form thereof that results in a substantial change in the amount of an RNA transcript (*e.g.*, an mRNA transcript), an alternatively spliced variant, or an isoform of a gene (e.g., a gene in Table 1, *infra*).

[00894] In another aspect, provided herein are methods for modulating the amount of one, two, three or more RNA transcripts of a gene, wherein the precursor RNA transcript transcribed from the gene comprises an intronic REMS, the methods comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. In a specific embodiment, the precursor RNA transcript further contains a branch point and a 3' splice site upstream from the intronic REMS.

[00895] In one embodiment, provided herein are methods for modulating the amount of one, two, three or more RNA transcripts of a gene, by way of nonlimiting example, disclosed in Table 1, *infra*, the methods comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. In a specific embodiment, the RNA transcript contains in 5' to 3' order: a branch point, a 3' splice site and an intronic REMS.

[00896] In another embodiment, provided herein are methods for modulating the amount of one, two, three or more RNA transcripts of a gene, disclosed in Tables 2-7, *infra*, wherein the precursor RNA transcript transcribed from the gene comprises an intronic REMS, the methods comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. In another embodiment, provided herein are methods for modulating the amount of one, two, three or more RNA transcripts of a gene in a subject, disclosed in International Patent Application No. PCT/US2014/071252 (International Publication No. WO 2015/105657), wherein the precursor RNA transcript transcribed from the gene comprises an intronic REMS, the methods comprising administering to the subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. In another embodiment, provided herein are methods for modulating the amount of one, two, three or more RNA transcripts of a gene in a subject, disclosed in International Patent Application No. PCT/US2016/034864 (International Publication No. WO 2016/196386), wherein the precursor RNA transcript transcribed from the gene comprises an intronic REMS, the methods comprising administering to the subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. In a specific embodiment, the precursor RNA transcript contains in 5' to 3' order: a branch point, a 3' splice site and an intronic REMS.

[00897] In another embodiment, provided herein are methods for modulating the amount of one, two, three or more RNA transcripts of a gene, disclosed in International Patent Application No. PCT/US2014/071252 (International Publication No. WO 2015/105657), wherein the

precursor RNA transcript transcribed from the gene comprises an intronic REMS, the methods comprising administering a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. In another embodiment, provided herein are methods for modulating the amount of one, two, three or more RNA transcripts of a gene, disclosed in International Patent Application No. PCT/US2016/034864 (International Publication No. WO 2016/196386), wherein the precursor RNA transcript transcribed from the gene comprises an intronic REMS, the methods comprising administering a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. In a specific embodiment, the precursor RNA transcript contains in 5' to 3' order: a branch point, a 3' splice site and an intronic REMS.

[00898] In a particular aspect, provided herein are methods for modulating the amount of one, two, three or more RNA transcripts of a gene in a subject, wherein the precursor RNA transcript transcribed from the gene comprises an intronic REMS (for example, an endogenous intronic REMS or a non-endogenous intronic REMS), the methods comprising administering to the subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. In a specific embodiment, the precursor RNA transcript contains in 5' to 3' order a branch point, a 3' splice site and an intronic REMS. In specific embodiments of the foregoing aspects, as listed in Table 1, the gene is ABCA1, ABCA10, ABCB7, ABCB8, ABCC1, ABCC3, ABHD10, ABL2, ABLIM3, ACACA, ACADVL, ACAT2, ACTA2, ADAL, ADAM12, ADAM15, ADAM17, ADAM33, ADAMTS1, ADCY3, ADD1, ADGRG6, ADH6, ADHFE1, AFF2, AFF3, AGK, AGPAT3, AGPAT4, AGPS, AHCYL2, AHDC1, AHRR, AJUBA, AK021888, AK310472, AKAP1, AKAP3, AKAP9, AKNA, ALCAM, ALDH4A1, AMPD2, ANK1, ANK2, ANK3, ANKFY1, ANKHD1-EIF4EBP3, ANKRA2, ANKRD17, ANKRD33B, ANKRD36, ANKS6, ANP32A, ANXA11, ANXA6, AP2B1, AP4B1-AS1, APAF1, APIP, APLP2, APP, APPL2, APTX, ARHGAP1, ARHGAP12, ARHGAP22, ARHGEF16, ARID1A, ARID2, ARID5B, ARL9, ARL15, ARMCX3, ARMCX6, ASAP1, ASIC1, ASL, ASNS, ASPH, ATAD2B, ATF7IP, ATG5, ATG9A, ATMIN, ATP2A3, ATP2C1, ATXN1, ATXN3, AURKA, AXIN1, B3GALT2, B3GNT6, B4GALT2, BACE1, BAG2,

BASP1, BC033281, BCAR3, BCL2L15, BCYRN1, BECN1, BEND6, BHMT2, BICD1, BIN1, BIN3-IT1, BIRC3, BIRC6, BNC1, BRD2, BRPF1, BSCL2, BTBD10, BTG2, BTN3A1, BZW1, C1orf86, C10orf54, C11orf30, C11orf70, C11orf73, C11orf94, C12orf4, C12orf56, C14orf132, C17orf76-AS1, C19orf47, C3, C4orf27, C5orf24, C6orf48, C7orf31, C8orf34, C8orf44, C8orf44-SGK3, C8orf88, C9orf69, CA13, CA3, CAB39, CACNA2D2, CACNB1, CADM1, CALU, CAMKK1, CAND2, CAPNS1, CASC3, CASP7, CASP8AP2, CAV1, CCAR1, CCDC77, CCDC79, CCDC88A, CCDC92, CCDC122, CCER2, CCNF, CCT6A, CD276, CD46, CDC25B, CDC40, CDC42BPA, CDCA7, CDH11, CDH13, CDK11B, CDK16, CDKAL1, CECR7, CELSR1, CEMIP, CENPI, CEP112, CEP170, CEP192, CEP68, CFH, CFLAR, CHD8, CHEK1, CIITA, CIZ1, CLDN23, CLIC1, CLK4, CLTA, CMAHP, CNGA4, CNOT1, CNRIP1, CNTD1, COG1, COL1A1, COL11A1, COL12A1, COL14A1, COL15A1, COL5A1, COL5A3, COL6A1, COL6A6, COL8A1, COLEC12, COMP, COPS7B, CPA4, CPEB2, CPQ, CPSF4, CREB5, CRISPLD2, CRLF1, CRLS1, CRTAP, CRYBG3, CRYL1, CSDE1, CSNK1A1, CSNK1E, CSNK1G1, CTDSP2, CTNND1, CUL2, CUL4A, CUX1, CYB5B, CYB5R2, CYBRD1, CYGB, CYP1B1, CYP51A1, DAB2, DACT1, DAGLB, DARS, DAXX, DCAF10, DCAF11, DCAF17, DCBLD2, DCLK1, DCN, DCUN1D4, DDAH1, DDAH2, DDHD2, DDIT4L, DDR1, DDX39B, DDX42, DDX50, DEGS1, DENND1A, DENND1B, DENND5A, DEPTOR, DFNB59, DGCR2, DGKA, DHCR24, DHCR7, DHFR, DHX9, DIAPH1, DIAPH3, DIRAS3, DIS3L, DKFZp434M1735, DKK3, DLC1, DLG5, DLGAP4, DNAH8, DNAJC13, DNAJC27, DNM2, DNMBP, DOCK1, DOCK11, DPP8, DSEL, DST, DSTN, DYNC1I1, DYRK1A, DZIP1L, EBF1, EEA1, EEF1A1, EFCAB14, EFEMP1, EGR1, EGR3, EHMT2, EIF2B3, EIF4G1, EIF4G2, EIF4G3, ELF2, ELN, ELP4, EMX2OS, ENAH, ENG, ENPP1, ENPP2, ENSA, EP300, EPN1, EPT1, ERC1, ERCC1, ERCC8, ERGIC3, ERLIN2, ERRFI1, ESM1, ETV5, EVC, EVC2, EXO1, EXTL2, EYA3, F2R, FADS1, FADS2, FAF1, FAIM, FAM111A, FAM126A, FAM13A, FAM160A1, FAM162A, FAM174A, FAM198B, FAM20A, FAM219A, FAM219B, FAM3C, FAM46B, FAM65A, FAM65B, FAP, FARP1, FBLN2, FBN2, FBXO9, FBXL6, FBXO10, FBXO18, FBXO31, FBXO34, FBXO9, FCHO1, FDFT1, FDPS, FER, FEZ1, FGD5-AS1, FGFR2, FGFRL1, FGL2, FHOD3, FLII, FLNB, FLT1, FN1, FNBP1, FOCAD, FOS, FOSB, FOSL1, FOXK1, FOXM1, FRAS1, FSCN2, FUS, FYN, GABPB1, GAL3ST4, GALC, GALNT1, GALNT15, GAS7, GATA6, GBA2, GBGT1, GCFC2, GCNT1, GDF6, GGACT, GGCT, GHDC, GIGYF2, GJC1, GLCE, GMIP, GNA13, GNAQ, GNAS,

GNL3L, GOLGA2, GOLGA4, GOLGB1, GORASP1, GPR1, GPR183, GPR50, GPR89A, GPRC5A, GPRC5B, GPSM2, GREM1, GRK6, GRTP1, GSE1, GTF2H2B, GUCA1B, GULP1, GXYLT1, HAPLN1, HAPLN2, HAS2, HAS3, HAT1, HAUS3, HAUS6, HAVCR2, HDAC5, HDAC7, HDX, HECTD2-AS1, HEG1, HEPH, HEY1, HLA-A, HLA-E, HLTF, HMGA1, HMGA2, HMGB1, HMGCR, HMGN3-AS1, HMGCS1, HOOK3, HMOX1, HNMT, HNRNPR, HNRNPUL1, HP1BP3, HPS1, HRH1, HSD17B12, HSD17B4, HSPA1L, HTATIP2, HTT, IARS, IDH1, IDI1, IFT57, IGDCC4, IGF2BP2, IGF2R, IGFBP3, IL16, IL6ST, INA, INHBA, INPP5K, INSIG1, INTU, IQCE, IQCG, ITGA11, ITGA8, ITGAV, ITGB5, ITGB8, ITIH1, ITM2C, ITPKA, ITSN1, IVD, KANSL3, KAT6B, KCNK2, KCNS1, KCNS2, KDM6A, KDSR, KIAA1033, KIAA1143, KIAA1199, KIAA1456, KIAA1462, KIAA1522, KIAA1524, KIAA1549, KIAA1715, KIAA1755, KIF14, KIF2A, KIF3A, KIT, KLC1, KLC2, KLF17, KLF6, KLHL7, KLRG1, KMT2D, KRT7, KRT18, KRT19, KRT34, KRTAP1-1, KRTAP1-5, KRTAP2-3, L3MBTL2, LAMA2, LAMB1, LAMB2P1, LARP4, LARP7, LATS2, LDLR, LEMD3, LETM2, LGALS8, LGI2, LGR4, LHX9, LIMS1, LINC00341, LINC00472, LINC00570, LINC00578, LINC00607, LINC00657, LINC00678, LINC00702, LINC00886, LINC00961, LINC01011, LINC01118, LINC01204, LMAN2L, LMO7, LMOD1, LOC400927, LONP1, LOX, LRBA, LRCH4, LRIG1, LRP4, LRP8, LRRC32, LRRC39, LRRC42, LRRC8A, LSAMP, LSS, LTBR, LUC7L2, LUM, LYPD1, LYRM1, LZTS2, MADD, MAFB, MAGED4, MAGED4B, MAMDC2, MAN1A2, MAN2A1, MAN2C1, MAP4K4, MAPK13, MASP1, MB, MB21D2, MBD1, MBOAT7, MC4R, MCM10, MDM2, MED1, MED13L, MEDAG, MEF2D, MEGF6, MEIS2, MEMO1, MEPCE, MFGE8, MFN2, MIAT, MICAL2, MINPP1, MIR612, MKL1, MKLN1, MKNK2, MLLT4, MLLT10, MLST8, MMAB, MMP10, MMP24, MMS19, MMS22L, MN1, MOXD1, MPPE1, MPZL1, MRPL3, MRPL45, MRPL55, MRPS28, MRVI1, MSANTD3, MSC, MSH2, MSH4, MSH6, MSL3, MSMO1, MSRB3, MTAP, MTERF3, MTERFD1, MTHFD1L, MTMR9, MTRR, MUM1, MVD, MVK, MXRA5, MYADM, MYCBP2, MYLK, MYO1D, MYO9B, MYOF, NA, NAA35, NAALADL2, NADK, NAE1, NAGS, NASP, NAV1, NAV2, NCOA1, NCOA3, NCOA4, NCSTN, NDNF, NELFA, NEO1, NEURL1B, NF2, NFE2L1, NFX1, NGF, NGFR, NHLH1, NID1, NID2, NIPA1, NKX3-1, NLN, NOL10, NOMO3, NOTCH3, NOTUM, NOVA2, NOX4, NPEPPS, NRD1, NREP, NRG1, NRROS, NSUN4, NT5C2, NT5E, NTNG1, NUDT4, NUP153, NUP35, NUP50, NUPL1, NUSAP1, OCLN, ODF2, OLR1, OS9, OSBPL6, OSBPL10, OSMR, OXCT1, OXCT2, P4HA1,

P4HB, PABPC1, PAIP2B, PAK4, PAPD4, PARD3, PARN, PARP14, PARP4, PARVB, PBLD, PCBP2, PCBP4, PCDHGB3, PCGF3, PCM1, PCMTD2, PCNXL2, PCSK9, PDE1C, PDE4A, PDE5A, PDE7A, PDGFD, PDGFRB, PDLIM7, PDS5B, PDXDC1, PEAR1, PEPD, PEX5, PFKP, PHACTR3, PHF19, PHF8, PHRF1, PHTF2, PI4K2A, PIEZO1, PIGN, PIGU, PIK3C2B, PIK3CD, PIK3R1, PIKFYVE, PIM2, PITPNA, PITPNB, PITPNM1, PITPNM3, PLAU, PLEC, PLEK2, PLEKHA1, PLEKHA6, PLEKHB2, PLEKHH2, PLSCR1, PLSCR3, PLXNB2, PLXNC1, PMS1, PNISR, PODN, POLE3, POLN, POLR1A, POLR3D, POMT2, POSTN, POU2F1, PPAPDC1A, PPARA, PPARG, PPHLN1, PPIP5K1, PPIP5K2, PPM1E, PPP1R12A, PPP1R26, PPP3CA, PPP6R1, PPP6R2, PRKACB, PRKCA, PRKDC, PRKG1, PRMT1, PRNP, PRPF31, PRPH2, PRRG4, PRSS23, PRUNE2, PSMA4, PSMC1, PSMD6, PSMD6-AS2, PTGIS, PTK2B, PTPN14, PTX3, PUF60, PUS7, PVR, PXK, PXN, QKI, RAB23, RAB2B, RAB30, RAB34, RAB38, RAB44, RAD1, RAD9B, RAD23B, RAF1, RALB, RAP1A, RAP1GDS1, RAPGEF1, RARG, RARS, RARS2, RASSF8, RBBP8, RBCK1, RBFOX2, RBKS, RBM10, RCC1, RDX, RERE, RFTN1, RFWD2, RFX3-AS1, RGCC, RGS10, RGS3, RIF1, RNF14, RNF19A, RNF38, RNFT1, ROR1, ROR2, RPA1, RPL10, RPS10, RPS6KB2, RPS6KC1, RRBP1, RWDD4, SAMD4A, SAMD9, SAMD9L, SAR1A, SART3, SCAF4, SCAF8, SCARNA9, SCD, SCLT1, SCO1, SDCBP, SEC14L1, SEC22A, SEC24A, SEC24B, SEC61A1, SENP6, SEPT9, SERGEF, SERPINE2, SF1, SGK3, SGOL2, SH3RF1, SH3YL1, SHROOM3, SIGLEC10, SKA2, SKIL, SLC12A2, SLC24A3, SLC25A17, SLC35F3, SLC39A3, SLC39A10, SLC4A4, SLC4A11, SLC41A1, SLC44A2, SLC46A2, SLC6A15, SLC7A6, SLC7A8, SLC7A11, SLC9A3, SLIT3, SMARCA4, SMARCC2, SMC4, SMC6, SMCHD1, SMG1, SMG1P3, SMN2, SMPD4, SMTN, SMYD3, SMYD5, SNAP23, SNED1, SNHG16, SNX7, SNX14, SOCS2, SON, SORBS2, SORCS2, SOS2, SOX7, SPATA18, SPATA20, SPATA5, SPATS2, SPDYA, SPEF2, SPG20, SPIDR, SPRED2, SPRYD7, SQLE, SQRDL, SQSTM1, SRCAP, SREBF1, SREK1, SRGAP1, SRRM1, SRSF3, STAC2, STARD4, STAT1, STAT3, STAT4, STAU1, STC2, STEAP2, STK32B, STRIP1, STRN3, STRN4, STS, STX16, STXBP6, SULF1, SUPT20H, SVEP1, SYNE1, SYNE2, SYNGR2, SYNPO, SYNPO2, SYNPO2L, SYT15, SYTL2, TACC1, TAF2, TAGLN3, TANC2, TANGO6, TARBP1, TARS, TASP1, TBC1D15, TBL2, TCF12, TCF4, TCF7L2, TENC1, TENM2, TEP1, TET3, TEX21P, TFCP2, TGFA, TGFB2, TGFB3, TGFBI, TGFBR1, TGFBRAP1, TGM2, THADA, THAP4, THBS2, THRB, TIAM1, TIMP2, TJP2, TLE3, TLK1, TMC3, TMEM102, TMEM119,

TMEM134, TMEM154, TMEM189-UBE2V1, TMEM214, TMEM256-PLSCR3, TMEM47, TMEM50B, TMEM63A, TNC, TNFAIP3, TNFAIP8L3, TNFRSF12A, TNFRSF14, TNIP1, TNKS1BP1, TNPO3, TNRC18P1, TNRC6A, TNS1, TNS3, TNXB, TOE1, TOMM40, TOMM5, TOPORS, TP53AIP1, TP53INP1, TPRG1, TRAF3, TRAK1, TRAPPC12, TRIB1, TRIM2, TRIM23, TRIM26, TRIM28, TRIM65, TRIM66, TRMT1L, TRPC4, TRPS1, TSC2, TSHZ1, TSHZ2, TSPAN11, TSPAN18, TSPAN2, TSPAN7, TSSK3, TTC7A, TTC7B, TUBB2C, TUBB3, TUBE1, TXNIP, TXNL1, TXNRD1, TYW5, U2SURP, UBAP2L, UBE2G2, UBE2V1, UBQLN4, UCHL5, UHMK1, UHRF1BP1L, UNC5B, URGCP, USP19, USP7, USP27X, UVRAG, VANGL1, VARS2, VAV2, VCL, VIM-AS1, VIPAS39, VPS13A, VPS29, VPS41, VPS51, VSTM2L, VWA8, VWF, WDR19, WDR27, WDR37, WDR48, WDR91, WIPF1, WISP1, WNK1, WNT5B, WNT10B, WSB1, WWTR1, XIAP, XRN2, YAP1, YDJC, YES1, YPEL5, YTHDF3, Z24749, ZAK, ZBTB10, ZBTB24, ZBTB26, ZBTB7A, ZC3H12C, ZC3H14, ZC3H18, ZCCHC5, ZCCHC8, ZCCHC11, ZEB1, ZEB2, ZFAND1, ZFAND5, ZFP82, ZHX3, ZMIZ1, ZMIZ1-AS1, ZMYM2, ZNF12, ZNF138, ZNF148, ZNF212, ZNF219, ZNF227, ZNF232, ZNF24, ZNF268, ZNF28, ZNF281, ZNF335, ZNF350, ZNF37A, ZNF37BP, ZNF395, ZNF431, ZNF583, ZNF621, ZNF652, ZNF655, ZNF660, ZNF674, ZNF680, ZNF74, ZNF764, ZNF778, ZNF780A, ZNF79, ZNF827, ZNF837, ZNF839 or ZNF91.

[00899] In a specific embodiment of the foregoing aspect, as listed in Table 2, the gene is: ABCA1, ABCB7, ABCC1, ABHD10, ABL2, ABLIM3, ACACA, ACADVL, ACAT2, ADAM12, ADAM15, ADAM17, ADAM33, AFF2, AGK, AGPAT3, AGPS, AHCYL2, AHDC1, AHRR, AJUBA, AK021888, AK310472, AKAP1, AKAP9, AKNA, ALCAM, ALDH4A1, AMPD2, ANK2, ANKFY1, ANKHD1-EIF4EBP3, ANKRD17, ANKS6, ANP32A, ANXA11, ANXA6, AP2B1, APAF1, APLP2, APP, APPL2, APTX, ARHGAP22, ARID1A, ARID2, ARMCX3, ASAP1, ASL, ASNS, ASPH, ATAD2B, ATF7IP, ATG9A, ATMIN, ATP2C1, ATXN3, AURKA, AXIN1, B4GALT2, BACE1, BAG2, BASP1, BC033281, BCAR3, BEND6, BICD1, BIN1, BNC1, BRD2, BRPF1, BSCL2, BTBD10, BZW1, C11orf30, C11orf73, C17orf76-AS1, C4orf27, C5orf24, C6orf48, C9orf69, CAB39, CALU, CAMKK1, CAPNS1, CASC3, CASP8AP2, CAV1, CCAR1, CCDC77, CCDC88A, CCDC92, CCT6A, CD276, CD46, CDC25B, CDC40, CDC42BPA, CDCA7, CDH11, CDH13, CDK11B, CDK16, CDKAL1, CEP68, CFLAR, CHD8, CIZ1, CLIC1, CLK4, CNOT1, COG1, COL12A1, COL1A1, COL6A1, COPS7B, CPEB2, CREB5, CRLS1, CRTAP, CSDE1, CSNK1A1, CTDSP2, CTNND1, CUL2,

CUL4A, CUX1, CYB5B, CYBRD1, CYP51A1, DAB2, DACT1, DARS, DAXX, DCAF10, DCAF11, DCBLD2, DCUN1D4, DDAH1, DDAH2, DDHD2, DDR1, DDX39B, DDX42, DENND1A, DENND1B, DENND5A, DGCR2, DGKA, DHCR24, DHCR7, DHFR, DHX9, DIAPH1, DIAPH3, DIS3L, DKFZp434M1735, DKK3, DLC1, DNM2, DOCK1, DPP8, DSEL, DST, DSTN, EBF1, EEA1, EEF1A1, EFCAB14, EGR1, EHMT2, EIF2B3, EIF4G1, EIF4G2, EIF4G3, ELF2, ENG, ENPP2, ENSA, EPN1, EPT1, ERC1, ERGIC3, ETV5, EXO1, EXTL2, EYA3, FADS1, FADS2, FAF1, FAM111A, FAM198B, FAM219A, FAM219B, FAM3C, FAM65A, FBXO10, FBXO18, FBXO31, FBXO34, FBXO9, FDFT1, FDPS, FER, FEZ1, FGD5-AS1, FGFRL1, FHOD3, FLII, FLNB, FN1, FNBP1, FOCAD, FOS, FOSB, FOSL1, FOXK1, FOXM1, FUS, FYN, GABPB1, GALC, GALNT1, GAS7, GBA2, GCFC2, GGCT, GHDC, GIGYF2, GJC1, GMIP, GNA13, GNAS, GNL3L, GOLGA2, GOLGA4, GOLGB1, GORASP1, GPR1, GPR89A, GPSM2, GREM1, GRK6, GSE1, GTF2H2B, HAS2, HAT1, HAUS3, HAUS6, HDAC7, HEG1, HLA-A, HLA-E, HLTF, HMGA1, HMGB1, HMGCR, HMGCS1, HMOX1, HNRNPR, HNRNPUL1, HP1BP3, HRH1, HSD17B12, HSD17B4, HTT, IARS, IDH1, IDI1, IGF2BP2, IL6ST, INHBA, INSIG1, IQCE, ITGAV, ITGB5, ITM2C, ITSN1, KANSL3, KCNK2, KIAA1033, KIAA1143, KIAA1199, KIAA1522, KIAA1524, KIAA1549, KIAA1715, KIF14, KIF2A, KIF3A, KLC1, KLC2, KLF6, KLHL7, KRT18, KRT19, KRT34, KRTAP2-3, LAMA2, LAMB1, LARP4, LARP7, LATS2, LDLR, LEMD3, LGALS8, LIMS1, LINC00341, LINC00657, LMAN2L, LMO7, LONP1, LOX, LRCH4, LRIG1, LRP8, LRRC8A, LSS, LTBR, LUC7L2, LZTS2, MADD, MAGED4, MAGED4B, MAN1A2, MAP4K4, MBD1, MBOAT7, MDM2, MED1, MEDAG, MEF2D, MEIS2, MEMO1, MEPCE, MFGE8, MICAL2, MINPP1, MKL1, MKLN1, MKNK2, MLLT4, MLST8, MMAB, MMS19, MMS22L, MPPE1, MPZL1, MRPL3, MSANTD3, MSC, MSH2, MSH6, MSL3, MSMO1, MSRB3, MTAP, MTERFD1, MTHFD1L, MTMR9, MTRR, MUM1, MVD, MVK, MYADM, MYLK, MYO1D, MYO9B, MYOF, NAA35, NADK, NASP, NAV1, NAV2, NCOA1, NCOA3, NCOA4, NCSTN, NELFA, NEO1, NEURL1B, NF2, NFE2L1, NFX1, NID1, NID2, NIPA1, NKX3-1, NOL10, NOMO3, NPEPPS, NRD1, NREP, NRG1, NSUN4, NT5C2, NT5E, NTNG1, NUDT4, NUP153, NUP35, NUP50, NUPL1, NUSAP1, ODF2, OS9, OSBPL6, OSMR, P4HA1, P4HB, PABPC1, PAK4, PAPD4, PARD3, PARN, PARP14, PARP4, PARVB, PCBP2, PCBP4, PCDHGB3, PCGF3, PCM1, PCMTD2, PCNXL2, PCSK9, PDE4A, PDE7A, PDLIM7, PDXDC1, PEPD, PEX5, PFKP, PHF19, PHF8, PHRF1, PHTF2, PI4K2A, PIEZO1, PIGU, PIK3C2B, PITPNA,

PITPNB, PITPNM1, PLAU, PLEC, PLEKHB2, PLSCR3, PLXNB2, PLXNC1, PMS1, POLE3, POLR3D, POSTN, POU2F1, PPAPDC1A, PPARA, PPHLN1, PPIP5K1, PPP1R12A, PPP6R1, PPP6R2, PRKACB, PRKDC, PRMT1, PRNP, PRSS23, PSMA4, PSMC1, PSMD6, PTK2B, PTPN14, PUF60, PUS7, PVR, PXN, QKI, RAB23, RAB2B, RAB34, RAD1, RAD23B, RALB, RAP1A, RAP1GDS1, RARG, RASSF8, RBCK1, RBFOX2, RBM10, RCC1, RFTN1, RFWD2, RGS10, RGS3, RIF1, RNF14, RNF19A, RNF38, RNFT1, RPL10, RPS6KC1, RRBP1, RWDD4, SAMD9, SAMD9L, SAR1A, SART3, SCAF4, SCAF8, SCD, SCLT1, SCO1, SDCBP, SEC14L1, SEC22A, SEC24B, SEC61A1, SEPT9, SERPINE2, SF1, SGOL2, SH3RF1, SKIL, SLC25A17, SLC39A3, SLC41A1, SLC4A4, SLC7A6, SLC7A8, SMARCA4, SMARCC2, SMC4, SMC6, SMCHD1, SMG1, SMN2, SMPD4, SMYD3, SMYD5, SNAP23, SNHG16, SNX14, SOCS2, SON, SOS2, SPATA20, SPATS2, SPG20, SPRED2, SQLE, SQRDL, SQSTM1, SRCAP, SREBF1, SREK1, SRSF3, STARD4, STAT1, STAT3, STAU1, STC2, STEAP2, STRIP1, STRN3, STX16, SUPT20H, SYNE1, SYNE2, SYT15, SYTL2, TACC1, TAF2, TANC2, TARBP1, TARS, TBC1D15, TBL2, TCF7L2, TENC1, TENM2, TEP1, TET3, TFCP2, TGFBI, TGFBR1, TGFBRAP1, THADA, THAP4, THRB, TIMP2, TJP2, TLE3, TLK1, TMEM154, TMEM47, TMEM63A, TNC, TNFAIP3, TNFRSF12A, TNIP1, TNKS1BP1, TNPO3, TNS1, TNS3, TOE1, TOMM40, TOMM5, TOPORS, TP53INP1, TRAF3, TRAK1, TRAPPC12, TRIB1, TRIM2, TRIM23, TRIM26, TRIM28, TRIM65, TRMT1L, TRPS1, TSC2, TSHZ1, TSPAN2, TTC7A, TUBB2C, TUBB3, TXNL1, TXNRD1, U2SURP, UBAP2L, UBE2G2, UBE2V1, UBQLN4, UCHL5, UHMK1, UHRF1BP1L, UNC5B, USP19, USP7, VANGL1, VARS2, VCL, VIPAS39, VPS13A, VPS29, VPS51, VWA8, WDR19, WDR37, WDR48, WIPF1, WNT5B, WSB1, WWTR1, XIAP, XRN2, YAP1, YES1, YPEL5, YTHDF3, Z24749, ZAK, ZBTB10, ZBTB24, ZBTB7A, ZC3H12C, ZC3H14, ZC3H18, ZCCHC11, ZEB1, ZEB2, ZFAND1, ZFAND5, ZHX3, ZMIZ1, ZMYM2, ZNF12, ZNF148, ZNF219, ZNF227, ZNF24, ZNF268, ZNF28, ZNF281, ZNF335, ZNF37A, ZNF37BP, ZNF395, ZNF583, ZNF621, ZNF652, ZNF655, ZNF674, ZNF74, ZNF764, ZNF778, ZNF780A, ZNF827, ZNF839 or ZNF91.

[00900] In a specific embodiment of the foregoing aspect, the gene is: ABCB8, ANKRD36, APLP2, ARHGAP12, ARMCX6, ASAP1, ATG5, AXIN1, BIRC6, C1orf86, CDC42BPA, CLTA, DYRK1A, ERGIC3, FBXL6, FOXM1, GGCT, KAT6B, KDM6A, KIF3A, KMT2D, LARP7, LYRM1, MADD, MAN2C1, MRPL55, MYCBP2, MYO9B, PNISR, RAP1A,

RAPGEF1, SENP6, SH3YL1, SLC25A17, SMN2, SREK1, STRN3, TAF2, TMEM134, VPS29, ZFAND1 or ZNF431.

[00901] In another specific embodiment of the foregoing aspect, the gene is: ABCB8, ANKRD36, ARHGAP12, ARMCX6, ATG5, BIRC6, C1orf86, CLTA, DYRK1A, FBXL6, KAT6B, KDM6A, KMT2D, LYRM1, MAN2C1, MRPL55, MYCBP2, PNISR, RAPGEF1, SENP6, SH3YL1, TMEM134 or ZNF431.

[00902] In another specific embodiment of the foregoing aspect, the gene is: ABCA10, ABCC1, ACTA2, ADAL, ADAM12, ADAMTS1, ADAMTS5, ADD1, ADGRG6, ADH6, ADHFE1, AFF2, AFF3, AGK, AGPS, AKAP3, ANK1, ANK2, ANK3, ANKRD33B, ANXA11, ANXA6, AP4B1-AS1, ARHGEF16, ARID5B, ARL9, ARMCX3, ASAP1, ASIC1, ATP2A3, B3GALT2, B3GNT6, BCL2L15, BCYRN1, BIN3-IT1, BIRC3, BTG2, C10orf54, C11orf70, C11orf73, C11orf94, C12orf56, C19orf47, C3, C4orf27, C7orf31, C8orf34, CA13, CA3, CACNA2D2, CACNB1, CADM1, CAND2, CCDC79, CCER2, CCNF, CDCA7, CDKAL1, CELSR1, CEMIP, CEP170, CFH, CIITA, CLDN23, CMAHP, CNGA4, CNTD1, COL11A1, COL12A1, COL14A1, COL15A1, COL5A1, COL5A3, COL6A6, COL8A1, COLEC12, COMP, CPA4, CPQ, CRISPLD2, CRLF1, CRYL1, CUX1, CYB5B, CYB5R2, CYGB, CYP1B1, DCLK1, DCN, DDIT4L, DDX42, DDX50, DEGS1, DENND1A, DENND5A, DEPTOR, DFNB59, DGKA, DHFR, DIAPH3, DIRAS3, DIS3L, DLG5, DNAH8, DNAJC27, DOCK1, DOCK11, DYNC1I1, DZIP1L, EBF1, EFEMP1, EGR3, EIF2B3, ELN, ELP4, EMX2OS, ENPP1, ERCC8, ESM1, EVC2, F2R, FAM160A1, FAM198B, FAM20A, FAM46B, FAM65B, FAP, FARP1, FBLN2, FBN2, FBXO9, FCHO1, FER, FGFR2, FGL2, FLT1, FRAS1, FSCN2, GAL3ST4, GALC, GALNT15, GATA6, GBGT1, GCNT1, GDF6, GNAQ, GOLGB1, GPR183, GPR50, GPRC5A, GPRC5B, GRTP1, GUCA1B, GXYLT1, HAPLN1, HAPLN2, HAS3, HAVCR2, HDAC5, HECTD2-AS1, HEPH, HEY1, HLTF, HMGN3-AS1, HMOX1, HOOK3, HSD17B12, HSPA1L, HTATIP2, HTT, IGDCC4, IGF2R, IGFBP3, IL16, INA, INTU, IQCG, ITGA11, ITGA8, ITGB8, ITIH1, ITPKA, KCNS1, KCNS2, KDM6A, KDSR, KIAA1456, KIAA1462, KIAA1524, KIAA1715, KIAA1755, KIT, KLF17, KLRG1, KRT7, KRTAP1-1, KRTAP1-5, L3MBTL2, LAMB2P1, LGI2, LGR4, LHX9, LINC00472, LINC00570, LINC00578, LINC00607, LINC00678, LINC00702, LINC00886, LINC00961, LINC01011, LINC01118, LINC01204, LMOD1, LRBA, LRP4, LRRC32, LRRC39, LSAMP, LUM, LYPD1, LYRM1, MAFB, MAMDC2, MAN1A2, MAN2A1, MAPK13, MASP1, MB, MC4R, MEDAG,

MEGF6, MEMO1, MIAT, MIR612, MLLT10, MMP10, MMP24, MMS19, MN1, MOXD1, MRVI1, MSH4, MTERF3, MXRA5, MYO1D, NA, NAALADL2, NAE1, NAGS, NDNF, NEURL1B, NGFR, NHLH1, NLN, NOTCH3, NOTUM, NOVA2, NOX4, NRROS, NTNG1, OCLN, OLR1, OSBPL10, OXCT2, PAIP2B, PAPD4, PBLD, PCM1, PDE1C, PDE5A, PDGFD, PDGFRB, PDS5B, PDXDC1, PEAR1, PEPD, PHACTR3, PI4K2B, PIK3R1, PIM2, PITPNB, PITPNM3, PLAU, PLEK2, PLEKHA6, PLEKHH2, PLXNC1, PMS1, PODN, POLN, POLR1A, POSTN, PPM1E, PPP3CA, PRKCA, PRKDC, PRKG1, PRPH2, PRRG4, PRUNE2, PSMD6-AS2, PTGIS, PTX3, RAB30, RAB38, RAB44, RAD9B, RARS, RBBP8, RBKS, RCC1, RDX, RFWD2, RFX3-AS1, RGCC, RNFT1, ROR1, ROR2, RWDD4, SCARNA9, SCO1, SEC22A, SHROOM3, SIGLEC10, SLC24A3, SLC35F3, SLC39A10, SLC46A2, SLC4A11, SLC6A15, SLC7A11, SLC9A3, SLIT3, SMG1P3, SMTN, SMYD3, SNED1, SORBS2, SORCS2, SOX7, SPDYA, SPEF2, SQRDL, STAC2, STAT1, STAT4, STEAP2, STK32B, STRN4, STS, STXBP6, SULF1, SVEP1, SYNGR2, SYNPO, SYNPO2, SYNPO2L, TAGLN3, TANGO6, TARBP1, TEX21P, TGFA, TGFB2, TGFB3, TGM2, THADA, THBS2, THRB, TMEM102, TMEM119, TMEM256-PLSCR3, TMEM50B, TNC, TNFAIP8L3, TNFRSF14, TNRC18P1, TNS3, TNXB, TP53AIP1, TPRG1, TRAF3, TRIM66, TRPC4, TSHZ2, TSPAN11, TSPAN18, TSPAN7, TSSK3, TXNIP, UNC5B, USP27X, UVRAG, VIM-AS1, VPS41, VSTM2L, VWA8, VWF, WDR91, WISP1, WNT10B, XRN2, YDJC, ZBTB26, ZCCHC5, ZFP82, ZMIZ1-AS1, ZNF212, ZNF350, ZNF660, ZNF79 or ZNF837.

[00903] In another specific embodiment of the foregoing aspect, the gene is: ABCA10, ACTA2, ADAL, ADAMTS1, ADAMTS5, ADD1, ADGRG6, ADH6, ADHFE1, AFF3, AKAP3, ANK1, ANK3, ANKRD33B, AP4B1-AS1, ARHGEF16, ARID5B, ARL9, ASIC1, ATP2A3, B3GALT2, B3GNT6, BCL2L15, BCYRN1, BIN3-IT1, BIRC3, BTG2, C10orf54, C11orf70, C11orf94, C12orf56, C19orf47, C3, C7orf31, C8orf34, CA13, CA3, CACNA2D2, CACNB1, CADM1, CAND2, CCDC79, CCER2, CCNF, CELSR1, CEMIP, CEP170, CFH, CIITA, CLDN23, CMAHP, CNGA4, CNTD1, COL11A1, COL14A1, COL15A1, COL5A1, COL5A3, COL6A6, COL8A1, COLEC12, COMP, CPA4, CPQ, CRISPLD2, CRLF1, CRYL1, CYB5R2, CYGB, CYP1B1, DCLK1, DCN, DDIT4L, DDX50, DEGS1, DEPTOR, DFNB59, DIRAS3, DLG5, DNAH8, DNAJC27, DOCK11, DYNC1I1, DZIP1L, EFEMP1, EGR3, ELN, ELP4, EMX2OS, ENPP1, ERCC8, ESM1, EVC2, F2R, FAM160A1, FAM20A, FAM46B, FAM65B, FAP, FARP1, FBLN2, FBN2, FBXO9, FCHO1, FGFR2, FGL2, FLT1, FRAS1, FSCN2,

GAL3ST4, GALNT15, GATA6, GBGT1, GCNT1, GDF6, GNAQ, GPR183, GPR50, GPRC5A, GPRC5B, GRTP1, GUCA1B, GXYLT1, HAPLN1, HAPLN2, HAS3, HAVCR2, HDAC5, HECTD2-AS1, HEPH, HEY1, HMGN3-AS1, HOOK3, HSPA1L, HTATIP2, IGDCC4, IGF2R, IGFBP3, IL16, INA, INTU, IQCG, ITGA11, ITGA8, ITGB8, ITIH1, ITPKA, KCNS1, KCNS2, KDM6A, KDSR, KIAA1456, KIAA1462, KIAA1755, KIT, KLF17, KLRG1, KRT7, KRTAP1-1, KRTAP1-5, L3MBTL2, LAMB2P1, LGI2, LGR4, LHX9, LINC00472, LINC00570, LINC00578, LINC00607, LINC00678, LINC00702, LINC00886, LINC00961, LINC01011, LINC01118, LINC01204, LMOD1, LRBA, LRP4, LRRC32, LRRC39, LSAMP, LUM, LYPD1, MAFB, MAMDC2, MAN2A1, MAPK13, MASP1, MB, MC4R, MEGF6, MIAT, MIR612, MLLT10, MMP10, MMP24, MN1, MOXD1, MRVI1, MSH4, MTERF3, MXRA5, NA, NAALADL2, NAE1, NAGS, NDNF, NGFR, NHLH1, NLN, NOTCH3, NOTUM, NOVA2, NOX4, NRROS, OCLN, OLR1, OSBPL10, OXCT2, PAIP2B, PBLD, PDE1C, PDE5A, PDGFD, PDGFRB, PDS5B, PEAR1, PHACTR3, PI4K2B, PIK3R1, PIM2, PITPNM3, PLEK2, PLEKHA6, PLEKHH2, PODN, POLN, POLR1A, PPM1E, PPP3CA, PRKCA, PRKG1, PRPH2, PRRG4, PRUNE2, PSMD6-AS2, PTGIS, PTX3, RAB30, RAB38, RAB44, RAD9B, RARS, RBBP8, RBKS, RDX, RFX3-AS1, RGCC, ROR1, ROR2, SCARNA9, SHROOM3, SIGLEC10, SLC24A3, SLC35F3, SLC39A10, SLC46A2, SLC4A11, SLC6A15, SLC7A11, SLC9A3, SLIT3, SMG1P3, SMTN, SNED1, SORBS2, SORCS2, SOX7, SPDYA, SPEF2, STAC2, STAT4, STK32B, STRN4, STS, STXBP6, SULF1, SVEP1, SYNGR2, SYNPO, SYNPO2, SYNPO2L, TAGLN3, TANGO6, TEX21P, TGFA, TGFB2, TGFB3, TGM2, THBS2, TMEM102, TMEM119, TMEM256-PLSCR3, TMEM50B, TNFAIP8L3, TNFRSF14, TNRC18P1, TNXB, TP53AIP1, TPRG1, TRIM66, TRPC4, TSHZ2, TSPAN11, TSPAN18, TSPAN7, TSSK3, TXNIP, USP27X, UVRAG, VIM-AS1, VPS41, VSTM2L, VWF, WDR91, WISP1, WNT10B, YDJC, ZBTB26, ZCCHC5, ZFP82, ZMIZ1-AS1, ZNF212, ZNF350, ZNF660, ZNF79 or ZNF837.

[00904] In another specific embodiment of the foregoing aspect, as listed in Table 7, the gene is ABCB8, ABCC3, ADAM17, ADCY3, AGPAT4, ANKRA2, ANXA11, APIP, APLP2, APLP2, ARHGAP1, ARL15, ASAP1, ASPH, ATAD2B, ATXN1, AXIN1, BECN1, BHMT2, BICD1, BTN3A1, C11orf30, C11orf73, C12orf4, C14orf132, C8orf44, C8orf44-SGK3, C8orf88, CASC3, CASP7, CCDC122, CDH13, CECR7, CENPI, CEP112, CEP192, CHEK1, CMAHP, CNRIP1, COPS7B, CPSF4, CRISPLD2, CRYBG3, CSNK1E, CSNK1G1, DAGLB,

DCAF17, DCUN1D4, DDX42, DENND1A, DENND5A, DGKA, DHFR, DIAPH3, DLGAP4, DNAJC13, DNMBP, DOCK1, DYRK1A, EIF2B3, ENAH, ENOX1, EP300, ERC1, ERCC1, ERGIC3, ERLIN2, ERRFI1, EVC, FAF1, FAIM, FAM126A, FAM13A, FAM162A, FAM174A, FAM198B, FBN2, FER, FHOD3, FOCAD, GALC, GCFC2, GGACT, GGCT, GLCE, GOLGA4, GOLGB1, GPSM2, GULP1, GXYLT1, HAT1, HDX, HLTF, HMGA2, HNMT, HPS1, HSD17B12, HSD17B4, HTT, IFT57, INPP5K, IVD, KDM6A, KIAA1524, KIAA1715, LETM2, LOC400927, LRRC42, LUC7L3, LYRM1, MADD, MB21D2, MCM10, MED13L, MEDAG, MEMO1, MFN2, MMS19, MRPL45, MRPS28, MTERF3, MYCBP2, MYLK, MYOF, NGF, NREP, NSUN4, NT5C2, OSMR, OXCT1, PAPD4, PCM1, PDE7A, PDS5B, PDXDC1, PIGN, PIK3CD, PIK3R1, PIKFYVE, PITPNB, PLEKHA1, PLSCR1, PMS1, POMT2, PPARG, PPHLN1, PPIP5K2, PPP1R26, PRPF31, PRSS23, PRUNE2, PSMA4, PXK, RAF1, RAP1A, RAPGEF1, RARS2, RBKS, RERE, RFWD2, RNFT1, RPA1, RPS10, RPS6KB2, SAMD4A, SAR1A, SCO1, SEC24A, SENP6, SERGEF, SGK3, SH3YL1, SKA2, SLC12A2, SLC25A17, SLC44A2, SMYD3, SNAP23, SNHG16, SNX7, SOS2, SPATA18, SPATA5, SPIDR, SPRYD7, SRGAP1, SRRM1, STAT1, STRN3, STXBP6, SUPT20H, TAF2, TASP1, TBC1D15, TCF12, TCF4, TIAM1, TJP2, TMC3, TMEM189-UBE2V1, TMEM214, TNRC6A, TNS3, TOE1, TRAF3, TRIM65, TSPAN2, TTC7B, TUBE1, TYW5, UBAP2L, UBE2V1, URGCP, VAV2, VPS29, WDR27, WDR37, WDR91, WNK1, XRN2, ZCCHC8, ZFP82, ZNF138, ZNF232, ZNF37BP or ZNF680.

[00905] In another specific embodiment of the foregoing aspect, the gene is ABCB8, ABCC3, ADAM17, ADCY3, AGPAT4, ANKRA2, ANXA11, APIP, APPL2, ARHGAP1, ARL15, ASAP1, ASPH, ATAD2B, ATXN1, BECN1, BHMT2, BICD1, BTN3A1, C11orf30, C11orf73, C12orf4, C14orf132, C8orf44, C8orf44-SGK3, C8orf88, CASC3, CASP7, CCDC122, CDH13, CECR7, CENPI, CEP112, CEP192, CHEK1, CMAHP, CNRIP1, COPS7B, CPSF4, CRISPLD2, CRYBG3, CSNK1E, CSNK1G1, DCAF17, DCUN1D4, DDX42, DENND1A, DENND5A, DGKA, DHFR, DIAPH3, DNAJC13, DNMBP, DOCK1, DYRK1A, EIF2B3, ENAH, ENOX1, EP300, ERC1, ERLIN2, ERRFI1, EVC, FAF1, FAIM, FAM126A, FAM13A, FAM162A, FAM174A, FBN2, FER, FHOD3, FOCAD, GALC, GCFC2, GGACT, GLCE, GOLGA4, GOLGB1, GPSM2, GULP1, GXYLT1, HDX, HLTF, HMGA2, HNMT, HSD17B12, HSD17B4, HTT, IFT57, IVD, KDM6A, KIAA1524, KIAA1715, LETM2, LOC400927, LRRC42, LUC7L3, LYRM1, MB21D2, MCM10, MED13L, MEDAG, MEMO1, MFN2, MMS19, MRPL45,

MRPS28, MTERF3, MYCBP2, MYLK, MYOF, NGF, NREP, NSUN4, NT5C2, OSMR, OXCT1, PAPD4, PCM1, PDE7A, PDS5B, PDXDC1, PIGN, PIK3CD, PIK3R1, PIKFYVE, PITPNB, PLEKHA1, PLSCR1, PMS1, POMT2, PPARG, PPIP5K2, PPP1R26, PRPF31, PRSS23, PSMA4, PXK, RAF1, RAPGEF1, RARS2, RBKS, RERE, RFWD2, RPA1, RPS10, SAMD4A, SAR1A, SCO1, SEC24A, SENP6, SERGEF, SGK3, SLC12A2, SLC25A17, SLC44A2, SMYD3, SNAP23, SNHG16, SNX7, SOS2, SPATA5, SPIDR, SPRYD7, SRGAP1, SRRM1, STAT1, STXBP6, SUPT20H, TAF2, TASP1, TBC1D15, TCF12, TCF4, TIAM1, TJP2, TMC3, TMEM214, TNRC6A, TNS3, TOE1, TRAF3, TSPAN2, TTC7B, TYW5, UBAP2L, URGCP, VAV2, WDR27, WDR37, WDR91, WNK1, XRN2, ZCCHC8, ZFP82, ZNF138, ZNF232 or ZNF37BP.

[00906] In another specific embodiment of the foregoing aspect, the gene is APLP2, AXIN1, CECR7, DAGLB, DLGAP4, ERCC1, ERGIC3, FAM198B, GGCT, HAT1, HPS1, INPP5K, MADD, PPHLN1, PRUNE2, RAP1A, RNFT1, RPS6KB2, SH3YL1, SKA2, SPATA18, STRN3, TMEM189-UBE2V1, TRIM65, TUBE1, UBE2V1, VPS29 or ZNF680.

[00907] In another specific embodiment of the foregoing aspect, the gene is ABCB8, ABCC3, ADCY3, AGPAT4, ANKRA2, APIP, ARHGAP1, ARL15, ATXN1, BECN1, BHMT2, BTN3A1, C12orf4, C14orf132, C8orf44, C8orf44-SGK3, C8orf88, CASP7, CCDC122, CECR7, CENPI, CEP112, CEP192, CHEK1, CMAHP, CNRIP1, CPSF4, CRISPLD2, CRYBG3, CSNK1E, CSNK1G1, DAGLB, DCAF17, DLGAP4, DNAJC13, DNMBP, DYRK1A, ENAH, EP300, ERCC1, ERLIN2, ERRFI1, EVC, FAIM, FAM126A, FAM13A, FAM162A, FAM174A, FBN2, GGACT, GLCE, GULP1, GXYLT1, HDX, HMGA2, HNMT, HPS1, IFT57, INPP5K, IVD, KDM6A, LETM2, LOC400927, LRRC42, LYRM1, MB21D2, MCM10, MED13L, MFN2, MRPL45, MRPS28, MTERF3, MYCBP2, NGF, OXCT1, PDS5B, PIGN, PIK3CD, PIK3R1, PIKFYVE, PLEKHA1, PLSCR1, POMT2, PPARG, PPIP5K2, PPP1R26, PRPF31, PRUNE2, PXK, RAF1, RAPGEF1, RARS2, RBKS, RERE, RPA1, RPS10, RPS6KB2, SAMD4A, SEC24A, SENP6, SERGEF, SGK3, SH3YL1, SKA2, SLC12A2, SLC44A2, SNX7, SPATA18, SPATA5, SPIDR, SPRYD7, SRGAP1, SRRM1, STXBP6, TASP1, TCF12, TCF4, TIAM1, TMC3, TMEM189-UBE2V1, TMEM214, TNRC6A, TTC7B, TUBE1, TYW5, URGCP, VAV2, WDR27, WDR91, WNK1, ZCCHC8, ZFP82, ZNF138, ZNF232 or ZNF680.

[00908] In another particular aspect, provided herein are methods for modulating the amount of one, two, three or more RNA transcripts of a gene in a subject, wherein the precursor RNA

transcript transcribed from the gene comprises an intronic REMS (for example, an endogenous intronic REMS or a non-endogenous intronic REMS), the methods comprising administering to the subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. In a specific embodiment, the precursor RNA transcript contains in 5' to 3' order: a branch point, a 3' splice site and an intronic REMS.

[00909] In another particular aspect, provided herein are methods for modulating the amount of one, two, three or more RNA transcripts of a gene in a subject, wherein the precursor RNA transcript transcribed from the gene comprises a non-endogenous intronic REMS, the methods comprising administering to the subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. In a specific embodiment, the precursor RNA transcript contains in 5' to 3' order: a branch point, a 3' splice site and an intronic REMS.

[00910] In another embodiment, provided herein are methods for modulating the amount of one, two, three or more RNA transcripts of a gene, wherein the precursor RNA transcript transcribed from the gene comprises an intronic REMS, the methods comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. In a specific embodiment, the precursor RNA transcript contains in 5' to 3' order: a branch point, a 3' splice site and an intronic REMS.

[00911] In another embodiment, provided herein is a method for modulating the amount of a product of a gene (such as an RNA transcript or a protein) in a subject, wherein the gene comprises a DNA nucldeotide sequence encoding two exons and an intron, wherein the nucleotide sequence encoding one exon is upstream of the nucleotide sequence encoding the intron and the nucleotide sequence encoding the other exon is downstream of the nucleotide sequence encoding the intron, wherein the DNA nucleotide sequence encoding the intron comprises in 5' to 3' order: a nucleotide sequence encoding a first 5' splice site, a nucleotide sequence encoding a first branch point, a nucleotide sequence encoding a first 3' splice site, an iREMS, a nucleotide sequence encoding a second branch point and a nucleotide sequence encoding a second 3' splice site, wherein the iREMS comprises a DNA sequence GAgtrngn

(SEQ ID NO: 4), and wherein r is adenine or guanine and n is any nucleotide, the method comprising administering a compound described herein (for example, a compound of Formula (I) or a form thereof) to the subject.

[00912] In another embodiment, provided herein is a method for modulating the amount of a product of a gene (such as an RNA transcript or protein) in a subject, wherein the gene comprises a DNA nucleotide sequence encoding two exons and an intron, wherein the nucleotide sequence encoding one exon is upstream of the nucleotide sequence encoding the intron and the nucleotide sequence encoding the other exon is downstream of the nucleotide sequence encoding the intron, wherein the DNA nucleotide sequence of the intron comprises in 5' to 3' order: an iREMS, a nucleotide sequence encoding a first branch point and a nucleotide sequence encoding a first 3' splice site, wherein the iREMS comprises a DNA sequence GAgtrngn (SEQ ID NO: 4), and wherein r is adenine or guanine and n is any nucleotide, the method comprising administering a compound described herein (for example, a compound of Formula (I) or a form thereof) to the subject.

[00913] In another embodiment, provided herein is a method for modulating the amount of a product of a gene (such as an RNA transcript or protein) in a subject, wherein the gene comprises a DNA nucleotide sequence encoding two exons and an intron, and wherein the DNA nucleotide sequence comprises exonic and intronic elements illustrated in Figure 1A, the method comprising administering a compound described herein (for example, a compound of Formula (I) or a form thereof) to the subject.

[00914] In another embodiment, provided herein is a method for modulating the amount of a product of a gene (such as an RNA transcript or protein) in a subject, wherein the gene comprises a DNA nucleotide sequence encoding two exons and an intron, and wherein the DNA nucleotide sequence comprises exonic and intronic elements illustrated in Figure 1B, the method comprising administering a compound described herein (for example, a compound of Formula (I) or a form thereof) to the subject.

[00915] In another embodiment, provided herein is a method for modulating the amount of a product of a gene (such as an RNA transcript or protein) in a subject, wherein the gene comprises a DNA nucleotide sequence encoding two exons and an intron, and wherein the DNA nucleotide sequence comprises exonic and intronic elements illustrated in Figure 1C, the method

comprising administering a compound described herein (for example, a compound of Formula (I) or a form thereof) to the subject.

[00916] In a specific embodiment, the gene is a gene described in a table in this disclosure.

[00917] In another embodiment, provided herein are methods for modulating the amount of one, two, three or more RNA transcripts of a gene, disclosed in Table 7, *infra*, comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. *See* the example section for additional information regarding the genes in Table 7. In a specific embodiment, the RNA transcript contains in 5' to 3' order: a branch point, a 3' splice site and an intronic REMS. In a specific embodiment, the method for modulating the amount of one or more RNA transcripts of a gene using a compound of Formula (I) or a form thereof is as described in the Examples described herein.

[00918] In certain embodiments, a compound of Formula (I) or a form thereof contacted or cultured with a cell(s), or administered to a subject is a compound of Formula (II), Formula (III), Formula (IV), Formula (V), Formula (VI), Formula (VII), Formula (VIII), Formula (IX), Formula (X), Formula (XI), Formula (XII), Formula (XIII), or Formula (XIV). In some embodiments, a compound of Formula (I) or a form thereof contacted or cultured with a cell(s), or administered to a subject is a compound described herein.

[00919] **Table 1** shows certain genes that are expected to demonstrate an effect on inclusion of an iExon with a corresponding change in isoform abundance as a result of iExon generation in RNA having intronic REMS elements in the presence of a compound as described herein. The change in abundance is expected to have a statistically significant p value.

[00920] **Table 1**

Table 1
ABCA1, ABCA10, ABCB7, ABCB8, ABCC1, ABCC3, ABHD10, ABL2, ABLIM3, ACACA, ACADVL, ACAT2, ACTA2, ADAL, ADAM12, ADAM15, ADAM17, ADAM33, ADAMTS1, ADCY3, ADD1, ADGRG6, ADH6, ADHFE1, AFF2, AFF3, AGK, AGPAT3, AGPAT4, AGPS, AHCYL2, AHDC1, AHRR, AJUBA, AK021888, AK310472, AKAP1, AKAP3, AKAP9, AKNA, ALCAM, ALDH4A1, AMPD2, ANK1, ANK2, ANK3, ANKFY1, ANKHD1-EIF4EBP3, ANKRA2, ANKRD17, ANKRD33B, ANKRD36, ANKS6, ANP32A, ANXA11, ANXA6, AP2B1, AP4B1-AS1, APAF1, APIP, APLP2, APP, APPL2, APTX, ARHGAP1, ARHGAP12, ARHGAP22, ARHGEF16, ARID1A, ARID2, ARID5B, ARL9,

Table 1
ARL15, ARMCX3, ARMCX6, ASAP1, ASIC1, ASL, ASNS, ASPH, ATAD2B, ATF7IP, ATG5, ATG9A, ATMIN, ATP2A3, ATP2C1, ATXN1, ATXN3, AURKA, AXIN1, B3GALT2, B3GNT6, B4GALT2, BACE1, BAG2, BASP1, BC033281, BCAR3, BCL2L15, BCYRN1, BECN1, BEND6, BHMT2, BICD1, BIN1, BIN3-IT1, BIRC3, BIRC6, BNC1, BRD2, BRPF1, BSCL2, BTBD10, BTG2, BTN3A1, BZW1, C1orf86, C10orf54, C11orf30, C11orf70, C11orf73, C11orf94, C12orf4, C12orf56, C14orf132, C17orf76-AS1, C19orf47, C3, C4orf27, C5orf24, C6orf48, C7orf31, C8orf34, C8orf44, C8orf44-SGK3, C8orf88, C9orf69, CA13, CA3, CAB39, CACNA2D2, CACNB1, CADM1, CALU, CAMKK1, CAND2, CAPNS1, CASC3, CASP7, CASP8AP2, CAV1, CCAR1, CCDC77, CCDC79, CCDC88A, CCDC92, CCDC122, CCER2, CCNF, CCT6A, CD276, CD46, CDC25B, CDC40, CDC42BPA, CDCA7, CDH11, CDH13, CDK11B, CDK16, CDKAL1, CECR7, CELSR1, CEMIP, CENPI, CEP112, CEP170, CEP192, CEP68, CFH, CFLAR, CHD8, CHEK1, CIITA, CIZ1, CLDN23, CLIC1, CLK4, CLTA, CMAHP, CNGA4, CNOT1, CNRIP1, CNTD1, COG1, COL1A1, COL11A1, COL12A1, COL14A1, COL15A1, COL5A1, COL5A3, COL6A1, COL6A6, COL8A1, COLEC12, COMP, COPS7B, CPA4, CPEB2, CPQ, CPSF4, CREB5, CRISPLD2, CRLF1, CRLS1, CRTAP, CRYBG3, CRYL1, CSDE1, CSNK1A1, CSNK1E, CSNK1G1, CTDSP2, CTNND1, CUL2, CUL4A, CUX1, CYB5B, CYB5R2, CYBRD1, CYGB, CYP1B1, CYP51A1, DAB2, DACT1, DAGLB, DARS, DAXX, DCAF10, DCAF11, DCAF17, DCBLD2, DCLK1, DCN, DCUN1D4, DDAH1, DDAH2, DDHD2, DDIT4L, DDR1, DDX39B, DDX42, DDX50, DEGS1, DENND1A, DENND1B, DENND5A, DEPTOR, DFNB59, DGCR2, DGKA, DHCR24, DHCR7, DHFR, DHX9, DIAPH1, DIAPH3, DIRAS3, DIS3L, DKFZp434M1735, DKK3, DLC1, DLG5, DLGAP4, DNAH8, DNAJC13, DNAJC27, DNM2, DNMBP, DOCK1, DOCK11, DPP8, DSEL, DST, DSTN, DYNC1I1, DYRK1A, DZIP1L, EBF1, EEA1, EEF1A1, EFCAB14, EFEMP1, EGR1, EGR3, EHMT2, EIF2B3, EIF4G1, EIF4G2, EIF4G3, ELF2, ELN, ELP4, EMX2OS, ENAH, ENG, ENPP1, ENPP2, ENSA, EP300, EPN1, EPT1, ERC1, ERCC1, ERCC8, ERGIC3, ERLIN2, ERRFI1, ESM1, ETV5, EVC, EVC2, EXO1, EXTL2, EYA3, F2R, FADS1, FADS2, FAF1, FAIM, FAM111A, FAM126A, FAM13A, FAM160A1, FAM162A, FAM174A, FAM198B, FAM20A, FAM219A, FAM219B, FAM3C, FAM46B, FAM65A, FAM65B, FAP, FARP1, FBLN2, FBN2, FBXO9, FBXL6, FBXO10, FBXO18, FBXO31, FBXO34, FBXO9, FCHO1, FDFT1, FDPS, FER, FEZ1, FGD5-AS1, FGFR2, FGFRL1, FGL2, FHOD3, FLII, FLNB, FLT1, FN1, FNBP1, FOCAD, FOS, FOSB, FOSL1, FOXK1, FOXM1, FRAS1, FSCN2, FUS, FYN, GABPB1, GAL3ST4, GALC, GALNT1, GALNT15, GAS7, GATA6, GBA2, GBGT1, GCFC2, GCNT1, GDF6, GGACT, GGCT, GHDC, GIGYF2, GJC1, GLCE, GMIP, GNA13, GNAQ, GNAS, GNL3L, GOLGA2, GOLGA4, GOLGB1, GORASP1, GPR1, GPR183, GPR50, GPR89A, GPRC5A, GPRC5B, GPSM2, GREM1, GRK6, GRTP1, GSE1, GTF2H2B, GUCA1B, GULP1, GXYLT1, HAPLN1, HAPLN2, HAS2, HAS3, HAT1, HAUS3, HAUS6, HAVCR2, HDAC5, HDAC7, HDX, HECTD2-AS1, HEG1, HEPH, HEY1, HLA-A, HLA-E, HLTF, HMGA1, HMGA2, HMGB1, HMGCR, HMGN3-AS1, HMGCS1, HOOK3, HMOX1, HNMT, HNRNPR, HNRNPUL1, HP1BP3, HPS1, HRH1, HSD17B12, HSD17B4, HSPA1L, HTATIP2, HTT, IARS, IDH1, IDI1, IFT57, IGDCC4, IGF2BP2, IGF2R, IGFBP3, IL16, IL6ST, INA, INHBA, INPP5K, INSIG1, INTU, IQCE, IQCG, ITGA11, ITGA8, ITGAV, ITGB5, ITGB8, ITIH1, ITM2C, ITPKA, ITSN1, IVD, KANSL3, KAT6B, KCNK2, KCNS1, KCNS2, KDM6A, KDSR, KIAA1033, KIAA1143, KIAA1199,

Table 1
KIAA1456, KIAA1462, KIAA1522, KIAA1524, KIAA1549, KIAA1715, KIAA1755, KIF14, KIF2A, KIF3A, KIT, KLC1, KLC2, KLF17, KLF6, KLHL7, KLRG1, KMT2D, KRT7, KRT18, KRT19, KRT34, KRTAP1-1, KRTAP1-5, KRTAP2-3, L3MBTL2, LAMA2, LAMB1, LAMB2P1, LARP4, LARP7, LATS2, LDLR, LEMD3, LETM2, LGALS8, LGI2, LGR4, LHX9, LIMS1, LINC00341, LINC00472, LINC00570, LINC00578, LINC00607, LINC00657, LINC00678, LINC00702, LINC00886, LINC00961, LINC01011, LINC01118, LINC01204, LMAN2L, LMO7, LMOD1, LOC400927, LONP1, LOX, LRBA, LRCH4, LRIG1, LRP4, LRP8, LRRC32, LRRC39, LRRC42, LRRC8A, LSAMP, LSS, LTBR, LUC7L2, LUM, LYPD1, LYRM1, LZTS2, MADD, MAFB, MAGED4, MAGED4B, MAMDC2, MAN1A2, MAN2A1, MAN2C1, MAP4K4, MAPK13, MASP1, MB, MB21D2, MBD1, MBOAT7, MC4R, MCM10, MDM2, MED1, MED13L, MEDAG, MEF2D, MEGF6, MEIS2, MEMO1, MEPCE, MFGE8, MFN2, MIAT, MICAL2, MINPP1, MIR612, MKL1, MKLN1, MKNK2, MLLT4, MLLT10, MLST8, MMAB, MMP10, MMP24, MMS19, MMS22L, MN1, MOXD1, MPPE1, MPZL1, MRPL3, MRPL45, MRPL55, MRPS28, MRVI1, MSANTD3, MSC, MSH2, MSH4, MSH6, MSL3, MSMO1, MSRB3, MTAP, MTERF3, MTERFD1, MTHFD1L, MTMR9, MTRR, MUM1, MVD, MVK, MXRA5, MYADM, MYCBP2, MYLK, MYO1D, MYO9B, MYOF, NA, NAA35, NAALADL2, NADK, NAE1, NAGS, NASP, NAV1, NAV2, NCOA1, NCOA3, NCOA4, NCSTN, NDNF, NELFA, NEO1, NEURL1B, NF2, NFE2L1, NFX1, NGF, NGFR, NHLH1, NID1, NID2, NIPA1, NKX3-1, NLN, NOL10, NOMO3, NOTCH3, NOTUM, NOVA2, NOX4, NPEPPS, NRD1, NREP, NRG1, NRROS, NSUN4, NT5C2, NT5E, NTNG1, NUDT4, NUP153, NUP35, NUP50, NUPL1, NUSAP1, OCLN, ODF2, OLR1, OS9, OSBPL6, OSBPL10, OSMR, OXCT1, OXCT2, P4HA1, P4HB, PABPC1, PAIP2B, PAK4, PAPD4, PARD3, PARN, PARP14, PARP4, PARVB, PBLD, PCBP2, PCBP4, PCDHGB3, PCGF3, PCM1, PCMTD2, PCNXL2, PCSK9, PDE1C, PDE4A, PDE5A, PDE7A, PDGFD, PDGFRB, PDLIM7, PDS5B, PDXDC1, PEAR1, PEPD, PEX5, PFKP, PHACTR3, PHF19, PHF8, PHRF1, PHTF2, PI4K2A, PIEZO1, PIGN, PIGU, PIK3C2B, PIK3CD, PIK3R1, PIKFYVE, PIM2, PITPNA, PITPNB, PITPNM1, PITPNM3, PLAU, PLEC, PLEK2, PLEKHA1, PLEKHA6, PLEKHB2, PLEKHH2, PLSCR1, PLSCR3, PLXNB2, PLXNC1, PMS1, PNISR, PODN, POLE3, POLN, POLR1A, POLR3D, POMT2, POSTN, POU2F1, PPAPDC1A, PPARA, PPARG, PPHLN1, PPIP5K1, PPIP5K2, PPM1E, PPP1R12A, PPP1R26, PPP3CA, PPP6R1, PPP6R2, PRKACB, PRKCA, PRKDC, PRKG1, PRMT1, PRNP, PRPF31, PRPH2, PRRG4, PRSS23, PRUNE2, PSMA4, PSMC1, PSMD6, PSMD6-AS2, PTGIS, PTK2B, PTPN14, PTX3, PUF60, PUS7, PVR, PXK, PXN, QKI, RAB23, RAB2B, RAB30, RAB34, RAB38, RAB44, RAD1, RAD9B, RAD23B, RAF1, RALB, RAP1A, RAP1GDS1, RAPGEF1, RARG, RARS, RARS2, RASSF8, RBBP8, RBCK1, RBFOX2, RBKS, RBM10, RCC1, RDX, RERE, RFTN1, RFWD2, RFX3-AS1, RGCC, RGS10, RGS3, RIF1, RNF14, RNF19A, RNF38, RNFT1, ROR1, ROR2, RPA1, RPL10, RPS10, RPS6KB2, RPS6KC1, RRBP1, RWDD4, SAMD4A, SAMD9, SAMD9L, SAR1A, SART3, SCAF4, SCAF8, SCARNA9, SCD, SCLT1, SCO1, SDCBP, SEC14L1, SEC22A, SEC24A, SEC24B, SEC61A1, SENP6, SEPT9, SERGEF, SERPINE2, SF1, SGK3, SGOL2, SH3RF1, SH3YL1, SHROOM3, SIGLEC10, SKA2, SKIL, SLC12A2, SLC24A3, SLC25A17, SLC35F3, SLC39A3, SLC39A10, SLC4A4, SLC4A11, SLC41A1, SLC44A2, SLC46A2, SLC6A15, SLC7A6, SLC7A8, SLC7A11, SLC9A3, SLIT3, SMARCA4, SMARCC2, SMC4, SMC6,

Table 1
SMCHD1, SMG1, SMG1P3, SMN2, SMPD4, SMTN, SMYD3, SMYD5, SNAP23, SNED1, SNHG16, SNX7, SNX14, SOCS2, SON, SORBS2, SORCS2, SOS2, SOX7, SPATA18, SPATA20, SPATA5, SPATS2, SPDYA, SPEF2, SPG20, SPIDR, SPRED2, SPRYD7, SQLE, SQRDL, SQSTM1, SRCAP, SREBF1, SREK1, SRGAP1, SRRM1, SRSF3, STAC2, STARD4, STAT1, STAT3, STAT4, STAU1, STC2, STEAP2, STK32B, STRIP1, STRN3, STRN4, STS, STX16, STXBP6, SULF1, SUPT20H, SVEP1, SYNE1, SYNE2, SYNGR2, SYNPO, SYNPO2, SYNPO2L, SYT15, SYTL2, TACC1, TAF2, TAGLN3, TANC2, TANGO6, TARBP1, TARS, TASP1, TBC1D15, TBL2, TCF12, TCF4, TCF7L2, TENC1, TENM2, TEP1, TET3, TEX21P, TFCP2, TGFA, TGFB2, TGFB3, TGFBI, TGFBR1, TGFBRAP1, TGM2, THADA, THAP4, THBS2, THRB, TIAM1, TIMP2, TJP2, TLE3, TLK1, TMC3, TMEM102, TMEM119, TMEM134, TMEM154, TMEM189-UBE2V1, TMEM214, TMEM256-PLSCR3, TMEM47, TMEM50B, TMEM63A, TNC, TNFAIP3, TNFAIP8L3, TNFRSF12A, TNFRSF14, TNIP1, TNKS1BP1, TNPO3, TNRC18P1, TNRC6A, TNS1, TNS3, TNXB, TOE1, TOMM40, TOMM5, TOPORS, TP53AIP1, TP53INP1, TPRG1, TRAF3, TRAK1, TRAPPC12, TRIB1, TRIM2, TRIM23, TRIM26, TRIM28, TRIM65, TRIM66, TRMT1L, TRPC4, TRPS1, TSC2, TSHZ1, TSHZ2, TSPAN11, TSPAN18, TSPAN2, TSPAN7, TSSK3, TTC7A, TTC7B, TUBB2C, TUBB3, TUBE1, TXNIP, TXNL1, TXNRD1, TYW5, U2SURP, UBAP2L, UBE2G2, UBE2V1, UBQLN4, UCHL5, UHMK1, UHRF1BP1L, UNC5B, URGCP, USP19, USP7, USP27X, UVRAG, VANGL1, VARS2, VAV2, VCL, VIM-AS1, VIPAS39, VPS13A, VPS29, VPS41, VPS51, VSTM2L, VWA8, VWF, WDR19, WDR27, WDR37, WDR48, WDR91, WIPF1, WISP1, WNK1, WNT5B, WNT10B, WSB1, WWTR1, XIAP, XRN2, YAP1, YDJC, YES1, YPEL5, YTHDF3, Z24749, ZAK, ZBTB10, ZBTB24, ZBTB26, ZBTB7A, ZC3H12C, ZC3H14, ZC3H18, ZCCHC5, ZCCHC8, ZCCHC11, ZEB1, ZEB2, ZFAND1, ZFAND5, ZFP82, ZHX3, ZMIZ1, ZMIZ1-AS1, ZMYM2, ZNF12, ZNF138, ZNF148, ZNF212, ZNF219, ZNF227, ZNF232, ZNF24, ZNF268, ZNF28, ZNF281, ZNF335, ZNF350, ZNF37A, ZNF37BP, ZNF395, ZNF431, ZNF583, ZNF621, ZNF652, ZNF655, ZNF660, ZNF674, ZNF680, ZNF74, ZNF764, ZNF778, ZNF780A, ZNF79, ZNF827, ZNF837, ZNF839 or ZNF91

[00921] **Table 2** shows certain genes that are expected to demonstrate an effect on inclusion of an iExon with a corresponding change in isoform abundance as a result of iExon generation in RNA having intronic REMS elements in the presence of a compound as described herein. The change in abundance is expected to have a statistically significant p value.

[00922] **Table 2**

Table 2
ABCA1, ABCB7, ABCC1, ABHD10, ABL2, ABLIM3, ACACA, ACADVL, ACAT2, ADAM12, ADAM15, ADAM17, ADAM33, AFF2, AGK, AGPAT3, AGPS, AHCYL2, AHDC1, AHRR, AJUBA, AK021888, AK310472, AKAP1, AKAP9, AKNA, ALCAM, ALDH4A1, AMPD2, ANK2, ANKFY1, ANKHD1-EIF4EBP3, ANKRD17, ANKS6, ANP32A, ANXA11, ANXA6, AP2B1, APAF1, APLP2, APP, APPL2, APTX, ARHGAP22, ARID1A, ARID2, ARMCX3, ASAP1, ASL, ASNS, ASPH, ATAD2B, ATF7IP, ATG9A,

Table 2
ATMIN, ATP2C1, ATXN3, AURKA, AXIN1, B4GALT2, BACE1, BAG2, BASP1, BC033281, BCAR3, BEND6, BICD1, BIN1, BNC1, BRD2, BRPF1, BSCL2, BTBD10, BZW1, C11orf30, C11orf73, C17orf76-AS1, C4orf27, C5orf24, C6orf48, C9orf69, CAB39, CALU, CAMKK1, CAPNS1, CASC3, CASP8AP2, CAV1, CCAR1, CCDC77, CCDC88A, CCDC92, CCT6A, CD276, CD46, CDC25B, CDC40, CDC42BPA, CDCA7, CDH11, CDH13, CDK11B, CDK16, CDKAL1, CEP68, CFLAR, CHD8, CIZ1, CLIC1, CLK4, CNOT1, COG1, COL12A1, COL1A1, COL6A1, COPS7B, CPEB2, CREB5, CRLS1, CRTAP, CSDE1, CSNK1A1, CTDSP2, CTNND1, CUL2, CUL4A, CUX1, CYB5B, CYBRD1, CYP51A1, DAB2, DACT1, DARS, DAXX, DCAF10, DCAF11, DCBLD2, DCUN1D4, DDAH1, DDAH2, DDHD2, DDR1, DDX39B, DDX42, DENND1A, DENND1B, DENND5A, DGCR2, DGKA, DHCR24, DHCR7, DHFR, DHX9, DIAPH1, DIAPH3, DIS3L, DKFZp434M1735, DKK3, DLC1, DNM2, DOCK1, DPP8, DSEL, DST, DSTN, EBF1, EEA1, EEF1A1, EFCAB14, EGR1, EHMT2, EIF2B3, EIF4G1, EIF4G2, EIF4G3, ELF2, ENG, ENPP2, ENSA, EPN1, EPT1, ERC1, ERGIC3, ETV5, EXO1, EXTL2, EYA3, FADS1, FADS2, FAF1, FAM111A, FAM198B, FAM219A, FAM219B, FAM3C, FAM65A, FBXO10, FBXO18, FBXO31, FBXO34, FBXO9, FDFT1, FDPS, FER, FEZ1, FGD5-AS1, FGFRL1, FHOD3, FLII, FLNB, FN1, FNBP1, FOCAD, FOS, FOSB, FOSL1, FOXK1, FOXM1, FUS, FYN, GABPB1, GALC, GALNT1, GAS7, GBA2, GCFC2, GGCT, GHDC, GIGYF2, GJC1, GMIP, GNA13, GNAS, GNL3L, GOLGA2, GOLGA4, GOLGB1, GORASP1, GPR1, GPR89A, GPSM2, GREM1, GRK6, GSE1, GTF2H2B, HAS2, HAT1, HAUS3, HAUS6, HDAC7, HEG1, HLA-A, HLA-E, HLTF, HMGA1, HMGB1, HMGCR, HMGCS1, HMOX1, HNRNPR, HNRNPUL1, HP1BP3, HRH1, HSD17B12, HSD17B4, HTT, IARS, IDH1, IDI1, IGF2BP2, IL6ST, INHBA, INSIG1, IQCE, ITGAV, ITGB5, ITM2C, ITSN1, KANSL3, KCNK2, KIAA1033, KIAA1143, KIAA1199, KIAA1522, KIAA1524, KIAA1549, KIAA1715, KIF14, KIF2A, KIF3A, KLC1, KLC2, KLF6, KLHL7, KRT18, KRT19, KRT34, KRTAP2-3, LAMA2, LAMB1, LARP4, LARP7, LATS2, LDLR, LEMD3, LGALS8, LIMS1, LINC00341, LINC00657, LMAN2L, LMO7, LONP1, LOX, LRCH4, LRIG1, LRP8, LRRC8A, LSS, LTBR, LUC7L2, LZTS2, MADD, MAGED4, MAGED4B, MAN1A2, MAP4K4, MBD1, MBOAT7, MDM2, MED1, MEDAG, MEF2D, MEIS2, MEMO1, MEPCE, MFGE8, MICAL2, MINPP1, MKL1, MKLN1, MKNK2, MLLT4, MLST8, MMAB, MMS19, MMS22L, MPPE1, MPZL1, MRPL3, MSANTD3, MSC, MSH2, MSH6, MSL3, MSMO1, MSRB3, MTAP, MTERFD1, MTHFD1L, MTMR9, MTRR, MUM1, MVD, MVK, MYADM, MYLK, MYO1D, MYO9B, MYOF, NAA35, NADK, NASP, NAV1, NAV2, NCOA1, NCOA3, NCOA4, NCSTN, NELFA, NEO1, NEURL1B, NF2, NFE2L1, NFX1, NID1, NID2, NIPA1, NKX3-1, NOL10, NOMO3, NPEPPS, NRD1, NREP, NRG1, NSUN4, NT5C2, NT5E, NTNG1, NUDT4, NUP153, NUP35, NUP50, NUPL1, NUSAP1, ODF2, OS9, OSBPL6, OSMR, P4HA1, P4HB, PABPC1, PAK4, PAPD4, PARD3, PARN, PARP14, PARP4, PARVB, PCBP2, PCBP4, PCDHGB3, PCGF3, PCM1, PCMTD2, PCNXL2, PCSK9, PDE4A, PDE7A, PDLIM7, PDXDC1, PEPD, PEX5, PFKP, PHF19, PHF8, PHRF1, PHTF2, PI4K2A, PIEZO1, PIGU, PIK3C2B, PITPNA, PITPNB, PITPNM1, PLAU, PLEC, PLEKHB2, PLSCR3, PLXNB2, PLXNC1, PMS1, POLE3, POLR3D, POSTN, POU2F1, PPAPDC1A, PPARA, PPHLN1, PPIP5K1, PPP1R12A, PPP6R1, PPP6R2, PRKACB, PRKDC, PRMT1, PRNP, PRSS23, PSMA4, PSMC1, PSMD6, PTK2B, PTPN14, PUF60, PUS7, PVR, PXN, QKI, RAB23,

Table 2
RAB2B, RAB34, RAD1, RAD23B, RALB, RAP1A, RAP1GDS1, RARG, RASSF8, RBCK1, RBFOX2, RBM10, RCC1, RFTN1, RFWD2, RGS10, RGS3, RIF1, RNF14, RNF19A, RNF38, RNFT1, RPL10, RPS6KC1, RRBP1, RWDD4, SAMD9, SAMD9L, SAR1A, SART3, SCAF4, SCAF8, SCD, SCLT1, SCO1, SDCBP, SEC14L1, SEC22A, SEC24B, SEC61A1, SEPT9, SERPINE2, SF1, SGOL2, SH3RF1, SKIL, SLC25A17, SLC39A3, SLC41A1, SLC4A4, SLC7A6, SLC7A8, SMARCA4, SMARCC2, SMC4, SMC6, SMCHD1, SMG1, SMN2, SMPD4, SMYD3, SMYD5, SNAP23, SNHG16, SNX14, SOCS2, SON, SOS2, SPATA20, SPATS2, SPG20, SPRED2, SQLE, SQRDL, SQSTM1, SRCAP, SREBF1, SREK1, SRSF3, STARD4, STAT1, STAT3, STAU1, STC2, STEAP2, STRIP1, STRN3, STX16, SUPT20H, SYNE1, SYNE2, SYT15, SYTL2, TACC1, TAF2, TANC2, TARBP1, TARS, TBC1D15, TBL2, TCF7L2, TENC1, TENM2, TEP1, TET3, TFCP2, TGFBI, TGFBR1, TGFBRAP1, THADA, THAP4, THRB, TIMP2, TJP2, TLE3, TLK1, TMEM154, TMEM47, TMEM63A, TNC, TNFAIP3, TNFRSF12A, TNIP1, TNKS1BP1, TNPO3, TNS1, TNS3, TOE1, TOMM40, TOMM5, TOPORS, TP53INP1, TRAF3, TRAK1, TRAPPC12, TRIB1, TRIM2, TRIM23, TRIM26, TRIM28, TRIM65, TRMT1L, TRPS1, TSC2, TSHZ1, TSPAN2, TTC7A, TUBB2C, TUBB3, TXNL1, TXNRD1, U2SURP, UBAP2L, UBE2G2, UBE2V1, UBQLN4, UCHL5, UHMK1, UHRF1BP1L, UNC5B, USP19, USP7, VANGL1, VARS2, VCL, VIPAS39, VPS13A, VPS29, VPS51, VWA8, WDR19, WDR37, WDR48, WIPF1, WNT5B, WSB1, WWTR1, XIAP, XRN2, YAP1, YES1, YPEL5, YTHDF3, Z24749, ZAK, ZBTB10, ZBTB24, ZBTB7A, ZC3H12C, ZC3H14, ZC3H18, ZCCHC11, ZEB1, ZEB2, ZFAND1, ZFAND5, ZHX3, ZMIZ1, ZMYM2, ZNF12, ZNF148, ZNF219, ZNF227, ZNF24, ZNF268, ZNF28, ZNF281, ZNF335, ZNF37A, ZNF37BP, ZNF395, ZNF583, ZNF621, ZNF652, ZNF655, ZNF674, ZNF74, ZNF764, ZNF778, ZNF780A, ZNF827, ZNF839 or ZNF91

[00923] **Table 3** shows certain genes that are expected to demonstrate an effect on inclusion of an iExon with a corresponding change in isoform abundance as a result of iExon generation in RNA having intronic REMS elements in the presence of a compound as described herein. The change in abundance is expected to have a statistically significant p value.

[00924] **Table 3**

Table 3
ABCA1, ABCC1, ABL2, ACACA, ACAT2, AFF2, AHRR, AK021888, AK310472, AKAP1, ANK2, ANKHD1-EIF4EBP3, AP2B1, APAF1, APLP2, ARID1A, ARMCX3, ASAP1, ASPH, ATAD2B, ATF7IP, ATG9A, AXIN1, BACE1, BIN1, BNC1, BRPF1, BZW1, C11orf30, C11orf73, C17orf76-AS1, C4orf27, C6orf48, CAB39, CAMKK1, CCDC88A, CCDC92, CDC25B, CDC42BPA, CDCA7, CDH11, CDH13, CEP68, CFLAR, COPS7B, CREB5, CUL2, CUL4A, CUX1, CYP51A1, DCUN1D4, DDR1, DDX39B, DDX42, DENND1A, DENND5A, DGKA, DHCR24, DHCR7, DIAPH1, DIAPH3, DNM2, DOCK1, EFCAB14, EIF2B3, EPN1, EPT1, ERC1, ETV5, FADS1, FADS2, FAF1, FAM198B, FAM219B, FBXO10, FBXO9, FDFT1, FDPS, FER, FEZ1, FHOD3, FLII, FLNB, FNBP1, FOS, FOSB, FOXM1, FYN, GABPB1, GALC, GAS7, GGCT, GJC1,

Table 3
GPSM2, GRK6, HAS2, HAT1, HLTF, HMGA1, HMGB1, HMGCR, HMGCS1, HMOX1, HP1BP3, HSD17B12, HTT, IDI1, INHBA, INSIG1, KANSL3, KIAA1199, KIAA1524, KIAA1715, KIF3A, KLF6, KRT19, KRT34, KRTAP2-3, LAMA2, LARP7, LDLR, LEMD3, LMAN2L, LRCH4, LRP8, LSS, MAGED4, MAGED4B, MAN1A2, MEDAG, MEF2D, MEMO1, MFGE8, MICAL2, MMAB, MMS19, MMS22L, MSL3, MSMO1, MTAP, MTERFD1, MVD, MVK, NASP, NAV2, NEURL1B, NFE2L1, NID1, NPEPPS, NREP, NRG1, NSUN4, NT5C2, NUP153, P4HA1, PABPC1, PAPD4, PCBP2, PCM1, PCSK9, PDXDC1, PEPD, PHF19, PHF8, PHTF2, PIK3C2B, PITPNB, PLEC, PMS1, POU2F1, PPHLN1, PRKDC, PRSS23, PSMC1, PTPN14, PUF60, PVR, RAB23, RAD23B, RAP1A, RASSF8, RBM10, RCC1, RFWD2, RNFT1, RWDD4, SAMD9L, SART3, SCAF4, SCD, SEC22A, SEC61A1, SERPINE2, SF1, SLC25A17, SLC7A6, SLC7A8, SMN2, SMYD3, SMYD5, SNAP23, SNHG16, SQLE, SQRDL, SQSTM1, SRCAP, SREBF1, STARD4, STAT1, STAU1, STEAP2, STRN3, SYNE1, TACC1, TAF2, TANC2, TARBP1, TBC1D15, TEP1, TFCP2, TGFBRAP1, THADA, TIMP2, TLK1, TMEM154, TNS3, TOMM5, TRAF3, TRAK1, TRAPPC12, TRIM2, TRIM26, TRIM65, TSPAN2, U2SURP, UBAP2L, UBE2V1, UCHL5, UHRF1BP1L, VANGL1, VARS2, VPS13A, VPS29, VWA8, WSB1, XIAP, XRN2, YPEL5, ZAK, ZC3H18, ZFAND5, ZMIZ1, ZMYM2, ZNF219, ZNF227, ZNF24, ZNF37A, ZNF37BP, ZNF395, ZNF652, ZNF674, ZNF74 or ZNF778

[00925] **Table 4** shows certain genes that are expected to demonstrate an effect on inclusion of an iExon with a corresponding change in isoform abundance as a result of iExon generation in RNA having intronic REMS elements in the presence of a compound as described herein. The change in abundance is expected to have a statistically significant p value.

[00926] **Table 4**

Table 4
ABCC1, ACADVL, ADAM15, AGPAT3, AHRR, AJUBA, AKAP1, AKAP9, ALCAM, ALDH4A1, ANKFY1, AP2B1, APLP2, APP, ARID1A, ARID2, ASPH, ATMIN, BASP1, BC033281, BCAR3, C11orf73, C17orf76-AS1, C5orf24, C6orf48, CAB39, CASP8AP2, CAV1, CCAR1, CCT6A, CD276, CD46, CDC25B, CDK16, CEP68, CHD8, CLIC1, COL12A1, CPEB2, CREB5, CRLS1, CRTAP, CTNND1, CUX1, CYBRD1, DACT1, DCAF10, DCAF11, DDHD2, DDX39B, DIAPH3, DKK3, DLC1, DSTN, EBF1, EGR1, EIF4G1, EIF4G3, ENG, ERC1, ETV5, FAM198B, FAM219A, FAM3C, FEZ1, FGD5-AS1, FLII, FN1, FNBP1, FOS, FOSB, FOXK1, FOXM1, FYN, GABPB1, GALC, GALNT1, GBA2, GGCT, GHDC, GMIP, GNA13, GNAS, GNL3L, GOLGA2, GORASP1, GREM1, GSE1, HAUS6, HDAC7, HEG1, HLA-A, HLA-E, HMGA1, HP1BP3, IL6ST, ITGAV, KIAA1549, KIF14, KLC1, KLF6, KLHL7, KRT18, LAMA2, LAMB1, LARP7, LATS2, LGALS8, LIMS1, LINC00341, LONP1, LOX, MDM2, MEPCE, MINPP1, MLLT4, MPPE1, MRPL3, MSH2, MSH6, MSL3, MTMR9, MTRR, MUM1, MYADM, MYLK, NADK, NAV2, NCSTN, NFE2L1, NID1, NIPA1, NPEPPS, NRD1, NUDT4, NUSAP1, P4HB, PABPC1, PAK4, PAPD4, PCNXL2, PDE4A, PDXDC1, PHRF1, PHTF2, PI4K2A, PIK3C2B, PLAU, PLEKHB2, PLSCR3, PLXNB2, POSTN, POU2F1, PPARA, PPP1R12A,

Table 4
PRKACB, PSMD6, PTPN14, PUS7, QKI, RAB34, RAD1, RAD23B, RASSF8, RBCK1, RBFOX2, RFTN1, RNF19A, RNF38, RPS6KC1, RWDD4, SEC14L1, SEC24B, SERPINE2, SF1, SLC39A3, SLC41A1, SLC4A4, SLC7A6, SMARCA4, SMN2, SNHG16, SNX14, SON, SPRED2, STAU1, STEAP2, STRIP1, STRN3, TBL2, TGFBI, TGFBR1, THAP4, TLE3, TMEM47, TNKS1BP1, TOMM40, TOPORS, TRAK1, TRAPPC12, TRIB1, TRIM2, TRIM23, TRIM65, TRMT1L, TRPS1, TXNL1, TXNRD1, U2SURP, UBE2G2, UBE2V1, UHMK1, USP7, VPS29, VWA8, WDR19, WDR37, WIPF1, YPEL5, YTHDF3, Z24749, ZBTB10, ZBTB7A, ZFAND5, ZMIZ1, ZNF12, ZNF148, ZNF335, ZNF395, ZNF583, ZNF621, ZNF655, ZNF74 or ZNF780A

[00927] **Table 5** shows certain genes that are expected to demonstrate an effect on inclusion of an iExon with a corresponding change in isoform abundance as a result of iExon generation in RNA having intronic REMS elements in the presence of a compound as described herein. The change in abundance is expected to have a statistically significant p value.

[00928] **Table 5**

Table 5
ABCB7, ABHD10, ABLIM3, ACACA, ADAM12, ADAM17, ADAM33, AGK, AGPS, AHCYL2, AHDC1, AHRR, AK021888, AK310472, AKAP1, AKAP9, AKNA, AMPD2, ANKRD17, ANKS6, ANP32A, ANXA11, ANXA6, APLP2, APP, APPL2, APTX, ARHGAP22, ARMCX3, ASAP1, ASNS, ASPH, ATG9A, ATP2C1, AURKA, AXIN1, B4GALT2, BACE1, BASP1, BEND6, BICD1, BIN1, BRD2, BRPF1, BTBD10, C11orf30, C11orf73, C17orf76-AS1, C4orf27, C6orf48, CAB39, CAPNS1, CASC3, CCDC77, CCDC88A, CD46, CDC40, CDC42BPA, CDCA7, CDH13, CDK11B, CEP68, CIZ1, CLK4, CNOT1, COG1, COL12A1, COL1A1, COL6A1, COPS7B, CSDE1, CSNK1A1, CUX1, CYB5B, CYBRD1, DAB2, DARS, DCBLD2, DCUN1D4, DDAH2, DDR1, DDX39B, DDX42, DENND1A, DENND1B, DENND5A, DGKA, DHFR, DHX9, DIAPH1, DIAPH3, DIS3L, DNM2, DOCK1, DPP8, DSEL, EEA1, EFCAB14, EIF2B3, EIF4G1, EIF4G3, ELF2, ENG, ENPP2, EPN1, EXTL2, EYA3, FAF1, FAM198B, FAM3C, FBXO10, FBXO18, FBXO31, FBXO9, FER, FEZ1, FHOD3, FLII, FN1, FNBP1, FOCAD, FOSL1, FOXM1, GABPB1, GALC, GALNT1, GCFC2, GGCT, GIGYF2, GMIP, GNAS, GNL3L, GOLGB1, GPR89A, GPSM2, GREM1, GRK6, GTF2H2B, HAT1, HAUS3, HEG1, HLA-A, HLTF, HP1BP3, HRH1, HSD17B12, HSD17B4, HTT, IARS, IDH1, IGF2BP2, ITM2C, KCNK2, KIAA1033, KIAA1143, KIAA1522, KIAA1524, KIAA1715, KIF3A, KLHL7, LAMA2, LARP4, LARP7, LATS2, LIMS1, LINC00341, LINC00657, LMAN2L, LMO7, LRCH4, LRIG1, LRRC8A, LTBR, LUC7L2, LZTS2, MADD, MAGED4B, MAN1A2, MAP4K4, MED1, MEDAG, MEF2D, MEIS2, MEMO1, MICAL2, MKLN1, MLLT4, MMS19, MPZL1, MSANTD3, MSC, MSL3, MTAP, MTERFD1, MTHFD1L, MYADM, MYLK, MYO9B, MYOF, NASP, NAV2, NCOA3, NCOA4, NELFA, NEO1, NEURL1B, NF2, NID2, NOL10, NPEPPS, NRG1, NSUN4, NT5C2, NT5E, NTNG1, NUP153, NUP35, NUP50, NUSAP1, ODF2, OS9, OSBPL6, P4HA1, P4HB, PABPC1, PAPD4, PARN, PARP4, PCBP2, PCBP4, PCDHGB3, PCGF3, PCM1, PCMTD2, PDE7A, PDXDC1, PEPD,

Table 5
PFKP, PHF19, PHRF1, PHTF2, PIEZO1, PIGU, PITPNA, PITPNB, PITPNM1, PLAU, PLSCR3, PLXNC1, PMS1, POU2F1, PPAPDC1A, PPHLN1, PPIP5K1, PPP1R12A, PRKDC, PRMT1, PRSS23, PSMA4, PTK2B, PUF60, PVR, RAB23, RAB2B, RAD1, RAD23B, RAP1A, RAP1GDS1, RARG, RASSF8, RBCK1, RCC1, RFWD2, RGS3, RNF14, RNFT1, RPL10, RRBP1, RWDD4, SAR1A, SCAF4, SCAF8, SCLT1, SCO1, SDCBP, SEC22A, SEPT9, SF1, SGOL2, SLC25A17, SLC4A4, SLC7A6, SMARCC2, SMC4, SMC6, SMCHD1, SMN2, SMPD4, SMYD3, SNAP23, SNHG16, SOCS2, SOS2, SPATA20, SPATS2, SPG20, SQRDL, SREBF1, SREK1, SRSF3, STAT1, STAU1, STEAP2, STRN3, STX16, SUPT20H, SYNE1, SYNE2, SYT15, SYTL2, TAF2, TARBP1, TARS, TBL2, TCF7L2, TENC1, TENM2, TEP1, TET3, TGFBR1, THADA, THRB, TJP2, TLE3, TMEM47, TMEM63A, TNFAIP3, TNIP1, TNPO3, TNS1, TNS3, TOE1, TOMM5, TP53INP1, TRAF3, TRAPPC12, TRIM2, TRIM23, TRIM65, TSC2, TSPAN2, TUBB2C, TXNRD1, UBAP2L, UBE2V1, UCHL5, USP19, VANGL1, VIPAS39, VPS29, VPS51, VWA8, WDR48, WNT5B, WSB1, WWTR1, XRN2, YAP1, YES1, YPEL5, YTHDF3, Z24749, ZBTB24, ZC3H14, ZFAND1, ZFAND5, ZHX3, ZMIZ1, ZMYM2, ZNF219, ZNF268, ZNF395, ZNF827 or ZNF91

[00929] **Table 6** shows certain genes that are expected to demonstrate an effect on inclusion of an iExon with a corresponding change in isoform abundance as a result of iExon generation in RNA having intronic REMS elements in the presence of a compound as described herein. The change in abundance is expected to have a statistically significant p value.

[00930] **Table 6**

Table 6
ACACA, ACADVL, AFF2, AHCYL2, AHRR, AKAP1, ALDH4A1, ANKRD17, AP2B1, APLP2, ASL, ASPH, ATG9A, ATMIN, ATXN3, BAG2, BASP1, BRPF1, BSCL2, C11orf30, C11orf73, C17orf76-AS1, C6orf48, C9orf69, CAB39, CALU, CDC25B, CDC42BPA, CDKAL1, CLIC1, COL12A1, COL1A1, COL6A1, CSNK1A1, CTDSP2, CUL2, CUL4A, DAXX, DCAF10, DDAH1, DDR1, DDX39B, DENND1A, DGCR2, DKFZp434M1735, DKK3, DNM2, DST, EEF1A1, EFCAB14, EHMT2, EIF4G1, EIF4G2, EIF4G3, ENSA, EXO1, FAM111A, FAM198B, FAM65A, FBXO34, FEZ1, FGD5-AS1, FGFRL1, FLII, FN1, FOXK1, FOXM1, FUS, GALC, GALNT1, GAS7, GCFC2, GGCT, GJC1, GNA13, GNL3L, GOLGA4, GPR1, GREM1, HEG1, HLA-A, HLA-E, HLTF, HNRNPR, HNRNPUL1, IQCE, ITGB5, ITSN1, KIAA1033, KIF2A, KIF3A, KLC2, LATS2, LIMS1, LINC00341, LINC00657, LONP1, LOX, LUC7L2, MBD1, MBOAT7, MEF2D, MEIS2, MICAL2, MKL1, MKNK2, MLST8, MPPE1, MSL3, MSRB3, MTRR, MYADM, MYLK, MYO1D, NAA35, NAV1, NAV2, NCOA1, NFX1, NKX3-1, NOMO3, NRG1, NUDT4, NUPL1, NUSAP1, OSMR, P4HA1, P4HB, PAPD4, PARD3, PARN, PARP14, PARVB, PCBP2, PCBP4, PCGF3, PDLIM7, PDXDC1, PEX5, PFKP, PHRF1, PI4K2A, POLE3, POLR3D, POSTN, PPARA, PPP6R1, PPP6R2, PRNP, PXN, RAB34, RAD23B, RALB, RAP1A, RASSF8, RBCK1, RBFOX2, RGS10, RIF1, RNF14, RNF19A, SAMD9, SCAF4, SDCBP, SERPINE2, SF1, SH3RF1, SKIL, SLC25A17, SLC4A4, SMG1, SMN2,

Table 6
SNHG16, SREBF1, STAT3, STC2, STEAP2, STRN3, SYNE1, SYNE2, TACC1, TARS, TGFBI, TMEM47, TNC, TNFRSF12A, TNS1, TRAF3, TRIM28, TSC2, TSHZ1, TTC7A, TUBB2C, TUBB3, TXNL1, TXNRD1, UBE2G2, UBE2V1, UBQLN4, UNC5B, USP19, VARS2, VCL, VPS29, WDR37, WIPF1, WWTR1, ZC3H12C, ZCCHC11, ZEB1, ZEB2, ZFAND1, ZFAND5, ZMIZ1, ZNF28, ZNF281, ZNF655, ZNF764 or ZNF839

[00931] **Table 7** shows genes that demonstrate an effect on change in isoform abundance as a result of having intronic REMS elements in the presence of Compound 774 (at doses ranging from 0.3 μM to 3 μM), having statistically significant adjusted Fisher's Exact Test p value.

[00932] **Table 7**

Table 7
ABCB8, ABCC3, ADAM17, ADCY3, AGPAT4, ANKRA2, ANXA11, APIP, APLP2, APPL2, ARHGAP1, ARL15, ASAP1, ASPH, ATAD2B, ATXN1, AXIN1, BECN1, BHMT2, BICD1, BTN3A1, C11orf30, C11orf73, C12orf4, C14orf132, C8orf44, C8orf44-SGK3, C8orf88, CASC3, CASP7, CCDC122, CDH13, CECR7, CENPI, CEP112, CEP192, CHEK1, CMAHP, CNRIP1, COPS7B, CPSF4, CRISPLD2, CRYBG3, CSNK1E, CSNK1G1, DAGLB, DCAF17, DCUN1D4, DDX42, DENND1A, DENND5A, DGKA, DHFR, DIAPH3, DLGAP4, DNAJC13, DNMBP, DOCK1, DYRK1A, EIF2B3, ENAH, ENOX1, EP300, ERC1, ERCC1, ERGIC3, ERLIN2, ERRFI1, EVC, FAF1, FAIM, FAM126A, FAM13A, FAM162A, FAM174A, FAM198B, FBN2, FER, FHOD3, FOCAD, GALC, GCFC2, GGACT, GGCT, GLCE, GOLGA4, GOLGB1, GPSM2, GULP1, GXYLT1, HAT1, HDX, HLTF, HMGA2, HNMT, HPS1, HSD17B12, HSD17B4, HTT, IFT57, INPP5K, IVD, KDM6A, KIAA1524, KIAA1715, LETM2, LOC400927, LRRC42, LUC7L3, LYRM1, MADD, MB21D2, MCM10, MED13L, MEDAG, MEMO1, MFN2, MMS19, MRPL45, MRPS28, MTERF3, MYCBP2, MYLK, MYOF, NGF, NREP, NSUN4, NT5C2, OSMR, OXCT1, PAPD4, PCM1, PDE7A, PDS5B, PDXDC1, PIGN, PIK3CD, PIK3R1, PIKFYVE, PITPNB, PLEKHA1, PLSCR1, PMS1, POMT2, PPARG, PPHLN1, PPIP5K2, PPP1R26, PRPF31, PRSS23, PRUNE2, PSMA4, PXK, RAF1, RAP1A, RAPGEF1, RARS2, RBKS, RERE, RFWD2, RNFT1, RPA1, RPS10, RPS6KB2, SAMD4A, SAR1A, SCO1, SEC24A, SENP6, SERGEF, SGK3, SH3YL1, SKA2, SLC12A2, SLC25A17, SLC44A2, SMYD3, SNAP23, SNHG16, SNX7, SOS2, SPATA18, SPATA5, SPIDR, SPRYD7, SRGAP1, SRRM1, STAT1, STRN3, STXBP6, SUPT20H, TAF2, TASP1, TBC1D15, TCF12, TCF4, TIAM1, TJP2, TMC3, TMEM189-UBE2V1, TMEM214, TNRC6A, TNS3, TOE1, TRAF3, TRIM65, TSPAN2, TTC7B, TUBE1, TYW5, UBAP2L, UBE2V1, URGCP, VAV2, VPS29, WDR27, WDR37, WDR91, WNK1, XRN2, ZCCHC8, ZFP82, ZNF138, ZNF232, ZNF37BP or ZNF680

[00933] **Table 7a** shows genes that demonstrate an effect on inclusion of an iExon with a corresponding change in isoform abundance as a result of having intronic REMS elements in the presence of Compound 774 (at doses ranging from 0.3 μM to 3 μM), having statistically significant adjusted Fisher's Exact Test p value.

[00934] **Table 7a**

Table 7a
ABCB8, ABCC3, ADAM17, ADCY3, AGPAT4, ANKRA2, ANXA11, APIP, APPL2, ARHGAP1, ARL15, ASAP1, ASPH, ATAD2B, ATXN1, BECN1, BHMT2, BICD1, BTN3A1, C11orf30, C11orf73, C12orf4, C14orf132, C8orf44, C8orf44-SGK3, C8orf88, CASC3, CASP7, CCDC122, CDH13, CECR7, CENPI, CEP112, CEP192, CHEK1, CMAHP, CNRIP1, COPS7B, CPSF4, CRISPLD2, CRYBG3, CSNK1E, CSNK1G1, DCAF17, DCUN1D4, DDX42, DENND1A, DENND5A, DGKA, DHFR, DIAPH3, DNAJC13, DNMBP, DOCK1, DYRK1A, EIF2B3, ENAH, ENOX1, EP300, ERC1, ERLIN2, ERRFI1, EVC, FAF1, FAIM, FAM126A, FAM13A, FAM162A, FAM174A, FBN2, FER, FHOD3, FOCAD, GALC, GCFC2, GGACT, GLCE, GOLGA4, GOLGB1, GPSM2, GULP1, GXYLT1, HDX, HLTF, HMGA2, HNMT, HSD17B12, HSD17B4, HTT, IFT57, IVD, KDM6A, KIAA1524, KIAA1715, LETM2, LOC400927, LRRC42, LUC7L3, LYRM1, MB21D2, MCM10, MED13L, MEDAG, MEMO1, MFN2, MMS19, MRPL45, MRPS28, MTERF3, MYCBP2, MYLK, MYOF, NGF, NREP, NSUN4, NT5C2, OSMR, OXCT1, PAPD4, PCM1, PDE7A, PDS5B, PDXDC1, PIGN, PIK3CD, PIK3R1, PIKFYVE, PITPNB, PLEKHA1, PLSCR1, PMS1, POMT2, PPARG, PPIP5K2, PPP1R26, PRPF31, PRSS23, PSMA4, PXK, RAF1, RAPGEF1, RARS2, RBKS, RERE, RFWD2, RPA1, RPS10, SAMD4A, SAR1A, SCO1, SEC24A, SENP6, SERGEF, SGK3, SLC12A2, SLC25A17, SLC44A2, SMYD3, SNAP23, SNHG16, SNX7, SOS2, SPATA5, SPIDR, SPRYD7, SRGAP1, SRRM1, STAT1, STXBP6, SUPT20H, TAF2, TASP1, TBC1D15, TCF12, TCF4, TIAM1, TJP2, TMC3, TMEM214, TNRC6A, TNS3, TOE1, TRAF3, TSPAN2, TTC7B, TYW5, UBAP2L, URGCP, VAV2, WDR27, WDR37, WDR91, WNK1, XRN2, ZCCHC8, ZFP82, ZNF138, ZNF232 or ZNF37BP

[00935] **Table 7b** shows genes that demonstrate an effect on inclusion of an exon with a corresponding change in isoform abundance as a result of having iREMS elements in the presence of Compound 774 (at doses ranging from 0.3 μM to 3 μM), having statistically significant adjusted Fisher's Exact Test p value.

[00936] **Table 7b**

Table 7b
APLP2, AXIN1, CECR7, DAGLB, DLGAP4, ERCC1, ERGIC3, FAM198B, GGCT, HAT1, HPS1, INPP5K, MADD, PPHLN1, PRUNE2, RAP1A, RNFT1, RPS6KB2, SH3YL1, SKA2, SPATA18, STRN3, TMEM189-UBE2V1, TRIM65, TUBE1, UBE2V1, VPS29 or ZNF680

METHODS OF PREVENTING AND/OR TREATING DISEASES

[00937] In another aspect, provided herein are methods for preventing and/or treating a disease associated with the aberrant expression of a product of a gene (e.g., an mRNA transcript or protein), wherein the precursor RNA transcript transcribed from the gene comprises an intronic REMS, the methods comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. In a specific embodiment, the gene comprises one or more introns, wherein at least one intron comprises in 5' to 3' order: a branch point, a 3' splice site and an intronic REMS.

[00938] In certain embodiments, the gene is any one of the genes disclosed in Tables 2-7 or 1. In certain embodiments, the gene contains a nucleotide sequence encoding a non-endogenous intronic REMS. In certain embodiments, the gene contains a nucleotide sequence encoding an endogenous intronic REMS. In one embodiment, provided herein are methods for preventing and/or treating a disease associated with aberrant expression of a product of a gene (*e.g.*, an mRNA, RNA transcript or protein), by way of nonlimiting example, disclosed in Table 1, *supra*, the methods comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. In a specific embodiment, the gene comprises one or more introns, wherein at least one of the introns comprises in 5' to 3' order: a branch point, a 3' splice site and an intronic REMS.

[00939] In another embodiment, provided herein are methods for preventing and/or treating a disease associated with aberrant expression of a product of a gene (*e.g.*, an mRNA, RNA transcript or protein), disclosed in Tables 2-7, *supra*, wherein the precursor RNA transcript transcribed from the gene comprises an intronic REMS, the methods comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. In a specific embodiment, the gene comprises one or more introns, wherein at least one intron comprises in 5' to 3' order: a branch point, a 3' splice site and an intronic REMS.

[00940] In another embodiment, provided herein are methods for preventing and/or treating a disease associated with aberrant expression of a product of a gene (*e.g.*, an mRNA, RNA

transcript or protein), by way of nonlimiting example, disclosed in International Patent Application No. PCT/US2014/071252 (International Publication No. WO 2015/105657), wherein the precursor RNA transcript transcribed from the gene comprises an intronic REMS, the methods comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. In another embodiment, provided herein are methods for preventing and/or treating a disease associated with aberrant expression of a product of a gene (*e.g.*, an mRNA, RNA transcript or protein), by way of nonlimiting example, disclosed in International Patent Application No. PCT/US2016/034864 (International Publication No. WO 2016/196386), wherein the precursor RNA transcript transcribed from the gene comprises an intronic REMS, the methods comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. In another embodiment, provided herein are methods for preventing and/or treating a disease associated with aberrant expression of a product of a gene (*e.g.*, an mRNA, RNA transcript or protein), by way of nonlimiting example, not disclosed in either International Publication No. WO 2015/105657, International Publication No. WO 2016/196386, or both, wherein the precursor RNA transcript transcribed from the gene comprises an intronic REMS, the methods comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. In a specific embodiment, the gene comprises one or more introns, wherein at least one intron comprises in 5' to 3' order: a branch point, a 3' splice site and an intronic REMS.

[00941] In another embodiment, provided herein are methods for preventing and/or treating a disease associated with aberrant expression of a product of a gene (*e.g.*, an mRNA, RNA transcript or protein), disclosed in Table 1, *supra*, wherein the precursor RNA transcript transcribed from the gene comprises an intronic REMS, the methods comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. In a specific embodiment, the gene comprises one or

more introns, wherein at least one intron comprises in 5' to 3' order: a branch point, a 3' splice site and an intronic REMS.

[00942] In another embodiment, provided herein are methods for preventing and/or treating a disease associated with aberrant expression of a product of a gene, disclosed in Table 7, *supra*, (*e.g.*, an mRNA, RNA transcript or protein), comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. *See* the example section for additional information regarding the genes in Table 7. In a specific embodiment, the gene comprises one or more introns, wherein at least one intron comprises in 5' to 3' order: a branch point, a 3' splice site and an intronic REMS.

[00943] In another aspect, provided herein are methods for preventing and/or treating a disease in which a change in the level of expression of one, two, three or more RNA isoforms encoded by a gene is beneficial to the prevention and/or treatment of the disease, wherein the precursor RNA transcript transcribed from the gene comprises an intronic REMS, the methods comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. In a specific embodiment, the gene comprises one or more introns, wherein at least one intron comprises in 5' to 3' order: a branch point, a 3' splice site and an intronic REMS.

[00944] In certain embodiments, the gene is any one of the genes disclosed in Tables 2-7 or 1. In certain embodiments, the gene contains a nucleotide sequence encoding ae non-endogenous intronic REMS. In certain embodiments, the gene contains a nucleotide sequence encoding an endogenous intronic REMS. In one embodiment, provided herein are methods for preventing and/or treating a disease in which the alteration (*e.g.*, increase or decrease) in the expression one, two, three or more RNA isoforms encoded by a gene, by way of nonlimiting example, disclosed in Table 1, *supra*, is beneficial to the prevention and/or treatment of the disease, the methods comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. In a specific embodiment,

the gene comprises one or more introns, wherein at least one intron comprises in 5' to 3' order: a branch point, a 3' splice site and an intronic REMS.

[00945] In another embodiment, provided herein are methods for preventing and/or treating a disease in which the alteration (*e.g.*, increase or decrease) in the expression one, two, three or more RNA isoforms encoded by a gene, disclosed in Tables 2-7, *supra*, is beneficial to the prevention and/or treatment of the disease, wherein the precursor RNA transcript transcribed from the gene comprises an intronic REMS, the methods comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. In another embodiment, provided herein are methods for preventing and/or treating a disease in which the alteration (*e.g.*, increase or decrease) in the expression one, two, three or more RNA isoforms encoded by a gene, disclosed in International Patent Application No. PCT/US2014/071252 (International Publication No. WO 2015/105657), is beneficial to the prevention and/or treatment of the disease, wherein the precursor RNA transcript transcribed from the gene comprises an intronic REMS, the methods comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. In another embodiment, provided herein are methods for preventing and/or treating a disease in which the alteration (*e.g.*, increase or decrease) in the expression one, two, three or more RNA isoforms encoded by a gene, disclosed in International Patent Application No. PCT/US2016/034864 (International Publication No. WO 2016/196386), is beneficial to the prevention and/or treatment of the disease, wherein the precursor RNA transcript transcribed from the gene comprises an intronic REMS, the methods comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. In another embodiment, provided herein are methods for preventing and/or treating a disease in which the alteration (*e.g.*, increase or decrease) in the expression one, two, three or more RNA isoforms encoded by a gene, not disclosed in either International Publication No. WO 2015/105657, International Publication No. WO 2016/196386, or both, is beneficial to the prevention and/or treatment of the disease, wherein the precursor RNA transcript transcribed from the gene

comprises an intronic REMS, the methods comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. In a specific embodiment, the gene comprises one or more introns, wherein at least one intron comprises in 5' to 3' order: a branch point, a 3' splice site and an intronic REMS.

[00946] In another embodiment, provided herein are methods for preventing and/or treating a disease in which the alteration (*e.g.*, increase or decrease) in the expression one, two, three or more RNA isoforms encoded by a gene, disclosed in Table 1, *supra*, is beneficial to the prevention and/or treatment of the disease, wherein the precursor RNA transcript transcribed from the gene comprises an intronic REMS, the methods comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. In a specific embodiment, the gene comprises one or more introns, wherein at least one intron comprises in 5' to 3' order: a branch point, a 3' splice site and an intronic REMS.

[00947] In another embodiment, provided herein are methods for preventing and/or treating a disease in which the alteration (*e.g.*, increase or decrease) in the expression one, two, three or more RNA isoforms encoded by a gene, disclosed in Table 1, *supra*, is beneficial to the prevention and/or treatment of the disease, the methods comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. In a specific embodiment, one, two, three or more RNA isoforms encoded by a gene, disclosed in Table 7, *supra*, are decreased following administration of a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. *See* the example section for additional information regarding the genes in Table 7. In a specific embodiment, the gene comprises one or more introns, wherein at least one intron comprises in 5' to 3' order: a branch point, a 3' splice site and an intronic REMS.

[00948] In another aspect, provided herein are methods for preventing and/or treating a disease in which a change in the level of expression of one, two, three or more protein isoforms encoded by a gene is beneficial to the prevention and/or treatment of the disease, wherein the

precursor RNA transcript transcribed from the gene comprises an intronic REMS, the methods comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. In a specific embodiment, the gene comprises one or more introns, wherein at least one intron comprises in 5' to 3' order: a branch point, a 3' splice site and an intronic REMS.

[00949] In certain embodiments, the gene is any one of the genes disclosed in Tables 2-7 or 1. In certain embodiments, the gene contains a nucleotide sequence encoding a non-endogenous intronic REMS. In certain embodiments, the gene contains a nucleotide sequence encoding an endogenous intronic REMS. In one embodiment, provided herein are methods for preventing and/or treating a disease in which the alteration (*e.g.*, increase or decrease) in the expression one, two, three or more protein isoforms encoded by a gene, by way of nonlimiting example, disclosed in Table 1, *supra*, is beneficial to the prevention and/or treatment of the disease, the methods comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. In a specific embodiment, the gene comprises one or more introns, wherein at least one intron comprises in 5' to 3' order: a branch point, a 3' splice site and an intronic REMS.

[00950] In another embodiment, provided herein are methods for preventing and/or treating a disease in which the alteration (*e.g.*, increase or decrease) in the expression one, two, three or more protein isoforms encoded by a gene, disclosed in Tables 2-7, *supra*, is beneficial to the prevention and/or treatment of the disease, wherein the precursor RNA transcript transcribed from the gene comprises an intronic REMS, the methods comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. In a specific embodiment, the gene comprises one or more introns, wherein at least one intron comprises in 5' to 3' order: a branch point, a 3' splice site and an intronic REMS.

[00951] In another embodiment, provided herein are methods for preventing and/or treating a disease in which the alteration (*e.g.*, increase or decrease) in the expression one, two, three or more protein isoforms encoded by a gene, disclosed in International Patent Application No.

PCT/US2014/071252 (International Publication No. WO 2015/105657), is beneficial to the prevention and/or treatment of the disease, wherein the precursor RNA transcript transcribed from the gene comprises an intronic REMS, the methods comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. In another embodiment, provided herein are methods for preventing and/or treating a disease in which the alteration (*e.g.*, increase or decrease) in the expression one, two, three or more protein isoforms encoded by a gene, disclosed in International Patent Application No. PCT/US2016/034864 (International Publication No. WO 2016/196386), is beneficial to the prevention and/or treatment of the disease, wherein the precursor RNA transcript transcribed from the gene comprises an intronic REMS, the methods comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. In a specific embodiment, the gene comprises one or more introns, wherein at least one intron comprises in 5' to 3' order: a branch point, a 3' splice site and an intronic REMS.

[00952] In another embodiment, provided herein are methods for preventing and/or treating a disease in which the alteration (*e.g.*, increase or decrease) in the expression one, two, three or more protein isoforms encoded by a gene, disclosed in Table 1, *supra*, is beneficial to the prevention and/or treatment of the disease, wherein the precursor RNA transcript transcribed from the gene comprises an intronic REMS, the methods comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. In a specific embodiment, the gene comprises one or more introns, wherein at least one intron comprises in 5' to 3' order: a branch point, a 3' splice site and an intronic REMS.

[00953] In another embodiment, provided herein are methods for preventing and/or treating a disease in which the alteration (*e.g.*, increase or decrease) in the expression one, two, three or more protein isoforms encoded by a gene, disclosed in Table 1, *supra*, is beneficial to the prevention and/or treatment of the disease, the methods comprising administering to a human or non-human subject a compound of Formula (I) or a form thereof, or a pharmaceutical

composition comprising a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. In a specific embodiment, one, two, three or more RNA isoforms encoded by a gene, disclosed in Table 7, *supra*, are decreased following administration of a compound of Formula (I) or a form thereof and a pharmaceutically acceptable carrier, excipient or diluent. *See* the example section for additional information regarding the genes in Table 7. In a specific embodiment, the gene comprises one or more introns, wherein at least one intron comprises in 5' to 3' order: a branch point, a 3' splice site and an intronic REMS.

[00954] In another embodiment, provided herein is a method for either preventing, treating or preventing and treating a disease in a subject in which the alteration (*e.g.*, increase or decrease) in the expression one, two, three or more protein isoforms encoded by a gene is beneficial to the prevention and/or treatment of the disease, wherein the gene comprises a DNA nucleotide sequence encoding two exons and an intron, wherein the nucleotide sequence encoding one exon is upstream of the nucleotide sequence encoding the intron and the nucleotide sequence encoding the other exon is downstream of the nucleotide sequence encoding the intron, wherein the DNA nucleotide sequence encoding the intron comprises in 5' to 3' order: a nucleotide sequence encoding a first 5' splice site, a nucleotide sequence encoding a first branch point, a nucleotide sequence encoding a first 3' splice site, an iREMS, a nucleotide sequence encoding a second branch point and a nucleotide sequence encoding a second 3' splice site, wherein the iREMS comprises a DNA sequence GAgtrngn (SEQ ID NO: 4), and wherein r is adenine or guanine and n is any nucleotide, the method comprising administering a compound described herein (for example, a compound of Formula (I) or a form thereof) to the subject.

[00955] In another embodiment, provided herein is a method for either preventing, treating and preventing and treating a disease in a subject in which the alteration (*e.g.*, increase or decrease) in the expression one, two, three or more protein isoforms encoded by a gene is beneficial to the prevention and/or treatment of the disease, wherein the gene comprises a DNA nucleotide sequence encoding two exons and an intron, wherein the nucleotide sequence encoding one exon is upstream of the nucleotide sequence encoding the intron and the nucleotide sequence encoding the other exon is downstream of the nucleotide sequence encoding the intron, wherein the DNA nucleotide sequence of the intron comprises in 5' to 3' order: an iREMS, a nucleotide sequence encoding a first branch point and a nucleotide sequence encoding a first 3' splice site, wherein the iREMS comprises a DNA sequence GAgtrngn (SEQ ID NO: 4), and

wherein r is adenine or guanine and n is any nucleotide, the method comprising administering a compound described herein (for example, a compound of Formula (I) or a form thereof) to the subject.

[00956] In another embodiment, provided herein is a method for either preventing, treating and preventing and treating a disease in a subject in which the alteration (*e.g.*, increase or decrease) in the expression one, two, three or more protein isoforms encoded by a gene is beneficial to the prevention and/or treatment of the disease, wherein the gene comprises a DNA nucleotide sequence encoding two exons and an intron, and wherein the DNA nucleotide sequence comprises exonic and intronic elements illustrated in Figure 1A, the method comprising administering a compound described herein (for example, a compound of Formula (I) or a form thereof) to the subject.

[00957] In another embodiment, provided herein is a method for either preventing, treating or preventing and treating a disease in a subject in which the alteration (*e.g.*, increase or decrease) in the expression one, two, three or more protein isoforms encoded by a gene is beneficial to the prevention and/or treatment of the disease, wherein the gene comprises a DNA nucleotide sequence encoding two exons and an intron, and wherein the DNA nucleotide sequence comprises exonic and intronic elements illustrated in Figure 1B, the method comprising administering a compound described herein (for example, a compound of Formula (I) or a form thereof) to the subject.

[00958] In another embodiment, provided herein is a method for either preventing, treating or preventing and treating a disease in a subject in which the alteration (*e.g.*, increase or decrease) in the expression one, two, three or more protein isoforms encoded by a gene is beneficial to the prevention and/or treatment of the disease, wherein the gene comprises a DNA nucleotide sequence encoding two exons and an intron and wherein the DNA nucleotide sequence comprises exonic and intronic elements illustrated in Figure 1C, the method comprising administering a compound described herein (for example, a compound of Formula (I) or a form thereof) to the subject.

[00959] In a specific embodiment, the gene is a gene described in a table in this disclosure.

[00960] In some embodiments, the compound of Formula (I) or a form thereof that is administered to a subject is a compound of Formula (II), Formula (III), Formula (IV), Formula (V), Formula (VI), Formula (VII), Formula (VIII), Formula (IX), Formula (X), Formula (XI),

Formula (XII), Formula (XIII), or Formula (XIV). In some embodiments, the compound of Formula (I) or a form thereof that is administered to a subject is a compound described herein.

[00961] In a specific embodiment, the methods for preventing a disease described herein prevent the onset or development of one or symptoms of the disease. In another embodiment, the methods for preventing a disease described herein prevent the recurrence of the disease or delays the recurrence of the disease. In another embodiment, the methods for treating a disease described herein has one, two or more of the effects: (i) reduce or ameliorate the severity of the disease; (ii) inhibit the progression of the disease; (iii) reduce hospitalization of a subject; (iv) reduce hospitalization length for a subject; (v) increase the survival of a subject; (vi) improve the quality of life of a subject; (vii) reduce the number of symptoms associated with the disease; (viii) reduce or ameliorates the severity of a symptom(s) associated with the disease; (ix) reduce the duration of a symptom(s) associated with the disease; (x) prevent the recurrence of a symptom associated with the disease; (xi) inhibit the development or onset of a symptom of the disease; and/or (xii) inhibit of the progression of a symptom associated with the disease.

[00962] In certain embodiments, the disease or disorder prevented and/or treated in accordance with a method described herein is a disease or disorder associated with a gene listed in Table 1 or Table 7. In specific embodiments, the disease or disorder prevented and/or treated in accordance with a method described herein is leukemia, acute myeloid leukemia, colon cancer, gastric cancer, macular degeneration, acute monocytic leukemia, breast cancer, combined methylmalonic aciduria and homocystinuria, cblC type, hepatocellular carcinoma, cone-rod dystrophy, alveolar soft part sarcoma, myeloma, skin melanoma, prostatitis, pancreatitis, pancreatic cancer, retinitis, adenocarcinoma, adenoiditis, adenoid cystic carcinoma, cataract, retinal degeneration, gastrointestinal stromal tumor, Wegener's granulomatosis, sarcoma, myopathy, prostate adenocarcinoma, Alzheimer's disease, hyperprolinemia, acne, tuberculosis, succinic semialdehyde dehydrogenase deficiency, esophagitis, mental retardation, esophageal adenocarcinoma, glycine encephalopathy, Crohn's disease, spina bifida, tuberculosis, autosomal recessive disease, schizophrenia, neural tube defects, lung cancer, myelodysplastic syndromes, amyotropic lateral sclerosis, neuronitis, germ cell tumors, Parkinson's disease, talipes equinovarus, dystrophinopathies, Hodgkin's lymphoma, ovarian cancer, non-Hodgkin's lymphoma, multiple myeloma, chronic myeloid leukemia, ischemia, acute lymphoblastic leukemia, renal cell carcinoma, transitional cell carcinoma, colorectal cancer, chronic

lymphocytic leukemia, anaplastic large cell lymphoma, kidney cancer, cerebritis, bladder related disorders, breast cancer, cervical cancer, cleft lip, cleft palate, cervicitis, spasticity, lipoma, scleroderma, Gitelman syndrome, poliomyelitis, paralysis, Aagenaes syndrome, or oculomotor nerve paralysis.

[00963] In specific embodiments, the disease or disorder prevented and/or treated in accordance with a method described herein is basal cell carcinoma, goblet cell metaplasia, or a malignant glioma. In other specific embodiments, the disease or disorder prevented and/or treated in accordance with a method described herein is a cancer of the liver, breast, lung, prostate, cervix, uterus, colon, pancreas, kidney, stomach, bladder, ovary, or brain.

[00964] In other specific embodiments, the disease or disorder prevented and/or treated in accordance with a method described herein is Duchenne muscular dystrophy, Beckers muscular dystrophy, Facioscapulohumeral muscular dystrophy, Limb-girdle muscular dystrophy, Charcot-Marie-Tooth disease (CMT), spinal muscular atrophy, Huntington's disease, amyotrophic lateral sclerosis, cystic fibrosis, congenital myopathies, muscle dystrophies, Alzheimer's disease, Parkinson's disease, schizophrenia, bipolar disorders, cognitive impairment, hereditary sensory and autonomic neuropathies, diseases of chronic inflammation, immune check point-dependent diseases, retinitis pigmentosa, aniridia, Dravet disease, or an epilepsy.

[00965] In certain embodiments, the disease prevented and/or treated in accordance with a method described herein is a disease caused by expression of one or more aberrant RNA transcripts, including a cancer amenable to treatment by downregulation of a gene or isoform thereof as described herein. In specific embodiments, cancers that can be prevented and/or treated in accordance with a method described herein include, but are not limited to, cancer of the head, neck, eye, mouth, throat, esophagus, esophagus, chest, bone, lung, kidney, colon, rectum or other gastrointestinal tract organs, stomach, spleen, skeletal muscle, subcutaneous tissue, prostate, breast, ovaries, testicles or other reproductive organs, skin, thyroid, blood, lymph nodes, kidney, liver, pancreas, brain or central nervous system.

[00966] Specific examples of cancers that can be prevented and/or treated in accordance with the methods provided herein include, but are not limited to, the following: renal cancer, kidney cancer, glioblastoma multiforme, metastatic breast cancer; breast carcinoma; breast sarcoma; neurofibroma; neurofibromatosis; pediatric tumors; neuroblastoma; malignant melanoma; carcinomas of the epidermis; leukemias such as but not limited to, acute leukemia, acute

lymphocytic leukemia, acute myelocytic leukemias such as myeloblastic, promyelocytic, myelomonocytic, monocytic, erythroleukemia leukemias and myclodysplastic syndrome, chronic leukemias such as but not limited to, chronic myclocytic (granulocytic) leukemia, chronic lymphocytic leukemia, hairy cell leukemia; polycythemia vera; lymphomas such as but not limited to Hodgkin's disease, non-Hodgkin's disease; multiple myelomas such as but not limited to smoldering multiple mycloma, nonsecretory myeloma, osteosclerotic myeloma, plasma cell leukemia, solitary plasmacytoma and extramedullary plasmacytoma; Waldenstrom's macroglobulinemia; monoclonal gammopathy of undetermined significance; benign monoclonal gammopathy; heavy chain disease; bone cancer and connective tissue sarcomas such as but not limited to bone sarcoma, myeloma bone disease, multiple myeloma, cholesteatoma-induced bone osteosarcoma, Paget's disease of bone, osteosarcoma, chondrosarcoma, Ewing's sarcoma, malignant giant cell tumor, fibrosarcoma of bone, chordoma, periosteal sarcoma, soft-tissue sarcomas, angiosarcoma (hemangiosarcoma), fibrosarcoma, Kaposi's sarcoma, leiomyosarcoma, liposarcoma, lymphangiosarcoma, neurilemmoma, rhabdomyosarcoma, and synovial sarcoma; brain tumors such as but not limited to, glioma, astrocytoma, brain stem glioma, ependymoma, oligodendroglioma, nonglial tumor, acoustic neurinoma, craniopharyngioma, medulloblastoma, meningioma, pineocytoma, pineoblastoma, and primary brain lymphoma; breast cancer including but not limited to adenocarcinoma, lobular (small cell) carcinoma, intraductal carcinoma, medullary breast cancer, mucinous breast cancer, tubular breast cancer, papillary breast cancer, Paget's disease (including juvenile Paget's disease) and inflammatory breast cancer; adrenal cancer such as but not limited to pheochromocytom and adrenocortical carcinoma; thyroid cancer such as but not limited to papillary or follicular thyroid cancer, medullary thyroid cancer and anaplastic thyroid cancer; pancreatic cancer such as but not limited to, insulinoma, gastrinoma, glucagonoma, vipoma, somatostatin-secreting tumor, and carcinoid or islet cell tumor; pituitary cancers such as but limited to Cushing's disease, prolactin-secreting tumor, acromegaly, and diabetes insipius; eye cancers such as but not limited to ocular melanoma such as iris melanoma, choroidal melanoma, and cilliary body melanoma, and retinoblastoma; vaginal cancers such as squamous cell carcinoma, adenocarcinoma, and melanoma; vulvar cancer such as squamous cell carcinoma, melanoma, adenocarcinoma, basal cell carcinoma, sarcoma, and Paget's disease; cervical cancers such as but not limited to, squamous cell carcinoma, and adenocarcinoma; uterine cancers such as but not limited to endometrial carcinoma and uterine

sarcoma; ovarian cancers such as but not limited to, ovarian epithelial carcinoma, borderline tumor, germ cell tumor, and stromal tumor; cervical carcinoma; esophageal cancers such as but not limited to, squamous cancer, adenocarcinoma, adenoid cyctic carcinoma, mucoepidermoid carcinoma, adenosquamous carcinoma, sarcoma, melanoma, plasmacytoma, verrucous carcinoma, and oat cell (small cell) carcinoma; stomach cancers such as but not limited to, adenocarcinoma, fungating (polypoid), ulcerating, superficial spreading, diffusely spreading, malignant lymphoma, liposarcoma, fibrosarcoma, and carcinosarcoma; colon cancers; KRAS-mutated colorectal cancer; PD-1-dependent cancers; PD-1L-dependent cancers; colon carcinoma; rectal cancers; liver cancers such as but not limited to hepatocellular carcinoma and hepatoblastoma, gallbladder cancers such as adenocarcinoma; cholangiocarcinomas such as but not limited to papillary, nodular, and diffuse; lung cancers such as KRAS-mutated non-small cell lung cancer, non-small cell lung cancer, squamous cell carcinoma (epidermoid carcinoma), adenocarcinoma, large-cell carcinoma and small-cell lung cancer; lung carcinoma; testicular cancers such as but not limited to germinal tumor, seminoma, anaplastic, classic (typical), spermatocytic, nonseminoma, embryonal carcinoma, teratoma carcinoma, choriocarcinoma (yolk-sac tumor), prostate cancers such as but not limited to, androgen-independent prostate cancer, androgen-dependent prostate cancer, adenocarcinoma, leiomyosarcoma, and rhabdomyosarcoma; penal cancers; oral cancers such as but not limited to squamous cell carcinoma; basal cancers; salivary gland cancers such as but not limited to adenocarcinoma, mucoepidermoid carcinoma, and adenoidcystic carcinoma; pharynx cancers such as but not limited to squamous cell cancer, and verrucous; skin cancers such as but not limited to, basal cell carcinoma, squamous cell carcinoma and melanoma, superficial spreading melanoma, nodular melanoma, lentigo malignant melanoma, acral lentiginous melanoma; kidney cancers such as but not limited to renal cell cancer, adenocarcinoma, hypernephroma, fibrosarcoma, transitional cell cancer (renal pelvis and/or uterer); renal carcinoma; Wilms' tumor; bladder cancers such as but not limited to transitional cell carcinoma, squamous cell cancer, adenocarcinoma, carcinosarcoma. In addition, cancers include myxosarcoma, osteogenic sarcoma, endotheliosarcoma, lymphangioendotheliosarcoma, mesotheliorna, synovioma, hemangioblastoma, epithelial carcinoma, cystadenocarcinoma, bronchogenic carcinoma, sweat gland carcinoma, sebaceous gland carcinoma, papillary carcinoma and papillary adenocarcinomas.

[00967] In certain embodiments cancers that can be prevented and/or treated in accordance with the methods provided herein include, the following: pediatric solid tumor, Ewing's sarcoma, Wilms tumor, neuroblastoma, neurofibroma, carcinoma of the epidermis, malignant melanoma, cervical carcinoma, colon carcinoma, lung carcinoma, renal carcinoma, breast carcinoma, breast sarcoma, metastatic breast cancer, HIV-related Kaposi's sarcoma, prostate cancer, androgen-independent prostate cancer, androgen-dependent prostate cancer, neurofibromatosis, lung cancer, non-small cell lung cancer, KRAS-mutated non-small cell lung cancer, malignant melanoma, melanoma, colon cancer, KRAS-mutated colorectal cancer, glioblastoma multiforme, renal cancer, kidney cancer, bladder cancer, ovarian cancer, hepatocellular carcinoma, thyroid carcinoma, rhabdomyosarcoma, acute myeloid leukemia, and multiple myeloma.

[00968] In certain embodiments, cancers and conditions associated therewith that are prevented and/or treated in accordance with the methods provided herein are breast carcinomas, lung carcinomas, gastric carcinomas, esophageal carcinomas, colorectal carcinomas, liver carcinomas, ovarian carcinomas, thecomas, arrhenoblastomas, cervical carcinomas, endometrial carcinoma, endometrial hyperplasia, endometriosis, fibrosarcomas, choriocarcinoma, head and neck cancer, nasopharyngeal carcinoma, laryngeal carcinomas, hepatoblastoma, Kaposi's sarcoma, melanoma, skin carcinomas, hemangioma, cavernous hemangioma, hemangioblastoma, pancreas carcinomas, retinoblastoma, astrocytoma, glioblastoma, Schwannoma, oligodendroglioma, medulloblastoma, neuroblastomas, rhabdomyosarcoma, osteogenic sarcoma, leiomyosarcomas, urinary tract carcinomas, thyroid carcinomas, Wilm's tumor, renal cell carcinoma, prostate carcinoma, abnormal vascular proliferation associated with phakomatoses, edema (such as that associated with brain tumors), or Meigs' syndrome. In specific embodiment, the cancer astrocytoma, an oligodendroglioma, a mixture of oligodendroglioma and an astrocytoma elements, an ependymoma, a meningioma, a pituitary adenoma, a primitive neuroectodermal tumor, a medullblastoma, a primary central nervous system (CNS) lymphoma, or a CNS germ cell tumor. In specific embodiments, the cancer treated in accordance with the methods provided herein is an acoustic neuroma, an anaplastic astrocytoma, a glioblastoma multiforme, or a meningioma. In other specific embodiments, the cancer treated in accordance with the methods provided herein is a brain stem glioma, a craniopharyngioma, an ependyoma, a

juvenile pilocytic astrocytoma, a medulloblastoma, an optic nerve glioma, primitive neuroectodermal tumor, or a rhabdoid tumor.

[00969] Specific examples of conditions caused by expression of one or more aberrant RNA transcripts that can be prevented and/or treated in accordance with the methods described herein include cystic fibrosis, muscular dystrophy, polycystic autosomal-dominant kidney disease, cancer-induced cachexia, benign prostatic hyperplasia, rheumatoid arthritis, psoriasis, atherosclerosis, obesity, retinopathies (including diabetic retinopathy and retinopathy of prematurity), retrolental fibroplasia, neovascular glaucoma, age-related macular degeneration, exudative macular degeneration, thyroid hyperplasias (including Grave's disease), corneal and other tissue transplantation, epidemic keratoconjunctivitis, Vitamin A deficiency, contact lens overwear, atopic keratitis, superior limbic keratitis, and pterygium keratitis sicca, viral infections, inflammation associated with viral infections, chronic inflammation, lung inflammation, nephrotic syndrome, preeclampsia, ascites, pericardial effusion (such as that associated with pericarditis), pleural effusion, Sjogren's syndrome, acne rosacea, phylectenulosis, syphilis, lipid degeneration, chemical burns, bacterial ulcers, fungal ulcers, Herpes simplex infection, Herpes zoster infections, protozoan infections, Mooren's ulcer, Terrien's marginal degeneration, marginal keratolysis, systemic lupus, polyarteritis, trauma, Wegener's sarcoidosis, Paget's disease, scleritis, Stevens-Johnson's disease, pemphigoid, radial keratotomy, Eales' disease, Behcet's disease, sickle cell anemia, pseudoxanthoma elasticum, Stargardt's disease, pars planitis, chronic retinal detachment, vein occlusion, artery occlusion, carotid obstructive disease, chronic uveitis/vitritis, ocular histoplasmosis, Mycobacteria infections, Lyme's disease, Best's disease, myopia, optic pits, hyperviscosity syndromes, toxoplasmosis, sarcoidosis, trauma, post-laser complications, diseases associated with rubeosis (neovascularization of the iris and of the angle), and diseases caused by the abnormal proliferation of fibrovascular or fibrous tissue, including all forms of prolific vitreoretinopathy. Certain examples of non-neoplastic conditions that can be prevented and/or treated in accordance with the methods described herein include viral infections, including but not limited to, those associated with viruses belonging to Flaviviridae, flavivirus, pestivirus, hepacivirus, West Nile virus, hepatitis C virus (HCV) or human papilloma virus (HPV).

[00970] Particular examples of conditions caused by expression of one or more of aberrant RNA transcripts that can be prevented and/or treated in accordance with the methods described

herein include Duchenne muscular dystrophy, Beckers muscular dystrophy, Facioscapulohumeral muscular dystrophy, Limb-girdle muscular dystrophy, Charcot-Marie-Tooth disease (CMT), spinal muscular atrophy, Huntington's disease, amyotrophic lateral sclerosis, cystic fibrosis, congenital myopathies, muscle dystrophies, Alzheimer's disease, Parkinson's disease, schizophrenia, bipolar disorders, cognitive impairment, hereditary sensory and autonomic neuropathies, diseases of chronic inflammation, immune check point-dependent diseases, retinitis pigmentosa, aniridia, Dravet disease, or an epilepsy.

ARTIFICIAL GENE CONSTRUCTS

[00971] Also provided herein are artificial gene constructs comprising a DNA sequence encoding exons and one or more introns, wherein the nucleotide sequence of at least one intron encodes an intronic REMS downstream of the nucleotide sequence encoding a branch point and the nucleotide sequence encoding a 3' splice site in 5' to 3' order, and artificial gene constructs comprising an RNA sequence that comprises exons and one or more introns, wherein at least one intron comprises a branch point, a 3' splice site and an intronic REMS in 5' to 3' order. The DNA sequence described herein can be or derived from, for example, a genomic DNA sequence or a DNA analog thereof. The RNA sequence described herein can be or derived from, for example, a precursor RNA transcript or an RNA analog thereof. As used herein, the term "artificial gene construct" refers to a DNA or RNA gene construct that comprises a nucleotide sequence not found in nature.

[00972] In another aspect, provided herein is an artificial gene construct comprising an RNA sequence comprising two exons and an intron, wherein one exon is upstream of the intron and the other exon is downstream of the intron, wherein the RNA nucleotide sequence of the intron comprises in 5' to 3' order: a first 5' splice site, a first branch point, a first 3' splice site, an iREMS, a second branch point and a second 3' splice site, wherein the iREMS comprises an RNA sequence GAgurngn (SEQ ID NO: 2), and wherein r is adenine or guanine and n is any nucleotide.

[00973] In another aspect, provide herein is an artificial gene construct comprising an RNA sequence comprising two exons and an intron, wherein one exon is upstream of the intron and the other exon is downstream of the intron, wherein the RNA nucleotide sequence of the intron comprises in 5' to 3' order: an iREMS, a first branch point and a first 3' splice site, wherein the

iREMS comprises an RNA sequence GAgurngn (SEQ ID NO: 2), and wherein r is adenine or guanine and n is any nucleotide.

[00974] In another aspect, provided herein is an artificial gene construct comprising an RNA sequence comprising two exons and an intron, wherein the RNA sequence comprises exonic and intronic elements illustrated in Figure 1A.

[00975] In another aspect, provided herein is an artificial gene construct comprising an RNA sequence comprising two exons and an intron, wherein the RNA sequence comprises exonic and intronic elements illustrated in Figure 1B.

[00976] In another aspect, provided herein is an artificial gene construct comprising an RNA sequence comprising two exons and an intron, wherein the RNA sequence comprises exonic and intronic elements illustrated in Figure 1C.

[00977] In another aspect, provided herein is an artificial gene construct comprising a DNA sequence encoding two exons and an intron, wherein the nucleotide sequence encoding one exon is upstream of the nucleotide sequence encoding the intron and the nucleotide sequence encoding the other exon is downstream of the nucleotide sequence encoding the intron, wherein the nucleotide sequence encoding the intron comprises in 5' to 3' order: a nucleotide sequence encoding a first 5' splice site, a nucleotide sequence encoding a first branch point, a nucleotide sequence encoding a first 3' splice site, an iREMS, a nucleotide sequence encoding a second branch point and a nucleotide sequence encoding a second 3' splice site, wherein the iREMS comprises a DNA sequence GAgtrngn (SEQ ID NO: 4), and wherein r is adenine or guanine and n is any nucleotide.

[00978] In another aspect, provide herein is an artificial gene construct comprising a DNA sequence encoding two exons and an intron, wherein the nucleotide sequence encoding one exon is upstream of the nucleotide sequence encoding the intron and the nucleotide sequence encoding the other exon is downstream of the nucleotide sequence encoding the intron, wherein the nucleotide sequence encoding the intron comprises in 5' to 3' order: an iREMS, a nucleotide sequence encoding a first branch point and a nucleotide sequence encoding a first 3' splice site, wherein the iREMS comprises an DNA sequence GAgtrngn (SEQ ID NO: 4), wherein r is adenine or guanine and n is any nucleotide.

[00979] In another aspect, provide herein is an artificial gene construct comprising a DNA sequence encoding two exons and an intron, wherein the DNA sequence comprises exonic and intronic elements illustrated in Figure 1A.

[00980] In another aspect, provide herein is an artificial gene construct comprising a DNA sequence encoding two exons and an intron, wherein the DNA sequence comprises exonic and intronic elements illustrated in Figure 1B.

[00981] In another aspect, provide herein is an artificial gene construct comprising a DNA sequence encoding two exons and an intron, wherein the DNA sequence comprises exonic and intronic elements illustrated in Figure 1C.

[00982] In one aspect, provided herein are artificial gene constructs comprising an intronic REMS. In one embodiment, an artificial gene construct comprises genomic DNA or DNA encoding exons and one, two or more introns, wherein a nucleotide sequence encoding an intronic REMS, which may be upstream or downstream of a nucleotide sequence encoding a branch point and a nucleotide sequence encoding a 3' splice site, is modified to introduce a nucleotide sequence encoding the intronic REMS. In another embodiment, an artificial gene construct comprises DNA encoding exons, an intronic REMS, a 3' splice site(s) and a branch point(s) sequence, wherein a nucleotide sequence encoding an intronic REMS, which may be upstream or downstream of at least one nucleotide sequence encoding a branch point and at least one nucleotide sequence encoding a 3' splice site, is modified to introduce a nucleotide sequence encoding an intronic REMS. In another embodiment, an artificial gene construct comprises genomic DNA or DNA encoding exons and one, two or more introns, wherein a nucleotide sequence encoding an intronic REMS, which may be upstream or downstream of a nucleotide sequence encoding a branch point and a nucleotide sequence encoding a 3' splice site, is introduced into an intron by genetic engineering. In another embodiment, an artificial gene construct comprises genomic DNA or DNA encoding exons and one, two or more introns, wherein a nucleotide sequence encoding an intronic REMS, which may be upstream or downstream of a nucleotide sequence encoding a branch point and a nucleotide sequence encoding a 3' splice site, is endogenously present in an intron. In some embodiments, an artificial gene construct comprises a DNA sequence that is genetically engineered to introduce a nucleotide sequence encoding an intronic REMS, wherein the location of the intronic REMS is as illustrated in any of Figures 1A-1C. In some embodiments, an artificial gene construct

comprises a DNA sequence that is genetically engineered to comprise one, two, or all of the following: intronic REMS, branch point, and 3' splice site. In some embodiments, an artificial gene construct comprises a DNA sequence that is genetically engineered to comprise a branch point, a 3' splice site and an intronic REMS, in 5' to 3' order. In certain embodiments, the DNA sequence chosen to be used in the production of an artificial gene construct may contain a nucleotide sequence encoding an intronic REMS and an additional nucleotide sequence encoding an intronic REMS or a branch point or a 3' splice site sequence is introduced. In specific embodiments, the nucleotide sequence encoding an intronic REMS or a branch point or a 3' splice site is a non-endogenous sequence, i.e., a sequence not naturally found in the DNA sequence of the artificial gene construct. In certain embodiments, the artificial gene construct comprises other elements, such as a promoter (*e.g.*, a constitutive, inducible or tissue specific promoter), a Poly(A) site, a transcription termination site, and a transcription binding site(s). In certain embodiments, the artificial gene construct comprises at least the sequences to encode a therapeutic protein. In some embodiments, the artificial gene construct comprises at least an intronic REMS for a gene listed in Table 1-7. In a specific embodiment, the artificial gene construct further comprises exons of a gene listed in Table 1-7. In certain embodiments, the artificial gene construct comprises at least the exons of a detectable reporter gene, such as green fluorescent protein (GFP), yellow fluorescent protein (YFP), red fluorescent protein, beta galactosidase, renilla luciferase, firefly luciferase, etc.

[00983] In certain embodiments, an artificial gene construct is produced as follows: a nucleotide sequence encoding an intronic REMS is introduced into a nucleotide sequence encoding an existing intronic branch point and intronic 3' splice site of genomic DNA or DNA, wherein the DNA encodes two or more exons and one or more introns, and wherein the nucleotide sequence encoding the intronic REMS is downstream (in a preferred embodiment) or upstream of a nucleotide sequence encoding a branch point and a 3' splice site. In some embodiments, an artificial gene construct is produced as follows: a nucleotide sequence encoding an intronic REMS is introduced downstream (in a preferred embodiment) or upstream of a nucleotide sequence encoding a branch point and a 3' splice site of genomic DNA or DNA, wherein the DNA encodes two or more exons and an intron(s). In a specific embodiment, the nucleotide sequence encoding the intronic REMS is introduced internally within a nucleotide sequence encoding an intron. In certain embodiments, an artificial gene construct is produced as

follows: a nucleotide sequence encoding an intronic REMS, a nucleotide sequence encoding a branch point, and a nucleotide sequence encoding a 3' splice site are introduced into a cDNA, wherein the nucleotide sequence encoding the intronic REMS may be upstream of the branch point and 3' splice site, respectively; or may be downstream (in a preferred embodiment) of the 3' splice site and branch point, respectively. The nucleotide sequence encoding the intronic REMS functions as a 5' splice site. In certain embodiments, the nucleotide sequence encoding the intronic REMS is internally within an intron. In a specific embodiment, the genomic DNA or DNA chosen for use in the production of an artificial gene construct does not contain one or more of a nucleotide sequence encoding an intronic REMS or a nucleotide sequence encoding a branch point or a nucleotide sequence encoding a 3' splice site. In certain embodiments, the genomic DNA or DNA chosen for use in the production of an artificial gene construct contains an intronic REMS and an additional intronic REMS is introduced. In some embodiments, in introducing a nucleotide sequence encoding an intronic REMS into a DNA sequence, care should be taken so as not to disrupt an open reading frame or introduce a stop codon. The introduction of a nucleotide sequence encoding an intronic REMS into a DNA sequence may or may not result in an amino acid change at the protein level. In certain embodiments, the introduction of a nucleotide sequence encoding an intronic REMS into a DNA sequence results in an amino acid change at the protein level. In some embodiments, this amino acid change is a conservative amino acid substitution. In other embodiments, the introduction of a nucleotide sequence encoding an intronic REMS into a DNA sequence does not result in an amino acid change at the protein level. Techniques known to one of skill in the art may be used to introduce an intronic REMS and other elements, such as a branch point sequence or 3' splice site sequence into a DNA sequence, *e.g.*, gene editing techniques such as the CRISPR-Cas approach, Transcription Activator-Like Effector Nucleases (TALENs), or Zinc finger nucleases (ZFNs) may be used.

[00984] In certain embodiments, an artificial gene construct comprises an RNA sequence comprising exons and one, two or more introns, wherein an intronic REMS 5' splice site, which is downstream of a 3' splice site, is introduced into an intron by genetic engineering. In another embodiment, an artificial gene construct comprises an RNA sequence comprising exons, one, two or more introns, a 5' splice site(s), a 3' splice site(s) and a branch point(s), wherein an intronic REMS, which is downstream of a 3' splice site, is introduced into an intron by genetic engineering. In some embodiments, an artificial gene construct comprises a DNA sequence that

is genetically engineered to comprise one, two, or all of the following: branch point, 3' splice site and/or intronic REMS. In some embodiments, an artificial gene construct comprises a DNA sequence that is genetically engineered to comprise a branch point, a 3' splice site and an intronic REMS, in 5' to 3' order. In another embodiment, an artificial gene construct comprises an RNA sequence comprising exons and one or more introns, wherein at least one intron comprises in 5' to 3' order: a branch point, a 3' splice site and an intronic REMS, wherein the intronic REMS is endogenously present in an intron. In another embodiment, an artificial gene construct comprises an RNA sequence comprising exons, endogenously having a 5' splice site(s), a 3' splice site(s) and a branch point(s), wherein an intron, which is upstream of a 3' splice site, is modified to introduce a non-endogenous branch point, a non-endogenous 3' splice site and a non-endogenous intronic REMS. In specific embodiments, the intronic REMS is non-endogenous, i.e., not naturally found in the RNA sequence of the artificial gene construct.In certain embodiments, the artificial gene construct comprises other elements, such as a promoter (*e.g.*, a tissue-specific promoter or constitutively expressed promoter), 5' untranslated region, 3' untranslated region, a binding site(s) for RNA binding proteins, a small molecule RNA sensor(s), *e.g.*, riboswitches, stem-loop structures, and/or internal ribosome entry sites (IRES), etc. In certain embodiments, the artificial gene construct comprises at least the introns of a gene encoding a therapeutic protein. In some embodiments, the artificial gene construct comprises at least the introns of a gene listed in Tables 1-7. In a specific embodiment, the artificial gene construct further comprises exons of a gene listed in Table 1-7. In a specific embodiment, the RNA transcript chosen to be used in the production of an artificial gene construct does not contain an intronic REMS. In certain embodiments, the RNA transcript chosen to use in the production of an artificial gene construct contains an intronic REMS and an additional exonic or intronic REMS is introduced. In certain embodiments, the RNA transcript chosen to use in the production of an artificial gene construct contains an intronic REMS and an additional intronic REMS is introduced. In other embodiments, the artificial gene construct comprises at least one intron and two exons of a detectable reporter gene, such as green fluorescent protein (GFP), yellow fluorescent protein (YFP), red fluorescent protein, beta galactosidase, renilla luciferase, firefly luciferase, etc.

[00985] In certain embodiments, an artificial gene construct is produced as follows: an intronic REMS is introduced into an existing 5' splice site of precursor RNA, wherein the RNA

comprises two or more exons and one or more introns, and wherein an intronic REMS is upstream of a branch point sequence and a 3' splice site sequence. In some embodiments, an artificial gene construct is produced as follows: an intronic REMS is introduced upstream of a 3' splice site of a precursor RNA, wherein the RNA comprises two or more exons and an intron(s). In a specific embodiment, the intronic REMS is introduced internally within an intron. In certain embodiments, an artificial gene construct is produced as follows: a branch point, a 3' splice site and an intronic REMS are introduced into a precursor RNA, wherein the REMS may be either downstream or upstream of the branch point and 3' splice site. In certain embodiments, an artificial gene construct is produced as follows: a branch point, a 3' splice site and an intronic REMS are introduced into an mRNA, wherein the REMS may be either downstream or upstream of the branch point and 3' splice site. The intronic REMS functions as a 5' splice site. In some embodiments, in introducing an intronic REMS into an RNA sequence, care should be taken so as not to disrupt an open reading frame or introduce a stop codon. The introduction of an intronic REMS into an RNA transcript may or may not result in an amino acid change at the protein level. In certain embodiments, the introduction of an intronic REMS into an RNA transcript results in an amino acid change at the protein level. In some embodiments, this amino acid change is a conservative amino acid substitution. In other embodiments, the introduction of an intronic REMS into an RNA transcript does not result in an amino acid change at the protein level. Techniques known to one of skill in the art may be used to introduce an intronic REMS and other elements, such as a branch point or 3' splice site into an RNA transcript.

[00986] In some embodiments, an artificial gene construct is present in a viral vector (*e.g.*, an adeno-associated virus (AAV), self-complimentary adeno-associated virus, adenovirus, retrovirus, lentivirus (*e.g.*, Simian immunodeficiency virus, human immunodeficiency virus, or modified human immunodeficiency virus), Newcastle disease virus (NDV), herpes virus (*e.g.*, herpes simplex virus), alphavirus, vaccina virus, etc.), a plasmid, or other vector (*e.g.*, non-viral vectors, such as lipoplexes, liposomes, polymerosomes, or nanoparticles).

[00987] In some embodiments, the artificial gene construct is an RNA molecule modified to enable cellular uptake. In certain embodiments, the artificial gene construct is an RNA molecule containing pseudouridine or other modified/artificial nucleotides for enhanced cellular uptake and gene expression.

[00988] The use of an artificial gene construct described herein in gene therapy allows one to regulate the amount and type of a protein produced from the construct depending on whether or not a compound described herein is present. The compound is essentially a tunable switch that, depending on the amount and duration of the dose of the compound, regulates the amount and type of protein produced.

[00989] In certain embodiments, an RNA transcript transcribed from an artificial gene construct that is DNA would not produce or produce substantially less functional protein in the presence of a compound described herein than the amount of functional protein produced in the absence of a compound described herein. For example, if the artificial gene construct comprises a nucleotide sequence encoding an intronic REMS, which is downstream of an intronic nucleotide sequence encoding a branch point and a 3' splice site, then the creation of an intronic exon would ultimately result in less amount of the original protein (*i.e.*, without amino acid sequence derived from the intronic exon) being produced in the presence of a compound described hererin. Alternatively, in certain embodiments, an RNA transcript transcribed from an artificial gene construct that is DNA would produce or would produce substantially less functional protein in the presence of a compound described herein than the amount of functional protein produced in the absence of a compound described herein.

[00990] In certain embodiments, an artificial gene construct or vector comprising an artificial gene construct is used in cell culture. For example, in a cell(s) transfected with an artificial gene construct or transduced with a vector comprising an artificial gene construct, the amount and type of a protein produced from the artificial gene construct can be altered depending upon whether or not a compound described herein is contacted with the transfected cell(s). For example, if the artificial gene construct comprises a nucleotide sequence encoding an intronic REMS, which is downstream of a nucleotide sequence encoding a branch point and a 3' splice site, then the likelihood of producing an intronic exon would be less in the absence of the compound. Thus, the use of an artificial gene construct described herein allows one to regulate the amount and type of a protein produced from the construct depending on whether or not a compound described herein is present. In other words, a compound described herein is essentially a switch that regulates the amount and type of protein produced. This regulation of the production of protein could be useful, *e.g.*, when trying to assess the role of certain genes or the effects of certain agents on pathways. The amount of the protein produced can be modified

based on the amount of a compound described herein that is contacted with the transfected cell and/or how long the compound is contacted with the transfected cell.

[00991] In certain embodiments, an animal (*e.g.*, a non-human animal, such as a mouse, rat, fly, etc.) is engineered to contain an artificial gene construct or a vector comprising an artificial gene construct. Techniques known to one of skill in the art may be used to engineer such animals. The amount of protein produced by this engineered animal can be regulated by whether or not a compound described herein is administered to the animal. The amount of the protein produced can be titrated based on the dose and/or the duration of administration of a compound described herein to the engineered animal. In certain embodiments, the artificial gene construct encodes a detectable reporter gene, such as green fluorescent protein (GFP), yellow fluorescent protein (YFP), red fluorescent protein, beta galactosidase, renilla luciferase, firefly luciferase, etc. In accordance with this embodiment, the engineered animal may be used to monitor development at different stages, visualize tissue function, etc. In other embodiments, the artificial gene construct encodes a therapeutic gene product, such as described the gene product of a gene in Tables 2-7 and 1. In accordance with this embodiment, the engineered animal may be used to monitor development at different stages or in functional biological studies where a certain protein or protein isoform needs to be expressed only for a period of time and not constitutively, etc.

[00992] In certain embodiments, an artificial gene construct or a vector comprising an artificial gene construct are used in gene therapy. Non-limiting examples of vectors include, but are not limited to, plasmids and viral vectors, such as vectors derived from replication defective retroviruses, adenoviruses, adeno-associated viruses and baculoviruses. The vector can be an RNA vector or preferably a DNA vector.

GENE THERAPY

[00993] In another aspect, provided herein are artificial gene constructs or vectors comprising an artificial gene construct for use in gene therapy. The use of an artificial gene construct described herein in gene therapy allows one to regulate the amount and type of a protein produced from the construct depending on whether or not a compound described herein is present. The compound is essentially a switch that regulates the amount and type of protein produced.

[00994] In certain embodiments, an RNA transcript transcribed from an artificial gene construct that is DNA would not produce or would produce substantially more protein in the absence of a compound described herein than the amount of protein produced in the presence of a compound described herein. In certain embodiments, an RNA transcript transcribed from an artificial gene construct would not produce or would produce substantially more protein in the absence of a compound described herein than the amount of protein produced in the presence of a compound described herein. For example, if the artificial gene construct comprises a nucleotide sequence encoding an intronic REMS, which is downstream of a nucleotide sequence encoding a branch point and a 3' splice site, then the likelihood of producing an intronic exon would be less in the absence of a compound described herein, which would ultimately result in more amount of the original protein (*i.e.*, without amino acid sequence derived from the intronic exon) being produced. Thus, the use of an artificial gene construct or a vector comprising an artificial gene construct may be useful in treating and/or preventing certain conditions or diseases associated with genes. The conditions or diseases may include those described herein. Alternatively, in certain embodiments, an RNA transcript transcribed from an artificial gene construct that is DNA would produce substantially less functional protein in the presence of a compound described herein than the amount of functional protein produced in the absence of a compound described herein. For example, in certain embodiments, if the artificial gene construct comprises a nucleotide sequence encoding an intronic REMS, the production of the original protein (*i.e.*, without amino acid sequence derived from the intronic exon), which is a functional protein, would be reduced in the presence of a compound described herein. However, in the absence of a compound described herein, normal splicing would occur, and the production of the functional protein will not be reduced. The amount and type of the protein produced can be titrated based on dose and duration of dosing of the compound.

[00995] In a specific embodiment, the artificial gene construct used in gene therapy comprises an RNA sequence comprising two exons and an intron, wherein one exon is upstream of the intron and the other exon is downstream of the intron, wherein the RNA nucleotide sequence of the intron comprises in 5' to 3' order: a first 5' splice site, a first branch point, a first 3' splice site, an iREMS, a second branch point and a second 3' splice site, wherein the iREMS comprises an RNA sequence GAgurngn (SEQ ID NO: 2), and wherein r is adenine or guanine and n is any nucleotide.

[00996] In another specific embodiment, the artificial gene construct used in gene therapy comprises an RNA sequence comprising two exons and an intron, wherein one exon is upstream of the intron and the other exon is downstream of the intron, wherein the RNA nucleotide sequence of the intron comprises in 5' to 3' order: an iREMS, a first branch point and a first 3' splice site, wherein the iREMS comprises an RNA sequence GAgurngn (SEQ ID NO: 2), and wherein r is adenine or guanine and n is any nucleotide.

[00997] In another specific embodiment, the artificial gene construct used in gene therapy comprises an RNA sequence comprising two exons and an intron, wherein the RNA sequence comprises exonic and intronic elements illustrated in Figure 1A.

[00998] In another specific embodiment, the artificial gene construct used in gene therapy comprises an RNA sequence comprising two exons and an intron, wherein the RNA sequence comprises exonic and intronic elements illustrated in Figure 1B.

[00999] In another specific embodiment, the artificial gene construct used in gene therapy comprises an RNA sequence comprising two exons and an intron, wherein the RNA sequence comprises exonic and intronic elements illustrated in Figure 1C.

[001000] In another specific embodiment, the artificial gene construct used in gene therapy comprises a DNA sequence encoding two exons and an intron, wherein the nucleotide sequence encoding one exon is upstream of the nucleotide sequence encoding the intron and the nucleotide sequence encoding the other exon is downstream of the nucleotide sequence encoding the intron, wherein the nucleotide sequence encoding the intron comprises in 5' to 3' order: a nucleotide sequence encoding a first 5' splice site, a nucleotide sequence encoding a first branch point, a nucleotide sequence encoding a first 3' splice site, an iREMS, a nucleotide sequence encoding a second branch point and a nucleotide sequence encoding a second 3' splice site, wherein the iREMS comprises a DNA sequence GAgtrngn (SEQ ID NO: 4), wherein r is adenine or guanine and n is any nucleotide.

[001001] In another specific embodiment, the artificial gene construct used in gene therapy comprises a DNA sequence encoding two exons and an intron, wherein the nucleotide sequence encoding one exon is upstream of the nucleotide sequence encoding the intron and the nucleotide sequence encoding the other exon is downstream of the nucleotide sequence encoding the intron, wherein the nucleotide sequence encoding the intron comprises in 5' to 3' order: an iREMS, a nucleotide sequence encoding a first branch point and a nucleotide sequence encoding a first 3'

splice site, wherein the iREMS comprises an DNA sequence GAgtrngn (SEQ ID NO: 4), wherein r is adenine or guanine and n is any nucleotide.

[001002] In another specific embodiment, the artificial gene construct used in gene therapy comprises a DNA sequence encoding two exons and an intron, wherein the DNA sequence comprises exonic and intronic elements illustrated in Figure 1A.

[001003] In another specific embodiment, the artificial gene construct used in gene therapy comprises a DNA sequence encoding two exons and an intron, wherein the DNA sequence comprises exonic and intronic elements illustrated in Figure 1B.

[001004] In another specific embodiment, the artificial gene construct used in gene therapy comprises a DNA sequence encoding two exons and an intron, wherein the DNA sequence comprises exonic and intronic elements illustrated in Figure 1C.

[001005] An artificial gene construct, a vector comprising the artificial gene construct, or an RNA molecule comprising an artificial gene construct modified to enable cellular uptake may be introduced into cells or administered directly to patients. In one embodiment, an artificial gene construct or a vector comprising the artificial gene construct is introduced into cells *ex vivo* or *in vivo*. In a specific embodiment, an artificial gene construct or vector is introduced into a cell(s) *ex vivo* and the cell(s) may be administered to a subject. Various techniques known to one of skill in the art may be used to introduce an artificial gene construct or vector comprising the artificial gene construct into a cell(s), such as electroporation, transfection, transformation, etc. In another embodiment, an artificial gene construct or vector comprising the artificial gene construct is administered to a subject. The artificial gene construct or vector comprising the artificial gene construct may be administered to a subject by any technique known to one skilled in the art, *e.g.*, intramuscularly, intravenously, subcutaneously, intradermally, topically, intrathecally, intraperitoneally, intratumorally, etc. In some embodiments, the artificial gene construct or vector comprising the artificial gene construct is administered to a subject systemically. In other embodiments, the artificial gene construct or vector comprising the artificial gene construct is administered to a subject locally.

ALTERING ENDOGENOUS GENES

[001006] In another aspect, provided herein are method for altering an endogenous gene such that it contains a nucleotide sequence encoding an intronic REMS, or contains an additional

nucleotide sequence encoding an intronic REMS (in other words, an intronic REMS not naturally found in the endogenous gene, i.e., a non-endogenous intronic REMS). In a specific embodiment, provided herein are method for altering an endogenous gene such that it contains a nucleotide sequence encoding an intronic REMS and contains a nucleotide sequence encoding a branch point and a nucleotide sequence encoding a 3' splice site upstream of the nucleotide sequence encoding the intronic REMS. As used herein, the term "endogenous gene" refers to a gene naturally found in a cell or living subject. Techniques known to one of skill in the art can be used to introduce any one, two, or all of the following: a branch point, a 3' splice site, and an intronic REMS into an endogenous gene, e.g., the CRISPR-Cas approach, TALEN, or ZFN may be used. In certain embodiments, a nucleotide sequence encoding an existing 5' splice site can be replaced with an intronic REMS or an intronic REMS may be inserted internally within an intron. In certain embodiments, in introducing a nucleotide sequence encoding an intronic REMS into an endogenous gene, care should be taken so as not to disrupt an open reading frame or introduce a stop codon. The introduction of a nucleotide sequence encoding an intronic REMS into an endogenous gene may or may not result in an amino acid change at the protein level. In certain embodiments, the introduction of a nucleotide sequence encoding an intronic REMS into an endogenous gene results in an amino acid change at the protein level. In some embodiments, this amino acid change is a conservative amino acid substitution. In other embodiments, the introduction of a nucleotide sequence encoding an intronic REMS into an endogenous gene does not result in an amino acid change at the protein level.

KITS

[001007] In one aspect, provided herein are kits comprising, in a container, an artificial gene construct or a vector comprising an artificial construct. In certain embodiments, the kits further comprise a compound described herein, in a separate container, and/or a negative control, such as phosphate buffered saline or a compound that does not recognize an intronic REMS, in a separate container. In a specific embodiment, the kits further comprise a positive control, such as a compound described herein as a positive control. In some embodiments, the kits further comprise primers and/or antibodies, in one or more separate containers, for assessing the production of an mRNA transcript from an artificial gene construct and/or protein production therefrom.

[001008] In another aspect, provided herein are kits comprising, in one or more containers, the components and/or reagents necessary to produce an artificial gene construct and/or a vector comprising an artificial gene construct. In another aspect, provided herein are kits comprising, in one or more containers, the components and/or reagents necessary to alter an endogenous gene so that it contains a nucleotide sequence encoding an intronic REMS or an additional nucleotide sequence encoding an intronic REMS (in other words, a REMS not naturally found in the endogenous gene, i.e., a non-endogenous REMS). In another aspect, provided herein are kits comprising, in one or more containers, the components and/or reagents necessary to alter an endogenous gene so that it contains a nucleotide sequence encoding an intronic REMS and contains a nucleotide sequence encoding a branch point and a nucleotide sequence encoding a 3' splice site upstream of the nucleotide sequence encoding the intronic REMS. In some embodiments, the kits further comprise primers and/or antibodies, in one or more separate containers, for assessing the production of an mRNA transcript from altered endogenous gene and/or protein production therefrom.

[001009] In another aspect, provided herein are kits comprising, in a container, a compound described herein, and instructions for use. In some embodiments, the kits further comprise a negative control, such as phosphate buffered saline or a compound that does not recognize an intronic REMS, in a separate container.

EXAMPLES

[001010] To describe in more detail and assist in understanding the present description, the following non-limiting biological examples are offered to more fully illustrate the scope of the description and are not to be construed as specifically limiting the scope thereof. Such variations of the present description that may be now known or later developed, which would be within the purview of one skilled in the art to ascertain, are considered to fall within the scope of the present description and as hereinafter claimed. The example below illustrates the existence of an intronic recognition element for splicing modifier (REMS) that is important for the recognition of a compound described herein, and the binding of such a compound to the intronic REMS on a precursor RNA permits or enhances the splicing of the precursor RNA, and suggests the usefulness of the intronic REMS in combination with a compound described herein for modulating RNA splicing, and for modulating the amount of a gene product.

[001011] Materials and Methods

[001012] Cell treatment: GM04856 lymphocyte cells were diluted in a medium composed of DMEM, 10% FBS and 1x Pen/Strep to a concentration of 2.5e5 cells/mL. 2 mL (500K cells) were seeded in 6-well plates and recovered for 4h at 37°C, 5% CO_2. Compound dilutions were prepared as 2x compound stock in medium (e.g. for final 100 nM, make a 200 nM stock). After 4h recovery, 2 mL of the 2x compound stock were added to each well, resulting in 4 mL/well with 1x final compound concentration. The cells were incubated for ~20h at 37°C, 5% CO_2. After incubation, the cells were pelleted for 5 min at 1000 rpm. The supernatant was vacuum-removed and the cells were resuspended in 350 µl of RLT buffer (w/ 10 µl/mL beta-mercapto-ethanol, RNeasy kit). Total RNA was isolated using the RNeasy Mini Kit from Qiagen according to the manufacturer's instructions. The concentration of the resulting total RNA was determined using Nanodrop and diluted with water to a final concentration of 25 ng/µL.

[001013] Endpoint PCR: 20 µL endpoint RT-PCRs were set up in 96-well plates using the AgPath-ID One-Step RT-PCR Reagents (Applied Biosystems) according to the manufacturer. Each reaction contained 200 nM forward primer, 200 nM reverse primer, and 50 ng total RNA. The following RT-PCR protocol was used: reverse transcription at 48°C for 15 min, denaturation at 95°C for 10 min, 35 PCR cycles with denaturation at 95°C for 30 sec, annealing at 58°C for 30 sec, and elongation at 68°C for 1 min, final hold at 4°C. 10 µL of each RT-PCR reactions were analyzed on 2% 48-well E-Gels (Invitrogen) (pre-run 1 min, run 14 min) and imaged using an BioRad Gel Doc EZ Imager. The following size markers were used: TrackIt 1 Kb Plus DNA ladder and TrackIt 100 bp DNA ladder (10 µL/well, both Invitrogen).

[001014] Results: Oligonucleotides corresponding to exons that flank the intron where an iExon is located were used to amplify total RNA purified from untreated (DMSO) or cells treated with Compound 774 (at dose levels 10nM, 1µM or 10µM). The resulting products were run on an agarose gel and the resulting bands of interest are demarcated by arrowheads, as shown in Figures 2A-D and 3-6A. In all cases, the increase of compound concentration results in appearance of a slower migrating PCR product containing the intronic-derived exon. In all cases, additional bands seen are intermediate spliced products.

[001015] Endpoint RT-PCR: Analysis of alternatively spliced mRNAs in cultured cells

[001016] GM03813 cells (Coriell Institute) derived from a patient with SMA type I (Coriell Institute) were plated at 5,000 cells/well in 200 µL DMEM with 10% FBS in 96-well plates, and

incubated for 6 hours in a cell culture incubator (37 ºC, 5% CO_2, 100% relative humidity). Cells were then treated with certain representative compounds (e.g., Compound 774, Compound 702 and Compound 170) at different concentrations (in 0.5% DMSO) in duplicate for 24 hours. After removal of the supernatant, cells were lysed in Cells-To-Ct lysis buffer (Life Technologies, Inc.). Reverse transcription was performed using 5 µL of cell lysate and the iScript RT enzyme kit (Bio-Rad Laboratories, Inc). PCR was performed using 5 µL of cDNA and Platinum Taq HiFi DNA Polymerase (Life Technologies, Inc.) under the following PCR conditions: Step1: 94ºC (2 min), Step 2: 94ºC (30 sec), Step 3: 55ºC (30 sec), Step 4: 68ºC (1 min), then repeat Steps 2 to 4 for 33 cycles, then hold at 4°C. Alternatively spliced mRNAs were identified using primers listed in **Tables 8** and **9**. PCR products were separated on 2% agarose E-gels, stained with ethidium bromide and visualized using a gel imager (UVP). Results for genes affected by intronic exons generated by treatment with Compound 774 are shown in **Table 10**.

[001017] Table 8

Gene	Forward Primer	Sequence 5'-3'	SEQ ID NO.
ABCB8	ABCB_54-73	GCCGGCGGCTCCTGTTTTAC	3629
ANXA11	ANXA_101-120	AGTCGCTGTACCACGACATC	3630
ARL15	ARL1_87-106-1a-KE	GCTGCCGGATGTCTGATCTC	3631
DCAF17	DECA_23-43-KE	TGCTGTACCTTGCAGTGTTCC	3632
DHFR	DHFR_5-24	CCATGAATCACCCAGGCCAT	3633
FAIM	FAIM_197-217-KE	GTGAAACCTACCCCAGAGCCT	3634
GXYLT1	GXYL_57-77	GGAAGCAATTGCCAAGAAGCA	3635
HTT	HTT_E49_For	TGCCCAGTCATTTGCACCTT	3636
MADD	MADD_137-156-KE	TGCCACAGGAAAGGGTCCTA	3637
MEMO1	MEMO_37-56	TGGAGCTCTGAGTGAGTCAA	3638
OXCT1	OXCT_55-75-KE	GGCCTGACAGTGGATGACGTA	3639
PAPD4	PAPD_46-65-KE	CCCGGAGCAGTGATGGTGAT	3640
PDXDC1	*PDXD_23-42	TGTGCCGTGTACCCTGTAAC	3641
PMS1	PMS1_104-127-KE	TCTCCTCATGAGCTTTGGTATCCT	3642
PPIP5K2	PPIP_34-57-KE	TCAGTTGACCTATCTCCCTCATGG	3643
PPP1R26	PPP1R26e3F1	CGTGTGGGAACACTGGCTG	3644
PRPF31	RPRF_50-69-KE	GCCAACCGTATGAGCTTCGG	3645
RARS2	RARS_30-53-KE	TTGGACATTTGCGTTCTACCATCA	3646
TNS3	TNS3_6-29-KE	CCAGGTGATAAACTTGTGATCGTG	3647
WNK1	Wnk1_45-67	GCTGGTGTTTTTAAGATGGGACG	3648
SF3B	SF3B_107-127-2a	GGCATCAGCTTTGCCATTCAT	3649

Gene	Forward Primer	Sequence 5'-3'	SEQ ID NO.
SF3B	SF3B_134-153-9a	TTGGACAGCCTCTCTCCCAT	3650
MEMO1	MEMO_37-56	TGGAGCTCTGAGTGAGTCAA	3651
DHFR	DHFR_5-24	CCATGAATCACCCAGGCCAT	3652
GCFC2	GCFC2e2F1	GGAGAAAAAGAACTTTCATCAACAG	3653
FAM174A	FAM174Ae2F1	CAGGATGATGAGGATGATGACAAc	3654
SOS2	SOS2e19F1	CTGAAAAAGAGTTTACAGATTATTTGTTC	3655
COPS7B	COPS7Be2F1	CGGAGTGTATGTCTTTGGAGAACTT	3656
LMBRD2	LMBRD2e16R1	GGAATCTTCTCTATTGTGTCCATAACG	3657
ASAP1	ASAP1e11F1	TACCCCTTCTTTTCACTGCCAT	3658
PPP1R26	PPP1R26e3F1	CGTGTGGGAACACTGGCTG	3659
NT5C2	NT5C2e12F1	AAACCACTCTTTTTTGGAGAAGGC	3660
ELMO2	ELMO2e2F1	AGGTGTAGAAAGAGGTACATGGAGAA	3661

[001018] Table 9

Gene	Reverse Primer	Sequence 5'-3'	SEQ ID NO.
ABCB8	ABCB_235-254	AGGAGCTGCGGTAGCCATCA	3662
ANXA11	ANXA_302-321	GAGCCACCAGTCACTGTTCA	3663
ARL15	ARL1_392-411-1a-KE	TGAGGCCTATGCAAACCAGG	3664
DCAF17	DECA_168-190-KE	CCATGAGACAAGGTAGCATCTGT	3665
DHFR	DHFR_209-228	TGCCTTTCTCCTCCTGGACA	3666
FAIM	FAIM_367-388-KE	AGCAACATCCCAAACAGCTACG	3667
GXYLT1	GXYL_246-268	AGGAACGGATGTTGTCATCTTCA	3668
HTT	HTT_E51_Rev	GGGTATTTGTCCTTCTTTCT	3669
MADD	MADD_288-309-KE	TCTCCTCTGTCTCACCAAGGTC	3670
MEMO1	MEMO_218-239	TCCCCCTGGGATTCATCATAGT	3671
OXCT1	OXCT_236-256-KE	AATGAAAAACACGCAGCCTGG	3672
PAPD4	PAPD_183-205-KE	AAGGTGAGTATATGCCGTGCTTC	3673
PDXDC1	*PDXD_179-199	CAAGCAACAGGGGCAGTCTTC	3674
PMS1	PMS1_285-308-KE	ACATGAGAGCCATCTTGTGATCTG	3675
PPIP5K2	PPIP_149-172-KE	TTCACCTCCCCATTTTAGAACCAA	3676
PPP1R26	PPP1R26e4R1	GCGATGCTTTATTTCTCTACCG	3677
PRPF31	RPRF_218-237-KE	TCGTTTACCTGTGTCTGCCG	3678
RARS2	RARS_251-270-KE	ATGCCCCAATCGCCAAGGTA	3679
TNS3	TNS3_96-116-KE	CGGCTCCTTGTCCTTCAACAT	3680
WNK1	Wnk1_187-207	CTGAGGACTCTGAGGTGCTGG	3681
SF3B	SF3B_256-275-2a	GTACTTTGCCAGTGTTGGGG	3682
SF3B	SF3B_304-324-9a	ACTCTCAGAGATGATCGGGGT	3683
MEMO1	MEMO_218-239	TCCCCCTGGGATTCATCATAGT	3684

Gene	Reverse Primer	Sequence 5'-3'	SEQ ID NO.
DHFR	DHFR_209-228	TGCCTTTCTCCTCCTGGACA	3685
GCFC2	GCFC2e3R1	GAATAAAAGCTGCATCTGGGATC	3686
FAM174A	FAM174Ae3R1	CAACATTGATATAGTGGCTTCTTATTC	3687
SOS2	SOS2e20R1	CTGAAGAAGCAGATACTGGTGGAG	3688
COPS7B	COPS7Be3R1	GTATGTCCCATAGGCAAACAGGTT	3689
LMBRD2	LMBRD2e15F1	AAAGGCAAGAAGAAGGTGAAAATC	3690
ASAP1	ASAP1e12R1	GCTAACTGCACTCCGAGACTTAAT	3691
PPP1R26	PPP1R26e4R1	GCGATGCTTTATTTCTCTACCG	3692
NT5C2	NT5C2e13R1	TAGACGATACCATGCTGTAGGGG	3693
ELMO2	ELMO_232-252	TTGATAATGGATGCCAGGGGC	3694

[001019] **Results:** The statistically significant value for the likelihood of iExon production (ΔPSI) according to the Fisher's Exact Test (FET) for PNN and HDF cell lines treated with Compound 774 at 3 μM and Fold Decrease (FD) for certain genes tested, where NR represents "Not Reported,"is shown in **Table 10.**

[001020] The ΔPSI for inclusion of an iExon and resulting modulated expression of RNA transcripts identified is represented by stars, where one star (*) represents ≤ 25% change in expression, where two stars (**) represent change in expression in a range from < 26% to ≤ 50% change, where three stars (***) represent change in expression in a range from < 51% to ≤ 75% change, and, where four stars (****) represent change in expression in a range from < 75% to ≤ 100% change.

[001021] **Table 10**

Gene Symbol	Inclusion Position	ΔPSI (PNN)	FET ΔPSI (PNN)	FD PNN	ΔPSI (HDF)	FET ΔPSI (HDF)	FD HDF
ABCB8	i1	**	9.42E-16	NR	**	3.66E-09	NR
ABCC3	i30	**	6.00E-07	-0.25	*	1	-1.03
ADAM17	i1	**	7.83E-11	NR	*	4.87E-08	NR
ADCY3	i6	*	0.003	NR	*	0.656286	NR
AGPAT4	i1	*	1.13E-05	NR	**	1.21E-06	NR
ANKRA2	i5	*	0.28	-1.05	*	0.001	0.73
ANXA11	i16	*	9.07E-56	NR	*	2.24E-20	NR
APIP	i1	*	2.52E-11	NR	*	1.42E-19	NR
APPL2	i1	*	4.28E-06	NR	*	0.47	NR
ARHGAP1	i1	*	0.34	-0.11	*	0.01	-1.02
ARL15	i4	**	1.77E-08	NR	*	1.94E-05	NR

Gene Symbol	Inclusion Position	ΔPSI (PNN)	FET ΔPSI (PNN)	FD PNN	ΔPSI (HDF)	FET ΔPSI (HDF)	FD HDF
ARL15	i1	****	1.20E-17	NR	***	2.25E-18	NR
ASAP1	i12	*	0	-0.79	*	0	-1.40
ASAP1	i19	*	0	-0.79	*	0	-1.40
ASAP1	i19	*	0.0003	-0.79	*	0.22	-1.40
ASAP1	i12	*	0.004	-0.79	*	1	-1.40
ASPH	i24	*	1	NR	*	0.19	NR
ATAD2B	i27	*	0.51	NR	*	0.47	NR
ATXN1	i7	*	0.08	NR	*	1	NR
BECN1	i11	*	3.01E-18	NR	*	5.27E-06	NR
BHMT2	i2	*	0.05	NR	*	1	NR
BICD1	i5	*	2.64E-05	NR	*	0.06	NR
BTN3A1	i1	*	0.02	NR	*	0.0001	NR
C11orf30	i20	***	3.45E-12	-0.82	***	3.57E-10	-1.06
C11orf73	i2	**	1.10E-47	-1.44	*	2.53E-40	0.52
C12orf4	i1	****	2.07E-43	NR	****	1.91E-66	NR
C14orf132	i1	*	0.16	NR	*	0.04	NR
C8orf44	i1	***	0.004	NR	*	1	NR
C8orf44-SGK3	i1	***	1.17E-08	NR	**	0.06	NR
C8orf88	i3	*	0.13	NR	*	4.31E-05	NR
CASC3	i3	*	0.04	-0.48	*	0.08	-1.14
CASP7	i2	*	0.001	NR	*	1.99E-06	NR
CCDC122	i6	*	0.29	-1.07	*	1	0.41
CDH13	i7	*	0.0003	-2.06	*	1.32E-05	-0.76
CECR7	i3	****	3.06E-07	NR	****	0.14	NR
CENPI	i19	****	1.62E-50	NR	***	1.78E-58	NR
CEP112	i24	*	0.11	-0.96	*	0.02	-0.62
CEP192	i13	*	0.03	NR	*	0.34	NR
CHEK1	i13	**	3.38E-05	NR	*	0.0002	NR
CMAHP	i6	*	1	-1.59	***	0.002	-0.47
CNRIP1	i2	*	3.10E-22	NR	*	1.70E-42	NR
CNRIP1	i15	*	1.62E-17	NR	*	2.06E-34	NR
COPS7B	i2	*	1.45E-22	NR	*	4.58E-14	NR
CPSF4	i2	*	0.009	NR	*	0.40	NR
CRISPLD2	i1	***	0.009	-0.25	***	0.001	-1.29
CRYBG3	i17	*	1	-0.33	*	1	-1.08
CSNK1E	i3	****	1.50E-07	NR	***	0.004	NR
CSNK1G1	i2	*	0.004	NR	*	1	NR
DCAF17	i2	*	0.06	NR	*	1	NR

Gene Symbol	Inclusion Position	ΔPSI (PNN)	FET ΔPSI (PNN)	FD PNN	ΔPSI (HDF)	FET ΔPSI (HDF)	FD HDF
DCAF17	i6	****	1.01E-17	NR	**	9.85E-15	NR
DCUN1D4	i8	*	0.05	-1.16	*	3.90E-17	-0.01
DDX42	i8	*	9.24E-17	-1.26	*	0.0002	-1.62
DENND1A	i10	**	0.0005	-2.20	***	8.97E-07	-2.09
DENND5A	i3	*	0	-2.48	*	0	-2.09
DENND5A	i8	*	0	-2.48	*	0	-2.09
DGKA	i10	*	0.02	NR	*	0.22	NR
DHFR	i5	****	2.99E-06	NR	***	0.0006	NR
DHFR	i5	****	5.92E-08	NR	***	0.0004	NR
DIAPH3	i27	*	8.17E-12	-2.51	*	4.97E-12	-2.14
DIAPH3	i15	**	8.33E-15	-2.51	*	1.10E-08	-2.14
DNAJC13	i43	*	0.05	-0.23	*	0.33	-1.05
DNMBP	i1	*	0.66	-0.32	*	0.62	-0.99
DNMBP	i11	*	0.001	-0.32	*	0.11	-0.99
DOCK1	i23	*	2.18E-13	-1.29	*	0.0006	-1.28
DYRK1A	i3	*	0.01	NR	*	0.33	NR
EIF2B3	i6	*	0.0005	-1.86	*	1.49E-06	-0.82
ENAH	i1	**	9.79E-34	NR	**	7.69E-23	NR
ENOX1	i5	*	0	-1.28	*	0	-0.68
EP300	i1	*	0.0006	0.13	*	1	-1.19
ERC1	i18	**	4.96E-20	-0.53	*	0.0002	-1.49
ERLIN2	i1	*	4.62E-06	NR	*	0.12	NR
ERRFI1	i1	****	0.004	NR	*	1	NR
EVC	i5	*	1.62E-12	-0.53	*	0.23	-0.96
FAF1	i14	*	0.21	-1.32	*	0.009	-0.83
FAIM	i2	*	0.08	NR	*	0.30	NR
FAM126A	i7	*	5.38E-10	NR	*	1.31E-05	NR
FAM13A	i4	*	0.49	NR	*	0.04	NR
FAM162A	i1	****	2.03E-84	NR	***	6.15E-83	NR
FAM174A	i2	*	0.001	NR	*	0.0006	NR
FBN2	i5	**	5.89E-26	-0.69	**	9.15E-22	-1.75
FER	i13	**	0.02	-1.81	*	0.001	-1.26
FHOD3	i21	*	2.20E-06	-0.60	*	2.48E-05	-1.23
FOCAD	i6	*	0.01	NR	*	1	NR
GALC	i6	***	2.48E-07	-2.21	***	2.31E-06	-2.14
GCFC2	i11	*	1	-1.34	*	0.18	-0.27
GGACT	i2	*	0.24	NR	*	0.49	NR
GLCE	i2	*	0.01	NR	*	0.01	NR

Gene Symbol	Inclusion Position	ΔPSI (PNN)	FET ΔPSI (PNN)	FD PNN	ΔPSI (HDF)	FET ΔPSI (HDF)	FD HDF
GOLGA4	i1	*	1	-0.24	*	0.31	-0.98
GOLGB1	i14	*	1	-1.32	*	1.24E-05	-1.24
GPSM2	i1	**	0.0004	NR	*	0.14	NR
GULP1	i1	***	0.001	NR	**	0.0006	NR
GXYLT1	i7	*	4.54E-05	NR	*	0.02	NR
HDX	i1	****	1.66E-05	NR	***	1.11E-05	NR
HLTF	i14	*	1	-1.76	*	0.19	-1.75
HMGA2	i3	*	2.99E-06	NR	*	0.003	NR
HNMT	i1	*	0.03	NR	*	0.89	NR
HSD17B12	i6	***	3.41E-16	-2.92	**	1.16E-39	-2.39
HSD17B4	i2	*	5.71E-06	NR	*	0.002	NR
HTT	i49	**	6.23E-08	-1.21	***	2.98E-05	-1.86
IFT57	i5	*	2.26E-15	NR	*	1.31E-18	NR
IVD	i7	*	6.58E-13	NR	*	4.50E-12	NR
KDM6A	i26	**	4.61E-14	NR	**	1.87E-11	NR
KIAA1524	i11	*	0	-1.43	*	0	-0.62
KIAA1715	i6	*	0	-1.41	*	0	0.05
LETM2	i8	**	5.73E-05	NR	*	1	NR
LOC400927	i3	****	1.50E-07	NR	*	0.004	NR
LRRC42	i2	**	8.25E-09	NR	*	0.01	NR
LUC7L3	i1	*	4.59E-06	NR	*	0.003	NR
LYRM1	i2	*	3.63E-06	NR	*	4.98E-14	NR
MB21D2	i1	*	0.007	NR	*	0.002	NR
MCM10	i15	*	0.0009	NR	*	1	NR
MED13L	i3	*	1	-0.17	*	1	-1.11
MED13L	i22	*	0.07	-0.17	*	1	-1.11
MEDAG	i2	**	0.0004	-2.40	*	0.01	-1.60
MEMO1	i6	**	2.42E-35	-1.30	*	5.11E-40	-0.56
MFN2	i1	****	1.08E-90	NR	***	8.82E-42	NR
MMS19	i2	*	0	-1.36	*	0	-1.75
MRPL45	i4	*	4.39E-11	NR	*	1.75E-10	NR
MRPS28	i2	*	1.43E-09	NR	*	0.003	NR
MTERF3	i3	*	1.38E-07	-1.63	*	1.74E-18	-0.19
MYCBP2	i80	*	2.71E-06	-0.36	*	0.04	-1.12
MYCBP2	i55	***	1.44E-05	-0.36	**	0.03	-1.12
MYLK	i5	*	5.54E-09	0.23	*	3.75E-06	-1.10
MYOF	i29	*	0.01	-0.82	*	0.003	-1.75
NGF	i1	****	1.75E-69	NR	***	2.47E-53	NR

Gene Symbol	Inclusion Position	ΔPSI (PNN)	FET ΔPSI (PNN)	FD PNN	ΔPSI (HDF)	FET ΔPSI (HDF)	FD HDF
NREP	i3	*	0.0002	-1.31	*	0.46	-0.10
NSUN4	i5	**	1.90E-09	-1.48	*	1.80E-08	-0.67
NT5C2	i11	*	2.32E-11	-1.26	*	4.54E-07	-0.05
OSMR	i3	*	0.004	-0.14	*	0.03	-0.97
OXCT1	i16	*	0.0005	NR	*	0.46	NR
PAPD4	i7	****	2.37E-32	-2.33	****	3.72E-52	-1.40
PCM1	i15	*	0.06	-1.30	*	0.10	-0.86
PDE7A	i2	***	1.46E-10	NR	***	3.25E-09	NR
PDS5B	i13	*	0.03	-0.42	*	0.03	-1.02
PDXDC1	i7	***	1.09E-13	NR	***	4.13E-18	NR
PIGN	i22	**	1.35E-20	NR	*	1.27E-26	NR
PIK3CD	i3	**	3.02E-06	NR	*	0.32	NR
PIK3R1	i2	*	0.02	-0.83	**	6.81E-10	-1.06
PIKFYVE	i12	*	0.02	NR	*	0.002	NR
PITPNB	i7	*	1	-1.45	*	0.03	-1.17
PITPNB	i7	*	4.52E-05	-1.45	*	2.70E-07	-1.17
PLEKHA1	i1	**	0.006	NR	**	0.002	NR
PLSCR1	i1	*	0.0008	NR	*	1	NR
PMS1	i5	****	1.49E-07	-2.57	***	3.56E-24	-1.02
POMT2	i13	****	2.02E-40	NR	****	5.83E-53	NR
PPARG	i4	*	0.04	NR	*	1	NR
PPIP5K2	i13	*	4.52E-11	NR	*	1.70E-05	NR
PPP1R26	i3	**	3.54E-09	NR	*	0.0007	NR
PRPF31	i11	**	2.66E-39	NR	*	8.15E-18	NR
PRSS23	i3	*	9.82E-07	NR	*	0.10	NR
PSMA4	i4	*	1.45E-09	NR	*	1.80E-20	NR
PXK	i1	*	8.38E-05	NR	*	2.07E-06	NR
RAF1	i7	*	4.10E-37	NR	*	3.85E-24	NR
RAPGEF1	i11	***	1.30E-07	NR	****	5.56E-05	NR
RARS2	i6	*	2.50E-20	NR	*	5.90E-08	NR
RBKS	i1	**	0.0004	NR	**	0.002	NR
RERE	i13	**	3.04E-07	0.02	**	3.70E-05	-1.06
RFWD2	i11	*	1.50E-13	-2.40	*	3.95E-16	-0.90
RPA1	i1	*	3.28E-12	NR	*	0.006	NR
RPS10	i5	*	9.72E-28	NR	*	3.15E-20	NR
SAMD4A	i1	*	0.003	NR	*	0.001	NR
SAR1A	i1	*	1.85E-48	NR	*	8.33E-65	NR
SCO1	i4	*	5.88E-07	NR	*	6.67E-08	NR

Gene Symbol	Inclusion Position	ΔPSI (PNN)	FET ΔPSI (PNN)	FD PNN	ΔPSI (HDF)	FET ΔPSI (HDF)	FD HDF
SEC24A	i7	*	0.003	NR	*	0.008	NR
SENP6	i2	****	5.51E-84	NR	****	3.10E-77	NR
SERGEF	i1	****	0.14	-1.02	*	1	-0.81
SGK3	i1	***	1.17E-08	NR	**	0.06	NR
SLC12A2	i10	***	7.56E-18	NR	*	0.0008	NR
SLC25A17	i2	***	7.32E-38	NR	***	3.49E-74	NR
SLC44A2	i21	*	1.56E-06	0.06	*	0.002	-0.99
SMYD3	i5	*	0.0001	-1.40	*	9.36E-06	0.33
SNAP23	i3	****	6.29E-112	-2.82	***	1.22E-150	-0.89
SNHG16	i1	*	1.92E-18	-1.68	*	5.75E-14	-0.99
SNX7	i7	*	3.44E-26	NR	*	8.14E-24	NR
SOS2	i19	**	1.39E-10	NR	*	2.76E-05	NR
SPATA5	i10	*	1	NR	*	0.27	NR
SPIDR	i1	*	3.23E-08	NR	*	0.007	NR
SPRYD7	i4	*	2.80E-05	NR	*	7.62E-07	NR
SRGAP1	i1	*	0.001	-0.16	*	0.0002	-0.99
SRRM1	i3	*	1	0.14	*	1	-1.05
STAT1	i21	*	7.01E-09	-3.06	*	7.52E-31	-1.86
STXBP6	i2	*	9.26E-08	NR	*	1	NR
STXBP6	i1	****	6.15E-14	NR	***	2.75E-05	NR
SUPT20H	i24	*	5.05E-07	NR	*	0.22	NR
TAF2	i20	*	0	-1.03	*	0	-0.57
TAF2	i23	***	6.92E-18	-1.02754	**	3.95E-12	-0.57
TASP1	i13	***	7.02E-08	NR	**	6.32E-05	NR
TBC1D15	i5	*	0.12	NR	*	1	NR
TCF12	i3	*	1.21E-22	NR	*	3.63E-15	NR
TCF4	i4	*	3.51E-22	NR	*	7.89E-07	NR
TIAM1	i4	***	0.05	NR	*	1	NR
TJP2	i1	*	0.02	NR	*	0.25	NR
TMC3	i2	**	0.18	NR	*	0.45	NR
TMEM214	i8	*	1.97E-56	NR	*	4.75E-07	NR
TNRC6A	i4	***	1.38E-21	NR	**	1.08E-10	NR
TNS3	i23	**	0.0007	-2.76	*	0.007	-2.74
TOE1	i4	*	3.34E-05	NR	*	0.002	NR
TRAF3	i8	*	0.0004	-0.54	*	0.14	-0.97
TSPAN2	i4	***	1.12E-18	-1.06	**	1.81E-08	-0.58
TTC7B	i5	*	3.09E-06	NR	*	8.95E-05	NR
TYW5	i1	*	0.0009	NR	*	0.10	NR

Gene Symbol	Inclusion Position	ΔPSI (PNN)	FET ΔPSI (PNN)	FD PNN	ΔPSI (HDF)	FET ΔPSI (HDF)	FD HDF
UBAP2L	i24	**	5.24E-52	NR	*	1.43E-35	NR
URGCP	i1	*	0.15	NR	*	0.32	NR
VAV2	i4	**	2.55E-08	NR	**	1.65E-07	NR
WDR27	i2	**	0.003	NR	*	1	NR
WDR27	i9	**	0.008	NR	**	0.09	NR
WDR37	i9	**	0.0009	NR	**	0.03	NR
WDR91	i5	***	7.69E-06	NR	**	0.0006	NR
WNK1	i23	*	0.01	0.071985	*	1	-1.26
XRN2	i3	*	1	-1.29088	*	1	-0.55
XRN2	i16	*	3.25E-07	-1.29088	*	1.05E-08	-0.55
ZCCHC8	i11	*	5.24E-10	NR	*	4.65E-08	NR
ZFP82	i4	**	9.95E-06	NR	**	1.56E-08	NR
ZNF138	i3	***	0.025	NR	*	0.07	NR
ZNF232	i4	*	0.23	NR	*	0.02	NR
ZNF37BP	i4	****	0.003	NR	***	0.03	NR

[001022] Results: The statistically significant value for the likelihood of exon inclusion (ΔPSI) according to the Fisher's Exact Test (FET) for PNN and HDF cell lines treated with Compound 774 at 3 μM and Fold Decrease (FD) for certain genes tested, where NR represents "Not Reported,"is shown in **Table 10a**.

[001023] The ΔPSI for inclusion of an exon and resulting modulated expression of RNA transcripts identified is represented by stars, where one star (*) represents ≤ 25% change in expression, where two stars (**) represent change in expression in a range from < 26% to ≤ 50% change, where three stars (***) represent change in expression in a range from < 51% to ≤ 75% change, and, where four stars (****) represent change in expression in a range from < 75% to ≤ 100% change.

[001024] Table 10a

Gene Symbol	Inclusion Position	ΔPSI (PNN)	FET ΔPSI (PNN)	FD PNN	ΔPSI (HDF)	FET ΔPSI (HDF)	FD HDF
APLP2	e7	**	0	NR	**	2.69E-271	NR
AXIN1	e9	**	0.004	NR	*	1	NR
CECR7	e5	*	0.02	NR	*	1	NR
DAGLB	e4	*	0.74	NR	*	0.43	NR
DLGAP4	e8	*	1.12E-13	NR	*	1.12E-07	NR

Gene Symbol	Inclusion Position	ΔPSI (PNN)	FET ΔPSI (PNN)	FD PNN	ΔPSI (HDF)	FET ΔPSI (HDF)	FD HDF
ERCC1	e8	*	0.0009	NR	*	0.20	NR
ERGIC3	e8	*	1.44E-220	NR	*	2.39E-209	NR
FAM198B	e3	*	0.003	-1.81	*	0.20	-0.35
GGCT	e2	**	1.36E-30	NR	**	5.86E-45	NR
HAT1	e3	*	6.50E-11	NR	*	1.34E-10	NR
HPS1	e5	*	0.01	NR	*	0.34	NR
INPP5K	e2	*	0.53	NR	*	0.14	NR
MADD	e21	*	2.28E-08	NR	*	7.00E-07	NR
PPHLN1	e3	***	8.22E-83	NR	**	8.90E-66	NR
PRUNE2	e18	*	0.52	-0.52	**	0.05	-1.74
RAP1A	e2	*	3.80E-15	NR	*	4.27E-07	NR
RNFT1	e3	*	0.02	NR	*	6.02E-07	NR
RPS6KB2	e2	*	0.14	NR	*	1	NR
SH3YL1	e9	*	0.009	NR	*	0.08	NR
SKA2	e3	*	0.0001	NR	*	0.05	NR
SPATA18	e4	**	1.50E-05	NR	*	0.29	NR
STRN3	e8	****	4.13E-54	NR	***	4.39E-44	NR
TMEM189-UBE2V1	e6	*	2.19E-30	NR	*	4.66E-20	NR
TRIM65	e5	***	2.49E-11	NR	**	0.0002	NR
TUBE1	e4	*	7.36E-05	NR	*	2.05E-10	NR
UBE2V1	e3	*	2.19E-30	NR	*	4.66E-20	NR
VPS29	e2	**	3.05E-17	NR	**	2.61E-38	NR
ZNF680	e3	*	0.13	NR	*	0.32	NR

[001025] Details on the location of the iExon produced in affected genes from **Table 10** are shown in **Table 11**.

[001026] Table 11

Gene Symbol	Ref SeqID	Coordinates	Description
ABCB8	NM_007188	chr7:150728328-150728378	ATP-binding cassette, sub-family B (MDR/TAP), member 8
ABCC3	NM_003786	chr17:48767318-48767437	ATP-binding cassette, sub-family C (CFTR/MRP), member 3
ADAM17	NM_003183	chr2:9683889-9683825	ADAM metallopeptidase domain 17
ADCY3	NM_004036	chr2:25061781-25061716	adenylate cyclase 3
AGPAT4	NM_020133	chr6:161687802-161687740	1-acylglycerol-3-phosphate O-acyltransferase 4

Gene Symbol	Ref SeqID	Coordinates	Description
ANKRA2	NM_023039	chr5:72851082-72850950	ankyrin repeat, family A (RFXANK-like), 2
ANXA11	NM_001278407	chr10:81916254-81916134	annexin A11
APIP	NM_015957	chr11:34933660-34933520	APAF1 interacting protein
APLP2	NM_001642	chr11:129993507-129993674	amyloid beta (A4) precursor-like protein 2
APPL2	NM_018171	chr12:105625422-105625147	adaptor protein, phosphotyrosine interaction, PH domain and leucine zipper containing 2
ARHGAP1	NM_004308	chr11:46718619-46718571	Rho GTPase activating protein 1
ARL15	NM_019087	chr5:53212951-53212826	ADP-ribosylation factor-like 15
ASAP1	NM_001247996	chr8:131173039-131173031	ArfGAP with SH3 domain, ankyrin repeat and PH domain 1
ASAP1	NM_001247996	chr8:131135828-131135650	ArfGAP with SH3 domain, ankyrin repeat and PH domain 1
ASAP1	NM_001247996	chr8:131135731-131135650	ArfGAP with SH3 domain, ankyrin repeat and PH domain 1
ASAP1	NM_001247996	chr8:131173046-131173031	ArfGAP with SH3 domain, ankyrin repeat and PH domain 1
ASPH	NM_004318	chr8:62,421,470-62,421,527	aspartate beta-hydroxylase
ATAD2B	NM_001242338	chr2:23976387-23976214	ATPase family, AAA domain containing 2B
ATXN1	NM_000332	chr6:16409524-16409426	ataxin 1
AXIN1	NM_003502	chr16:341297-341190	axin 1
BECN1	NM_003766	chr17:40963348-40963310	beclin 1, autophagy related
BHMT2	NM_017614	chr5:78374568-78374655	betaine--homocysteine S-methyltransferase 2
BICD1	NM_001714	chr12:32486172-32486263	bicaudal D homolog 1 (Drosophila)
BTN3A1	NM_001145008	chr6:26404363-26404455	butyrophilin, subfamily 3, member A1
C11orf30	NM_020193	chr11:76259972-76260061	chromosome 11 open reading frame 30
C11orf73	NR_024596	chr11:86037555-86037718	chromosome 11 open reading frame 73
C12orf4	NM_020374	chr12:4646680-4646546	chromosome 12 open reading frame 4
C14orf132	NM_001252507	chr14:96506612-96506704	chromosome 14 open reading frame 132
C8orf44	NM_019607	chr8:67588980-67589137	chromosome 8 open reading frame 44

Gene Symbol	Ref SeqID	Coordinates	Description
C8orf44-SGK3	NM_001204173	chr8:67697924-67698031	C8orf44-SGK3 readthrough
C8orf88	NM_001190972	chr8:91990874-91990807	chromosome 8 open reading frame 88
CASC3	NM_007359	chr17:38298307-38298353	cancer susceptibility candidate 3
CASP7	NM_033340	chr10:115477382-115477512	caspase 7, apoptosis-related cysteine peptidase
CCDC122	NM_144974	chr13:44431087-44431054	coiled-coil domain containing 122
CDH13	NM_001220488	chr16:83402146-83402179	cadherin 13
CECR7	NM_014339	chr22:17,535,915-17,535,996	cat eye syndrome chromosome region, candidate 7 (non-protein coding)
CECR7	NR_015352	chr22:17535855-17535996	cat eye syndrome chromosome region, candidate 7 (non-protein coding)
CENPI	NM_006733	chrX:100411511-100411544	centromere protein I
CEP112	NM_001199165	chr17:63684725-63684629	centrosomal protein 112kDa
CEP192	NM_032142	chr18:13038514-13038578	centrosomal protein 192kDa
CHEK1	NM_001114121	chr11:125526101-125526230	checkpoint kinase 1
CMAHP	NR_002174	chr6:25107418-25107336	cytidine monophospho-N-acetylneuraminic acid hydroxylase, pseudogene
CNRIP1	NM_001111101	chr2:68542975-68542840	cannabinoid receptor interacting protein 1
CNRIP1	NM_000945	chr2:68,542,833-68,542,986	cannabinoid receptor interacting protein 1
COPS7B	NM_001282950	chr2:232655806-232655883	COP9 signalosome subunit 7B
CPSF4	NM_006693	chr7:99045396-99045536	cleavage and polyadenylation specific factor 4, 30kDa
CRISPLD2	NM_031476	chr16:84869783-84870041	cysteine-rich secretory protein LCCL domain containing 2
CRYBG3	NM_153605	chr3:97635177-97635237	beta-gamma crystallin domain containing 3
CSNK1E	NM_001289912	chr22:38766050-38765991	casein kinase 1, epsilon
CSNK1G1	NM_022048	chr15:64575350-64575317	casein kinase 1, gamma 1
DAGLB	NM_139179	chr7:6474651-6474425	diacylglycerol lipase, beta
DCAF17	NM_025000	chr2:172298369-172298546	DDB1 and CUL4 associated factor 17
DCAF17	NM_025000	chr2:172309926-172309987	DDB1 and CUL4 associated factor 17

Gene Symbol	Ref SeqID	Coordinates	Description
DCUN1D4	NM_001040402	chr4:52775086-52775141	DCN1, defective in cullin neddylation 1, domain containing 4
DDX42	NM_007372	chr17:61883354-61883511	DEAD (Asp-Glu-Ala-Asp) box helicase 42
DENND1A	NM_020946	chr9:126385380-126385322	DENN/MADD domain containing 1A
DENND5A	NM_015213	chr11:9227781-9227736	DENN/MADD domain containing 5A
DENND5A	NM_015213	chr11:9198449-9198319	DENN/MADD domain containing 5A
DGKA	NM_201445	chr12:56333603-56333699	diacylglycerol kinase, alpha 80kDa
DHFR	NM_000791	chr5:79929807-79929696	dihydrofolate reductase
DHFR	NM_000791	chr5:79928121-79928051	dihydrofolate reductase
DIAPH3	NM_001042517	chr13:60266972-60266851	diaphanous-related formin 3
DIAPH3	NM_001042517	chr13:60548266-60548219	diaphanous-related formin 3
DLGAP4	NM_014902	chr20:35127645-35127724	discs, large (Drosophila) homolog-associated protein 4
DNAJC13	NM_015268	chr3:132227720-132227883	DnaJ (Hsp40) homolog, subfamily C, member 13
DNMBP	NM_015221	chr10:101762780-101762699	dynamin binding protein
DNMBP	NM_015221	chr10:101654399-101654318	dynamin binding protein
DOCK1	NM_001380	chr10:128901890-128901944	dedicator of cytokinesis 1
DYRK1A	NM_101395	chr21:38794884-38794954	dual-specificity tyrosine-(Y)-phosphorylation regulated kinase 1A
EIF2B3	NM_020365	chr1:45350395-45350311	eukaryotic translation initiation factor 2B, subunit 3 gamma, 58kDa
ENAH	NM_001008493	chr1:225788060-225787910	enabled homolog (Drosophila)
ENOX1	NM_017993	chr13:43,984,307-43,984,398	ecto-NOX disulfide-thiol exchanger 1
EP300	NM_001429	chr22:41496302-41496407	E1A binding protein p300
ERC1	NR_027948	chr12:1536281-1536343	ELKS/RAB6-interacting/CAST family member 1
ERCC1	NM_001983	chr19:45917292-45917221	excision repair cross-complementation group 1
ERGIC3	NM_198398	chr20:34142143-34142157	ERGIC and golgi 3
ERLIN2	NM_007175	chr8:37594849-37594946	ER lipid raft associated 2

Gene Symbol	Ref SeqID	Coordinates	Description
ERRFI1	NM_018948	chr1:8,080,640-8,080,926	ERBB receptor feedback inhibitor 1
EVC	NM_153717	chr4:5743061-5743168	Ellis van Creveld protein
FAF1	NM_007051	chr1:51003153-51003085	Fas (TNFRSF6) associated factor 1
FAIM	NM_001033030	chr3:138335412-138335506	Fas apoptotic inhibitory molecule
FAM126A	NM_032581	chr7:23011932-23011871	family with sequence similarity 126, member A
FAM13A	NM_014883	chr4:89890343-89890310	family with sequence similarity 13, member A
FAM162A	NM_014367	chr3:122120223-122120382	family with sequence similarity 162, member A
FAM174A	NM_198507	chr5:99917051-99917108	family with sequence similarity 174, member A
FAM198B	NM_001031700	chr4:159091499-159091399	family with sequence similarity 198, member B
FBN2	NM_001999	chr5:127850450-127850370	fibrillin 2
FER	NM_005246	chr5:108321155-108321188	fer (fps/fes related) tyrosine kinase
FHOD3	NM_001281740	chr18:34322340-34322431	formin homology 2 domain containing 3
FOCAD	NM_017794	chr9:20737106-20737152	focadhesin
GALC	NM_001201402	chr14:88447791-88447758	galactosylceramidase
GCFC2	NM_003203	chr2:75913102-75913000	GC-rich sequence DNA-binding factor 2
GGACT	NM_001195087	chr13:101194723-101194628	gamma-glutamylamine cyclotransferase
GGCT	NM_001199815	chr7:30540297-30540152	gamma-glutamylcyclotransferase
GLCE	NM_015554	chr15:69517534-69517591	glucuronic acid epimerase
GOLGA4	NM_002078	chr3:37285619-37285734	golgin A4
GOLGB1	NM_001256486	chr3:121401810-121401764	golgin B1
GPSM2	NM_013296	chr1:109420153-109420396	G-protein signaling modulator 2
GULP1	NM_001252668	chr2:189164835-189164866	GULP, engulfment adaptor PTB domain containing 1
GXYLT1	NM_173601	chr12:42489016-42488953	glucoside xylosyltransferase 1
HAT1	NM_003642	chr2:172803228-172803303	histone acetyltransferase 1

Gene Symbol	Ref SeqID	Coordinates	Description
HDX	NM_001177479	chrX:83756519-83756437	highly divergent homeobox
HLTF	NM_139048	chr3:148769931-148769832	helicase-like transcription factor
HMGA2	NM_003483	chr12:66267911-66267926	high mobility group AT-hook 2
HNMT	NM_006895	chr2:138724667-138724956	histamine N-methyltransferase
HPS1	NM_000195	chr10:100195171-100195029	Hermansky-Pudlak syndrome 1
HSD17B12	NM_016142	chr11:43838189-43838222	hydroxysteroid (17-beta) dehydrogenase 12
HSD17B4	NM_001199291	chr5:118792986-118793063	hydroxysteroid (17-beta) dehydrogenase 4
HTT	NM_002111	chr4:3215349-3215463	huntingtin
IFT57	NM_018010	chr3:107911373-107911323	intraflagellar transport 57
INPP5K	NM_001135642	chr17:1419412-1419182	inositol polyphosphate-5-phosphatase K
IVD	NM_002225	chr15:40706629-40706723	isovaleryl-CoA dehydrogenase
KDM6A	NM_021140	chrX:44965787-44965894	lysine (K)-specific demethylase 6A
KIAA1524	NM_020890	chr3:108284925-108284745	KIAA1524
KIAA1715	NM_030650	chr2:176835145-176834927	KIAA1715
LETM2	NM_001286787	chr8:38262801-38262912	leucine zipper-EF-hand containing transmembrane protein 2
LOC400927	NR_002821	chr22:38766050-38765991	TPTE and PTEN homologous inositol lipid phosphatase pseudogene
LRRC42	NM_001256409	chr1:54413535-54413654	leucine rich repeat containing 42
LUC7L3	NM_006107	chr17:48798190-48798241	LUC7-like 3 pre-mRNA splicing factor
LYRM1	NM_001128301	chr16:20922505-20922586	LYR motif containing 1
MADD	NM_003682	chr11:47314094-47314147	MAP-kinase activating death domain
MB21D2	NM_178496	chr3:192555098-192555020	Mab-21 domain containing 2
MCM10	NM_182751	chr10:13239941-13240039	minichromosome maintenance complex component 10
MED13L	NM_015335	chr12:116547674-116547579	mediator complex subunit 13-like
MED13L	NM_015335	chr12:116419435-116419344	mediator complex subunit 13-like

Gene Symbol	Ref SeqID	Coordinates	Description
MEDAG	NM_032849	chr13:31492953-31493127	mesenteric estrogen-dependent adipogenesis
MEMO1	NM_015955	chr2:32112156-32112104	Methylation modifier for class I HLA
MFN2	NM_014874	chr1:12041867-12041910	mitofusin 2
MMS19	NM_022362	chr10:99241240-99241106	MMS19 homolog, cytosolic iron-sulfur assembly component
MRPL45	NM_032351	chr17:36468550-36468624	mitochondrial ribosomal protein L45
MRPS28	NM_014018	chr8:80915355-80915234	mitochondrial ribosomal protein S28
MTERF3	NM_001286643	chr8:97263851-97263810	mitochondrial transcription termination factor 3
MYCBP2	NM_015057	chr13:77628142-77628054	MYC binding protein 2, E3 ubiquitin protein ligase
MYCBP2	NM_015057	chr13:77692630-77692475	MYC binding protein 2, E3 ubiquitin protein ligase
MYLK	NM_053025	chr3:123459382-123459323	myosin light chain kinase
MYOF	NM_013451	chr10:95117679-95117562	myoferlin
NGF	NM_002506	chr1:115843104-115843018	nerve growth factor (beta polypeptide)
NREP	NM_001142476	chr5:111086122-111086049	neuronal regeneration related protein
NSUN4	NR_045789	chr1:46823248-46823331	NOP2/Sun domain family, member 4
NT5C2	NM_012229	chr10:104853974-104853926	5'-nucleotidase, cytosolic II
OSMR	NM_003999	chr5:38876877-38876923	oncostatin M receptor
OXCT1	NM_000436	chr5:41734751-41734677	3-oxoacid CoA transferase 1
PAPD4	NM_173797	chr5:78937278-78937340	PAP associated domain containing 4
PCM1	NM_006197	chr8:17818551-17818653	pericentriolar material 1
PDE7A	NM_001242318	chr8:66693182-66693079	phosphodiesterase 7A
PDS5B	NM_015032	chr13:33263018-33263158	PDS5 cohesin associated factor B
PDXDC1	NM_001285447	chr16:15103356-15103418	pyridoxal-dependent decarboxylase domain containing 1
PIGN	NM_176787	chr18:59764997-59764914	phosphatidylinositol glycan anchor biosynthesis, class N
PIK3CD	NM_005026	chr1:9774095-9774189	phosphatidylinositol-4,5-bisphosphate 3-kinase, catalytic subunit delta

Gene Symbol	Ref SeqID	Coordinates	Description
PIK3R1	NM_181523	chr5:67538784-67538973	phosphoinositide-3-kinase, regulatory subunit 1 (alpha)
PIKFYVE	NM_015040	chr2:209176229-209176294	phosphoinositide kinase, FYVE finger containing
PITPNB	NM_012399	chr22:28288318-28288117	phosphatidylinositol transfer protein, beta
PITPNB	NM_012399	chr22:28290410-28290364	phosphatidylinositol transfer protein, beta
PLEKHA1	NM_001195608	chr10:124148798-124148900	pleckstrin homology domain containing, family A (phosphoinositide binding specific) member 1
PLSCR1	NM_021105	chr3:146255831-146255783	phospholipid scramblase 1
PMS1	NM_000534	chr2:190683464-190683555	PMS1 homolog 1, mismatch repair system component
POMT2	NM_013382	chr14:77753614-77753576	protein-O-mannosyltransferase 2
PPARG	NM_138712	chr3:12427535-12427591	peroxisome proliferator-activated receptor gamma
PPHLN1	NM_016488	chr12:42745687-42745851	periphilin 1
PPIP5K2	NM_015216	chr5:102492916-102492948	diphosphoinositol pentakisphosphate kinase 2
PPP1R26	NM_014811	chr9:138376071-138376135	protein phosphatase 1, regulatory subunit 26
PRPF31	NM_015629	chr19:54632112-54632180	pre-mRNA processing factor 31
PRSS23	NR_120591	chr11:86651889-86652069	protease, serine, 23
PRUNE2	NM_015225	chr9:79234303-79234256	prune homolog 2 (Drosophila)
PSMA4	NM_001102667	chr15:78834921-78834987	proteasome subunit alpha 4
PXK	NM_017771	chr3:58321084-58321179	PX domain containing serine/threonine kinase
RAF1	NM_002880	chr3:12645036-12644977	Raf-1 proto-oncogene, serine/threonine kinase
RAP1A	NM_001010935	chr1:112170092-112170148	RAP1A, member of RAS oncogene family
RAPGEF1	NM_005312	chr9:134479440-134479348	Rap guanine nucleotide exchange factor (GEF) 1
RARS2	NM_020320	chr6:88257102-88256965	arginyl-tRNA synthetase 2, mitochondrial
RBKS	NM_001287580	chr2:28111807-28111741	ribokinase
RERE	NM_012102	chr1:8456591-8456504	arginine-glutamic acid dipeptide (RE) repeats
RFWD2	NM_022457	chr1:176044514-176044399	ring finger and WD repeat domain 2, E3 ubiquitin protein ligase

Gene Symbol	Ref SeqID	Coordinates	Description
RNFT1	NM_016125	chr17:58039977-58039901	ring finger protein, transmembrane 1
RPA1	NM_002945	chr17:1745069-1745127	replication protein A1, 70kDa
RPS10	NM_001204091	chr6:34385627-34385575	ribosomal protein S10
RPS6KB2	NM_003952	chr11:67196453-67196493	ribosomal protein S6 kinase, 70kDa, polypeptide 2
SAMD4A	NM_015589	chr14:55115465-55115566	sterile alpha motif domain containing 4A
SAR1A	NM_001142648	chr10:71926149-71926032	secretion associated, Ras related GTPase 1A
SCO1	NM_004589	chr17:10594966-10594907	SCO1 cytochrome c oxidase assembly protein
SEC24A	NM_021982	chr5:134013731-134013842	SEC24 homolog A, COPII coat complex component
SENP6	NM_015571	chr6:76331643-76331687	SUMO1/sentrin specific peptidase 6
SERGEF	NR_104040	chr11:18031686-18031622	secretion regulating guanine nucleotide exchange factor
SGK3	NM_001033578	chr8:67697924-67698031	serum/glucocorticoid regulated kinase family, member 3
SH3YL1	NM_015677	chr2:224920-224868	SH3 and SYLF domain containing 1
SKA2	NM_182620	chr17:57196856-57196757	spindle and kinetochore associated complex subunit 2
SLC12A2	NM_001046	chr5:127478818-127478874	solute carrier family 12 (sodium/potassium/chloride transporter), member 2
SLC25A17	NM_006358	chr22:41193340-41193288	solute carrier family 25 (mitochondrial carrier; peroxisomal membrane protein, 34kDa), member 17
SLC44A2	NM_001145056	chr19:10753573-10753697	solute carrier family 44 (choline transporter), member 2
SMYD3	NM_001167740	chr1:246394576-246394501	SET and MYND domain containing 3
SNAP23	NM_003825	chr15:42805372-42805407	synaptosomal-associated protein, 23kDa
SNHG16	NR_038109	chr17:74554456-74554545	small nucleolar RNA host gene 16
SNX7	NR_033716	chr1:99204216-99204359	sorting nexin 7
SOS2	NM_006939	chr14:50600608-50600526	son of sevenless homolog 2 (Drosophila)
SPATA18	NM_145263	chr4:52928386-52928498	spermatogenesis associated 18
SPATA5	NM_145207	chr4:123901321-123901384	spermatogenesis associated 5

Gene Symbol	Ref SeqID	Coordinates	Description
SPIDR	NM_001080394	chr8:48185929-48186042	scaffolding protein involved in DNA repair
SPRYD7	NM_020456	chr13:50492357-50492229	SPRY domain containing 7
SRGAP1	NM_020762	chr12:64319388-64319457	SLIT-ROBO Rho GTPase activating protein 1
SRRM1	NM_005839	chr1:24973570-24973640	serine/arginine repetitive matrix 1
STAT1	NM_007315	chr2:191843332-191843254	signal transducer and activator of transcription 1, 91kDa
STRN3	NM_001083893	chr14:31398517-31398407	striatin, calmodulin binding protein 3
STXBP6	NM_014178	chr14:25411028-25410930	syntaxin binding protein 6 (amisyn)
STXBP6	NM_014178	chr14:25457178-25457092	syntaxin binding protein 6 (amisyn)
SUPT20H	NM_001014286	chr13:37585794-37585696	suppressor of Ty 20 homolog (S. cerevisiae)
TAF2	NM_003184	chr8:120771346-120771264	TAF2 RNA polymerase II, TATA box binding protein (TBP)-associated factor, 150kDa
TAF2	NM_003184	chr8:120757276-120757121	TAF2 RNA polymerase II, TATA box binding protein (TBP)-associated factor, 150kDa
TASP1	NM_017714	chr20:13395909-13395770	taspase, threonine aspartase, 1
TBC1D15	NM_022771	chr12:72278640-72278801	TBC1 domain family, member 15
TCF12	NM_207037	chr15:57227695-57227728	transcription factor 12
TCF4	NM_001243226	chr18:53202868-53202790	transcription factor 4
TIAM1	NM_003253	chr21:32641011-32640727	T-cell lymphoma invasion and metastasis 1
TJP2	NM_004817	chr9:71792959-71793045	tight junction protein 2
TMEM189-UBE2V1	NM_199203	chr20:48713357-48713209	TMEM189-UBE2V1 readthrough
TMEM214	NM_017727	chr2:27260130-27260168	transmembrane protein 214
TNRC6A	NM_014494	chr16:24769760-24769920	trinucleotide repeat containing 6A
TMC3	NR_120365	chr15:81633491-81633560	transmembrane channel like 3
TNS3	NM_022748	chr7:47337036-47336903	tensin 3
TOE1	NM_025077	chr1:45807382-45807415	target of EGR1, member 1 (nuclear)
TRAF3	NM_145725	chr14:103356688-103356763	TNF receptor-associated factor 3

Gene Symbol	Ref SeqID	Coordinates	Description
TRIM65	NM_173547	chr17:73887959-73887894	tripartite motif containing 65
TSPAN2	NM_005725	chr1:115601892-115601858	tetraspanin 2
TTC7B	NM_001010854	chr14:91171677-91171544	tetratricopeptide repeat domain 7B
TUBE1	NM_016262	chr6:112405449-112405392	tubulin, epsilon 1
TYW5	NR_004862	chr2:200813345-200813295	tRNA-yW synthesizing protein 5
UBAP2L	NM_001287816	chr1:154234649-154234678	ubiquitin associated protein 2-like
UBE2V1	NM_199144	chr20:48713357-48713209	ubiquitin-conjugating enzyme E2 variant 1
URGCP	NM_001077664	chr7:43945050-43944971	upregulator of cell proliferation
VAV2	NM_001134398	chr9:136698500-136698469	vav 2 guanine nucleotide exchange factor
VPS29	NM_057180	chr12:110937351-110937340	VPS29 retromer complex component
WDR27	NM_182552	chr6:170087077-170087013	WD repeat domain 27
WDR27	NM_182552	chr6:170061846-170061799	WD repeat domain 27
WDR37	NM_014023	chr10:1148398-1148517	WD repeat domain 37
WDR91	NM_014149	chr7:134890341-134890209	WD repeat domain 91
WNK1	NM_018979	chr12:1004327-1004362	WNK lysine deficient protein kinase 1
XRN2	NM_012255	chr20:21307793-21307903	5'-3' exoribonuclease 2
XRN2	NM_012255	chr20:21326472-21326525	5'-3' exoribonuclease 2
ZCCHC8	NM_017612	chr12:122963343-122963211	zinc finger, CCHC domain containing 8
ZFP82	NM_133466	chr19:36891305-36891187	ZFP82 zinc finger protein
ZNF138	NM_001160183	chr7:64277652-64277713	zinc finger protein 138
ZNF232	NM_014519	chr17:5012080-5012041	zinc finger protein 232
ZNF37BP	NR_026777	chr10:43046910-43046848	zinc finger protein 37B, pseudogene
ZNF680	NM_178558	chr7:64002295-64002108	zinc finger protein 680

[001027] The sequences for iExons produced in certain affected genes at the indicated coordinates from **Table 11** are shown in **Table 12**. In certain instances, detection and analysis of the amount and type of iExon sequences are useful biomarkers produced as a result of contacting a cell with a compound as described herein or administering to a subject in need thereof a compound as described herein.

[001028] Table 12

Gene Symbol	Coordinates	Sequence
ABCC3	chr17:48767318-48767437	GGCCCATAGGAAGGACGCAAAGGCCTGTGTGTGCAGGCCAGAAAAAGGCTATCCACACAGGGTGGCCAGGACACTTTCTCCTGTAAGGAAGGGATGCACCAGCCAGGCCTGAAAGAATGA (SEQ ID NO: 3695)
ADCY3	chr2:25061781-25061716	CGGATCAAAGATTGAAGAAAGATTGTACTCCTGTGTCGTGGCTCCAACACTGAGGCTGAGATGGGA (SEQ ID NO: 3696)
AGPAT4	chr6:161687802-161687740	GATACTGCAGCCATCAGCAGACAATCAATGCAATCATCTCAGACTGTGTCCTGCGTCCCAGGA (SEQ ID NO: 3697)
ANKRA2	chr5:72851082-72850950	AAGTACTGTCAGCTTTGAAGGAGAAGGCTTCATGGAGGAGCTGTGACTTGACTCCAGAGTGAAAGGATAATTAGGATTGATACAGGACGGAGGAAGGAAGGCATCCAGGCAATCTCAATAAAAGCATCCATGA (SEQ ID NO: 3698)
ANXA11	chr10:81916254-81916134	AGTATCTCCTGCATGCCAGCAAGCTATGGACATCTGGAAGAAGCCACATGCCTTGCCCTCAAGTTGCTTAGGGTGGAAGGAAATGATTAGAAATGAGCCAAGCCGAGCCTGCACTCTTAGA (SEQ ID NO: 3699)
APIP	chr11:34933660-34933520	CTCTGAAATTAAATCCCTACTGACTGGCCCTTGAACTGATTTTTTCTAACATCAGCAAAAGTCAAGGAGTGTTTCCCTAAAAAAGAAAGCATTTACTCAGAAACCGTATATTGAAGTCCAGGCTGAAAAATGCAAACATGA (SEQ ID NO: 3700)
APPL2	chr12:105625422-105625147	TCAGGGCTGTACGCTGTGGACCAAAGATCATGCTCGCTGATGAGAGCCACCCTGCTGGTGACCTCAGTGCTGCCGACCCATTTACATCCCAGCCCTGCCACATTCCTACAGTGGGAGGTTGAACACATTTCTTAACCTTGATGAGCCTCAGTTTCATCATCAGTAAAATGAAGTTAATGGAACCATGGAATCTACCTTGGAGAGTTGCTAGAAGAATTAAATGAAGTCACATATGTTTAGTGCCCAGCACAGCGTCCAGCACATAGGTGGTACAGA (SEQ ID NO: 3701)
ARHGAP1	chr11:46718619-46718571	GGCCGTCAACCTTTCCACCTTGAAACTGGTGTCAGGAGCACCCTGCAGA (SEQ ID NO: 3702)
ASAP1	chr8:131173039-131173031	GTTGTTGCAGCTGCGCACCTGCTCTGTGAAGCACAGATTGTCATGGGGGCAGTTCTCTCAAAAACATGGCATATTGTGATGA (SEQ ID NO: 3703)

Gene Symbol	Coordinates	Sequence
ASAP1	chr8:131135828-131135650	AGCAAACCCCATTGTCAGGGGAAAGCAGAACAAAGAAAAGTATTTAGAAATGTATTTCCGGGATGCACAGATTCTTTTCACCCTCACCTTCCCCTAGGTTGTTGCAGCTGCGCACCTGCTCTGTGAAGCACAGATTGTCATGGGGGCAGTTCTCTCAAAAACATGGCATATTGTGATGA (SEQ ID NO: 3704)
ASAP1	chr8:131135731-131135650	TCTAGGAGA (SEQ ID NO: 3705)
ASAP1	chr8:131173046-131173031	ATCGAAGTCTAGGAGA (SEQ ID NO: 3706)
ASPH	chr8:62,421,470-62,421,527	TCATTCTGATCTACTGAAATTCCCCAGTTCAGACTCCATTGAAAGCCCTGGGATGGCA (SEQ ID NO: 3707)
ATAD2B	chr2:23976387-23976214	GTCATCTGAGCAAATGTAATCACTCATCTACCCACAAAATGGCTAAATGACTTAATTCAACTCCCTTTGTTGATTTGCCTGTTAGTTTGTTTATCTGGTGGTCTATCTATTAAATGTTTATTGAGTACCTGCAGTGCCAGATGCTGTGCTGGGTGTTTGGAATGCAAAAAATGA (SEQ ID NO: 3708)
ATXN1	chr6:16409524-16409426	TTTCATAAAGAGGACAGACGCTAAGGCAATTGTGTGGAACAGAGCAGCTTCTCGGGGTAACCATCTCCTGCTGATGTATAAATATCGGGGCAAAACTGA (SEQ ID NO: 3709)
BECN1	chr17:40963348-40963310	GATCCCATTGATGGATGGAAACTCTAGTTTTTACTTAGA (SEQ ID NO: 3710)
BHMT2	chr5:78374568-78374655	GATGTTTTCATCTGGCCCAAGAAGAACTTGTTCTTAATGTTAAAAGACCTTTTTGCTAAACTGGGAAGAAAGTGCTGGAATAACAAGA (SEQ ID NO: 3711)
BICD1	chr12:32486172-32486263	GTCAATTTCTGCCTTGTGGATAATTTTCTGAATCTGTAATATTTCTGAAGATTCCTCCAAGTATTTACAGAACATACAGAAGTATTTTATGA (SEQ ID NO: 3712)
BTN3A1	chr6:26404363-26404455	ATCTTGTTCTCAGAGGCCATTCCCAGACCCACAGCAAGAGGGATTATGGCTGCAGGCCTCATGCTCCTTTGTTTTGGAAGAAACTGTTGAGGA (SEQ ID NO: 3713)
C11orf30	chr11:76259972-76260061	GCCTTGTTCAAAGCTCTGGGCATCTAGCAATGAGTAAGATAGTCAAGATCTGTGCTCTGTCCACGTTCTCTTGGAGCTTACATTTTAAGA (SEQ ID NO: 3714)
C11orf73	chr11:86037555-86037718	GTAATTATTGAACATCTACTTGCTGCCTACTTTCAACATCTGCATGTGTGTGTGAATATTAAATATCACACCAAGACATTGTTCAGAGGAGACAGAATAGTGAGCTGAGATAAATGAGAATCTCTCTATGGAAGATTAGACTGGAGCATGAACTTGAAATATGA (SEQ ID NO: 3715)
C14orf132	chr14:96506612-96506704	AACAAAGACAAATCCCGGATTTCTCCATCAGTCTGTGACCCTAGAGAAGACCCAGAGCTGGCTCCAGGGAAGGGCTGCGTTTGGCCTGGGAGA (SEQ ID NO: 3716)
C8orf88	chr8:91990874-91990807	TGTTCCCTTTCAACTTTCAAAACGAATATCCATGCAACACTCAGTGCATACAAAGTGGAGTTAGCAGA (SEQ ID NO: 3717)

Gene Symbol	Coordinates	Sequence
CASC3	chr17:38298307-38298353	GAGAAAGTTTCCTGTCTTTTGGATAAACTACTAGAGATGCCATCAGA (SEQ ID NO: 3718)
CASP7	chr10:115477382-115477512	GGTTGCAGAGAGCACTGGTTGAAGCCTATCCTGAAGCTACCTTGGTAGAGGAGTTAATTGCACCAGGAGACCTAATTTCAGAAAGGTCACAGATTATATTCCACCCTCCACAAAAGTAACCTGGAAGATGA (SEQ ID NO: 3719)
CCDC122	chr13:44431087-44431054	TAACATATTTTATTGAGGTATAATTGTCATAAGA (SEQ ID NO: 3720)
CDH13	chr16:83402146-83402179	GTTTTTTGGGAACAGGTGGTGTTTGGTTACATGA (SEQ ID NO: 3721)
CECR7	chr22:17,535,915-17,535,996	CGAGAGGAAGAGGAGAAGCATGCAGGAGTGTACATGAAACAAGATTGGCCACGAGATGACAAATATCTGAATCCGCTGATGA (SEQ ID NO: 3722)
CEP112	chr17:63684725-63684629	AACCAACTTCAAGATGGCTGCAGCAGTGCCAGGCATTCTGCCCAGATCTGCACTATTCGGAGGCAGAAAAGGGCTGCCAGTTTCTAGGGCCTAATGA (SEQ ID NO: 3723)
CMAHP	chr6:25107418-25107336	AATGAACACTCCATGAGAGCAGGGACCTGCTTTGCCTTGTTCACCACTTTATTCCCAGTGGCTAGAACCACGTCTGACACAGA (SEQ ID NO: 3724)
CNRIP1	chr2:68,542,833-68,542,986	GTCTTACTCTTGTCACCGAGGCTGGAGTGCAGTGGTGTGATCATAGCTCACTGCAGCCTCAACCTCCTGGATCCAAGTGATCCTCCTGCCTCAGCCTCCCAAGTTGCTGGCACTACAGGTGTGGTATCACCACACCCGGTTAACTAAAAAAAAT (SEQ ID NO: 3725)
CNRIP1	chr2:68542975-68542840	TTAACCGGGTGTGGTGATACCACACCTGTAGTGCCAGCAACTTGGGAGGCTGAGGCAGGAGGATCACTTGGATCCAGGAGGTTGAGGCTGCAGTGAGCTATGATCACACCACTGCACTCCAGCCTCGGTGACAAGA (SEQ ID NO: 3726)
CPSF4	chr7:99045396-99045536	AAGAGACAGGATTTCACCGTGACAGCCAGGATGGTCTCCGTGCCAGCCAGGATGGTCTCGATCTCCTGACCTTGTGATCCGCCCACCTCGGCCTTCCAAAGTGCTGGGATTACCAGCGTGATCCACTGCGCCCGGCCATGA (SEQ ID NO: 3727)
CRISPLD2	chr16:84869783-84870041	ATTGGGTCTTATCCCCAAGATATCTCATTATGTACATGCAAATCAGCGGAGCATCGTCATGACACCAGGAGGACACCCCGTGACGCCGATTACCGCACTCTCAACCTCAACCCAGCGTCAGAGTTTTCTGGCATCTCTTCTTTGAGCCTGGCCGCCTGCAGCTGGAAATGCTCATATATGGTGGTGTGACTAACCTGAGAGAGAGAGATCAGGGATCCTGAGAAGTTCTGCATTCTTGGTCTGCTTCCCAGTGGGACGA (SEQ ID NO: 3728)
CRYBG3	chr3:97635177-97635237	GGCCTTTCTGTCTGGTGTGTGCAGAATGATCTGGGTCACCTCTGAGGCCCATATTTATAGA (SEQ ID NO: 3729)
CSNK1G1	chr15:64575350-64575317	GTTATTGGGGTACAGATGGTGTTTGGTTACATGA (SEQ ID NO: 3730)

Gene Symbol	Coordinates	Sequence
DAGLB	chr7:6474651-6474425	TTGGATCATCATCGCTGCCACAGTGGTTTCCATTATCATTGTCTTTGACCCTCTTGGGGGGAAAATGGCTCCATATTCCTCTGCCGGCCCCAGCCACCTGGATAGTCATGATTCAAGCCAGTTACTTAATGGCCTCAAGACAGCAGCTACAAGCGTGTGGGAAACCAGAATCAAGCTCTTGTGCTGTTGCATTGGGAAAGACGACCATACTCGGGTTGCTTTTTCGA (SEQ ID NO: 3731)
DCAF17	chr2:172298369-172298546	TTTTGCCAAGGAGTTTGTCCACAGAGCTCTTCATGCCCTCATGCTGGAAGTGGAAATCTGGACATGTTATCTTATCATGTCATTATCACACCTAGGAAAATGAGCAACAATTCTTCAGGATCATTTAATGTCAAGTTTATAACTTCCTGCTTTAACTTAAAAAAAAAATTAAATTAGA (SEQ ID NO: 3732)
DCUN1D4	chr4:52775086-52775141	GCCGAAGATGGTGTTAGTGATTGCGAGCTGCTGGCTGGCACCCTTGCAGAGCAGGA (SEQ ID NO: 3733)
DDX42	chr17:61883354-61883511	GTGCAGTTTGAACAGGGCTTGACAGTGGCTGGACCATCACTAAGTGAGACTTTAATTCATCAAGCATAACTGAAAATGGAGGCAGTAGATTATATCTTGGTAGCCAGCATGTGTAGACTTGTCTTATTTGGAGCCCACTTGGAATTTTCATTTCAAGA (SEQ ID NO: 3734)
DENND1A	chr9:126385380-126385322	CTGTGGCATAAGAATGAAAAGAAAAGAAACAAAAGCAGATGGCAGAGAAAACGAAAGGA (SEQ ID NO: 3735)
DENND5A	chr11:9227781-9227736	GCCAAAATCATATTATATGATCAACCTCAAGTGCATGGGAAGCTGTGAAAGTGAACATTGAACTGGGTATAATGTTACCCTGAACAGTATGAAGGTCTATGAGCAAGAAAGAAGGGGTGAATGAATTATGA (SEQ ID NO: 3736)
DENND5A	chr11:9198449-9198319	ATAGGACAGCATTTAAAAATCTCATGTGGAAGAATATACCACTAGA (SEQ ID NO: 3737)
DGKA	chr12:56333603-56333699	ACCTGGGCCTCCCAAGCATTATCCAGCTCAGTTCCTGCCTGGCACATGGATGGTGTGGGGCAGGCATGCAGTAGCAGCTGATCTTTTAGGAGGAAGA (SEQ ID NO: 3738)
DIAPH3	chr13:60266972-60266851	GTAAATTAGACCCAAAATAACTCCCAGGGAGCAATACACAGCCTGGAAAACATGAAACAAGGAGCGGCTGTTTGGTGTAATAAAGGAGGAGCACCAGGCTGAATTTTCAGAGGCCTAATAGA (SEQ ID NO: 3739)
DIAPH3	chr13:60548266-60548219	GGTTTTGTTCCTAATGTCACATGTTTCCTAAGTAATTCAGCATAAAGA (SEQ ID NO: 3740)
DLGAP4	chr20:35127645-35127724	GAGAGGACTAGAAGGAACGGTTCCCACCTCTCGGAGGACAACGGACCCAAAGCGATCGATGTGATGGCACCCTCCTCAGA (SEQ ID NO: 3741)
DNAJC13	chr3:132227720-132227883	CCCACTGTGGAGACCTACTGCTCAGGAAAAAAAGAGCTTTCAAAATACTACTGCTCGTTGGCAATGCACCTGGTCACCCAAGAGCTCCGATGGAGATGTACAAGGAGATTAATGTTTTCATGCCTGCTAATACAGCATCCATTTTGCAGCCCATGGATCAAGGA (SEQ ID NO: 3742)

Gene Symbol	Coordinates	Sequence
DNMBP	chr10:101762780-101762699	TTTGAAAATCAAATATTGAATGCAAAAGCTAGGAAGCTGTAAACAGGAAACGTAAACGAGAAAGAACAAGCAGTGAATACGA (SEQ ID NO: 3743)
DNMBP	chr10:101654399-101654318	CATTGGCCAGGACTACTAGAACTGTGTCAAAACAGCTGCTACACTAACGGGCATCTTTGTCTTGTTCTCAGTCTTAAAAAGA (SEQ ID NO: 3744)
DOCK1	chr10:128901890-128901944	GAACGTTGGGGATGCAGATGACCAGTATCTAGTGCTGCGTGACTTTGGATTACGA (SEQ ID NO: 3745)
DYRK1A	chr21:38794884-38794954	GTTCAGGGATGCTGGAAAGGACACTGAAGTAGGCCTTGGCTGATGGGCCTTTCAGAAGTGAACACTTAAGA (SEQ ID NO: 3746)
EIF2B3	chr1:45350395-45350311	GGAACTGACTTGTTTTCCAATGGAGGAGGAACATTTGCTGCCTACACTGGTTTGAAGCATTAAAAGGGGAGAAAAAGAGCTAAGA (SEQ ID NO: 3747)
ENOX1	chr13:43,984,307-43,984,398	TTACTCTAGAAGTCGTACTACATTTTCTGAGAGAAGTAGGAGGTGAGACGAGAGTAAGTAACTTCTGCTCTCTGAATATTTCAATTAGGCAG (SEQ ID NO: 3748)
ERC1	chr12:1536281-1536343	ACAGACCCTTCCAGAACCAGATGACCATCAAGACAAAAGCATACTCAAGCAGACAAGAAAGGA (SEQ ID NO: 3749)
ERCC1	chr19:45917292-45917221	GTGACTGAATGTCTGACCACCGTGAAGTCAGTCAACAAAACGGACAGTCAGACCCTCCTGACCACATTTGGA (SEQ ID NO: 3750)
ERGIC3	chr20:34142143-34142157	TACATGCTGTGGAGA (SEQ ID NO: 3751)
ERLIN2	chr8:37594849-37594946	GGCCAAAGGAATAACTGGGAAGGTGGATGCGAGGCCAACGAATCCTACCTTGAAACTCTGCTCGCCTGCTGGCTCTGCCACTCCAGCATCTGAAAGGA (SEQ ID NO: 3752)
EVC	chr4:5743061-5743168	TTCCATACAACTATCCCGCTGATTCTTTCTTCAAAGAAGCAAACCCTCCTTTGCTTTTTATATTTTCTTCACACATGGAAATGGGGGATGTGGAGGGCCTTGCACAGA (SEQ ID NO: 3753)
FAF1	chr1:51003153-51003085	TAATTTTTAACAGTGTAAAGGGGTCCTGAGACCAAAAAGTTTGAGAACTGCTGCAATCAACTATAAAGA (SEQ ID NO: 3754)
FAIM	chr3:138335412-138335506	GCTGGTCTCGAGTTCCTGGCTTCAAATGATTCTCCTGTCTCAGCCTCTCAAAGTGCGGGGATTACAGGGATGAGCCACCATGCACACTCCAAGGA (SEQ ID NO: 3755)
FAM126A	chr7:23011932-23011871	GTCAATTTTTCTGACCACCTGAACAGATTGTTTTCTGTCAATTAAGGGCAGCTTTGTTACGA (SEQ ID NO: 3756)
FAM13A	chr4:89890343-89890310	GTTTTGGGGAAACAGATGGTGTTTGCTTACATGA (SEQ ID NO: 3757)
FAM174A	chr5:99917051-99917108	ACTGCTGTGGAATTCCTGAGAAAGAGCAACTGAGGGATAGCAACATGGATTTCACTGA (SEQ ID NO: 3758)

Gene Symbol	Coordinates	Sequence
FAM198B	chr4:159091499-159091399	CAGCAGCAGCAGCGTGTCTTTCCATGCGCTTGGCATTCTTTATTTTCCCAGCCTGGGAGGATATGAGAGTTCCAGGGAAATGCTGTATTGGACATGCAAGA (SEQ ID NO: 3759)
FBN2	chr5:127850450-127850370	GATTAATTACCGTTAATGTCTTGGAGACTATAACGTACACTGCACGTTGTAATAACACAAAAGGACAAGCAAGATGTAAGA (SEQ ID NO: 3760)
FER	chr5:108321155-108321188	GTTTCTGGGGAGCAGGTGGTGTTTGCTTACATGA (SEQ ID NO: 3761)
FHOD3	chr18:34322340-34322431	GACAAAAAGCAAAGAAGAAGACTGTGGTCTAGAAGCCGAAGGAAGATGAGAAGGAAGAGTGTCCGAGGAGTCAGCCACAGCCAGAAAGGAGA (SEQ ID NO: 3762)
FOCAD	chr9:20737106-20737152	CATTGACTCCGTTATCTACACAATAAAATCTGGATCCACAGATAAGA (SEQ ID NO: 3763)
GALC	chr14:88447791-88447758	GTTTTTGGAGAATAGGTGGTATTTGGTTACATGA (SEQ ID NO: 3764)
GCFC2	chr2:75913102-75913000	CAAGAGAGAAAGAGAGGAATCAAGAATGGGTCCATTGAGGAATTGGCCTGAGCAACTGGAAGGACAGAGGTGCCATTTCCTGAAATGAAAAAGTCTGACAGGA (SEQ ID NO: 3765)
GGACT	chr13:101194723-101194628	TAAGATGCTATGAGGAAATCCGTGCACGAGGGATGACAGCGTGGCAGGCTGGAACACGCTTTTTAGATTTACTTTCGTGGACTGGATCTGTTAAGA (SEQ ID NO: 3766)
GLCE	chr15:69517534-69517591	GGCAGAGGTGGAGAGGGGTTAGATTATTTCATCTGCCCTACAGTTGGCATAATAAAGA (SEQ ID NO: 3767)
GOLGA4	chr3:37285619-37285734	GTCCAGGGATTGAAGGCTGGGGAGTAGAGCCATCCTGGGTCAGGCTGCTGGTAGGAGCGGTGGGACCTGAAAGACGTGGCGGCGTGGCCGGCGTCCAGCGCCCGAGGCTGTCACGA (SEQ ID NO: 3768)
GOLGB1	chr3:121401810-121401764	AGGTGCCTGATGCTGTTAATTCCTGAGCCTTTTGAAGATTCTGCAGA (SEQ ID NO: 3769)
GXYLT1	chr12:42489016-42488953	GGATTGTTTGTATTCCTGCCAATGATTTGTGAGACAGTCTGTTCCCCACATCCTCGTCAACAGA (SEQ ID NO: 3770)
HAT1	chr2:172803228-172803303	TTCGTTTTCCTGAAGATCTTGAAAATGACATTAGAACTTTCTTTCCTGAGTATACCCATCAACTCTTTGGGGATGA (SEQ ID NO: 3771)
HLTF	chr3:148769931-148769832	TCTTGCTCTGTCGCCCAGGCTGGAGTGCAATGGCGCGATCTCAGCTCACTGCAACCTCCACCTCCCAGGTTCAAGTGATCCTGCTGCCTCAGCCTCTTGA (SEQ ID NO: 3772)
HMGA2	chr12:66267911-66267926	CTTGTTGGGAATAAGA (SEQ ID NO: 3773)

Gene Symbol	Coordinates	Sequence
HNMT	chr2:138724667-138724956	ATACCAGAATTGCTGTTAACAAATAAAATACTGGCCAGATGTGTTGGTTCACGCCTGTAATCCTAGCACTTCGGGAGGCTGAGGCGGGAGGATTACTTGAGCCTAGGAGTTTGAGACCAGCCTGGGCAACATAGCAAGATCCCATCTCTACAAAAAAGTGAAAAAGTTAGCTGAACAAGGCGGCATGCACATGCTACTCCAGACGCTGAAGTGGGAAGATCACTTAAGTCCGAGAGATCGAGGCTTCAGTGAGATATGGCTGAGACACTGCTCTCAGCCTGGATGACAGA (SEQ ID NO: 3774)
HPS1	chr10:100195171-100195029	TTTGGAGAATGCCTGTTCATTGCCATCAATGGTGACCACACCGAGAGCGAGGGGGACCTGCGGCGGAAGCTGTATGTGCTCAAGTACCTGTTTGAAGTGCACTTTGGGCTGGTGACTGTGGACGGTCATCTTATCCGAAAGGA (SEQ ID NO: 3775)
HSD17B12	chr11:43838189-43838222	GTTATTGGGGAACAGGTGGTGTTTGGTTACATGA (SEQ ID NO: 3776)
HSD17B4	chr5:118792986-118793063	CTTTCTGACATCTTAACGAGGCAATACAGAGAGACGAATTTTCATCAGTTTGTTCAGGGAGACACATATAACAAAAGA (SEQ ID NO: 3777)
HTT	chr4:3215349-3215463	AGGCAAGCCCTGGTGCTGTGGGAGCCCCAAGGAAGAGCCTCTGGCCTGGTGGCCACGTAGCCCAGGAGAGATTTCTACAGGAGCCCACAGCGCTGAAGGAGAGAGAGGCAGCAGA (SEQ ID NO: 3778)
IFT57	chr3:107911373-107911323	ATCCATACATACTTAATGCTGAAATGTGAAGGGCTGAGAAAAAAGAAAAGA (SEQ ID NO: 3779)
INPP5K	chr17:1419412-1419182	CACATACATCAGGAGGTCTGCCTGATCCCATGGTGAACCCCGGGAATCCGAAATCAGATTGAGATAAGATCCTTTAGGGAAGTGACTTAGCCTGGTCTCTTGCCTGCTCTTTCACGGGGAACAACGCTAATCGCCCACTTAGTCTAAGTCACGATGCTTGGATTTGCTGCTAATCGTCGGATTTGAGAGTGGGAACAAGAAATCCGGACTTTTGCTCTCCATCCTCTTAGA (SEQ ID NO: 3780)
IVD	chr15:40706629-40706723	CTCTGAATGGCCTGTCTCCTGGACAAAGAAGCTTTCACGGACTACTCTGCAGGGAGGTGACATTGGACCAGAGCTGACTCCACCTGGGGGAAAGA (SEQ ID NO: 3781)
KIAA1524	chr3:108284925-108284745	GTCAGGAATTATGGTTAAAGGTGGATTTTCACTGATGGTAATAAGATATTACTTTATACCCCTTCCCTCCTCATGAATTAAGTCCATCTAATCTTTACTGAGGACCTGCTGAGTGGTAGACACTATGATTTGTTTCTGTTTCCACAGATGTCACAATTGTCAGTAATTGTGGACCTTTAGA (SEQ ID NO: 3782)
KIAA1715	chr2:176835145-176834927	TTCTCAGGTTTTCTTGACACCAAGAAAGAGAGGGAATCAAGAAGATCGGTTGTAAGAGAGCAATTCAACATGAAAATACTGAAGAAGAGATGGGAGAGAGAGAGAGATAATTGTTTTCTTCAGAGTTTTCCACTTTCTATCAGTAACTCTGATCACATGGATATCTATTGTGGGGCTAGTTGATGCATCCCTTCAGATGTGTTGGAAAGAGGACCAAGA (SEQ ID NO: 3783)

Gene Symbol	Coordinates	Sequence
LUC7L3	chr17:48798190-48798241	TGTAGGAAAGCAAGTTGGTGCTAGATGACTCCTTTTAGGACTTTAAGAAAGA (SEQ ID NO: 3784)
LYRM1	chr16:20922505-20922586	GTGAAGTAGTATTTGAAGCTTTTCATCAGTTGGCTCATTCTTTACTCAAGAATAAACCTCAAGAAACGTCATCAGGGTCAGA (SEQ ID NO: 3785)
MADD	chr11:47314094-47314147	AATTGTGGAACAAGCACCAGGAAGTGAAAAAGCAAAAAGCTTTGGAAAAACAGA (SEQ ID NO: 3786)
MB21D2	chr3:192555098-192555020	GCATGTTTATGTGGGAATGTCTCTCCATGTTTACAAACTTCAGAAGGCCCCTTTGGGAAAGAAAACCTCTCAGAGAAGA (SEQ ID NO: 3787)
MCM10	chr10:13239941-13240039	TCTTGCTCTGTTGCCAGGCTAGAGTGCAGTGGCGCAGTCTTGGCTCGCTACAGCCTCTGCCTCCTGGGTTCAAGCGATCCTCCTGCCTCAGCCTCACGA (SEQ ID NO: 3788)
MED13L	chr12:116547674-116547579	GTCATTTTTAACATGGATTCTTAGATGCTGACAAATATTGCCAAATTCCATTCCAAAAGAGGTTACACTTATTTCCTTTCATCAGTGAATGA (SEQ ID NO: 3789)
MED13L	chr12:116419435-116419344	CTCCTCTGAGTGTTCCTCCAAATCTGTCTTTTGGAGTAGACCTAGAAATCATCTGTTACTAAGGTGTACTATGCATGTGGAACCATTGATTTAAGA (SEQ ID NO: 3790)
MEDAG	chr13:31492953-31493127	GAGAGGCCAGGAACAGAATGCCCAGTAACAAGAAGTGCTCATTAGAACATCTGAAGCCCACGTGTTCTTTGGCTTGATTATAACCAGAAAGCCAGATAGTTCTTTAGGAATGTAATTCACAGCTGTATCAAGTACACCTCCTGCACCGATCACTCAGGAGGAATCTAAAAAAAGA (SEQ ID NO: 3791)
MEMO1	chr2:32112156-32112104	AAAGCGTGCTCTGGAATGGATTCACAAATGAGCTACCCTCCTTCCCTCAAAGA (SEQ ID NO: 3792)
MMS19	chr10:99241240-99241106	CATTAATTTACAGAAATACACGTATTCTCCTTGTTTTGGTGGAAGCTGCAGCTGCCAATCATCTCTCAAACCCTGTGGGTAGCTGCTAAGCTGTATTTCAGAGGAATGTCACAATCATACCACTGGGGAGAAAGA (SEQ ID NO: 3793)
MRPL45	chr17:36468550-36468624	GTCTGGGTGGTGGCTCATACCCGTAATCCAGCACTTTTGGAGGCCGAAGTGGGAGGATTGTTTCTGGGCAGCAGA (SEQ ID NO: 3794)
MRPS28	chr8:80915355-80915234	ATGGGACCTGCAAAGGATAAACTGGTCATTGGACGGATCTTTCATATTGTGGAGAATGATCTGTACATAGATTTTGGTGGAAAGTTTCATTGTGTATGTAGAAGACCAGAAGTGGATGGAGA (SEQ ID NO: 3795)
MTERF3	chr8:97263851-97263810	GGACGTGTCTCCGTGCTAAAGACCTAGAGATTACAACGATGA (SEQ ID NO: 3796)
MYCBP2	chr13:77628142-77628054	GCATCTAGCATAGAACTCCCTATTCTGCATTATGACTACTGGACCACTTATCTCTCTGCCCTACTTGATAAGTTCCATGAGGACAAAGA (SEQ ID NO: 3797)

Gene Symbol	Coordinates	Sequence
MYCBP2	chr13:77692630-77692475	GTGACCAACTGAGTGCCATATTGAATTCCATTCAGTCACG ACCCAATCTCCCAGCTCCTTCCATCTTTGATCAAGCTGCAA AACCTCCCTCTTCCCTAGTACACAGCCCATTTGTGTTCGGA CAGCCCCTTTCCTTCCAGCAGCCTCAGCTTCAGA (SEQ ID NO: 3798)
MYOF	chr10:95117679-95117562	GGTGAGAAGTTTCTGAAGGTGCTTGAACGCTCTTCTTCCA CACGAGGGCACCAAGTTGAAGCGGGAAGAACACTGAGCC ATCAGTTAGAAGGCTCAGGATATGGTCCAGTTCTAACGA (SEQ ID NO: 3799)
NREP	chr5:111086122-111086049	TGTTCCAGGGCGCCATTAACGATTGGAGTTGGCACAAAAT TTGAAACTAGAAGTGGACTATTTGCTCCTTGAGA (SEQ ID NO: 3800)
NSUN4	chr1:46823248-46823331	GGGCTCAGGAGTCCAGCGGTCCTAAGTATACCTTGCAGCC ATCTTCCTAAAAGTTCTGACCATGACTGAGGACACTGAGA AGGA (SEQ ID NO: 3801)
NT5C2	chr10:104853974-104853926	AGTTTTGGTCTTAACTGAAACAGTCAAACAAACCCACTAA TTGAAAAGA (SEQ ID NO: 3802)
OSMR	chr5:38876877-38876923	CTTCCTGAGAGTTTCTTGGCCTATACCCAGCTGAAGTGCA GGGAAGA (SEQ ID NO: 3803)
OXCT1	chr5:41734751-41734677	ATTTTGAAAGAAGTCTGTCTCTCAAATATTTAAAGAATCA AAATGATGTCGTATTAAAGCTTGACAAGCTAATGA (SEQ ID NO: 3804)
PAPD4	chr5:78937278-78937340	AGCTCTACCTCTGTTTTGAAATGTCATTAGTTTGGATATGT TACCAGGATGCAGCAAAGAAGA (SEQ ID NO: 3805)
PCM1	chr8:17818551-17818653	TTATGGACCAGCATTTCCATCTTTTACTGGCCTGAAATAAT ATAATAAAATCTTTAAGCCACCATAAGATATCTAAGGAAA ATAACTGTATGTGGTTTAAAGA (SEQ ID NO: 3806)
PDS5B	chr13:33263018-33263158	GCATTAGAAACATTCATATTATGAAAATACTACCTTTTTAT TCTCACTTGGTGTACTGATGTGCATTACGGTGGAGAGCAG TAGGCTGCAGATTTTGTGCTGCATAGCCTGAGCAGCACCG TGTTATAGTTTGACATAAGA (SEQ ID NO: 3807)
PIK3R1	chr5:67538784-67538973	TGCTCTACAAGTATAGAAAGAAGCCTTCCTCTTCCCACCG TCCCCAGACACCACATAATGGAAAAAGCAAGAATTTTCTG CATAAGCAAGGCCTTAAAAAAAAAAAAGCCAGCCTCTGA TGGGACTTCTTTCCTGCCAGAAATCCCACTGGTCCACTGTC GCAATTTTTACAAAAGGCCACGATGAAAGA (SEQ ID NO: 3808)
PIKFYVE	chr2:209176229-209176294	TGGAAAGAACCTCATTTGAGCTATGCTTGGTCACAGACCT AGAGAAAGTTCACGGGGAAGTAAAGA (SEQ ID NO: 3809)

Gene Symbol	Coordinates	Sequence
PITPNB	chr22:28288318-28288117	GCGAAAATGGGCAGTGTTTACAGGCATGAATGCTGGTGGAAAGAGCAGAGTAAGGGCAGATTGCACAAGAACCGTGGAGGCCCTGGTTCCCATCACCTCCACCTCAGCACAGACTTCAGAGAGGAGAGGAGGCACTGGATGCATGACAGCAGCACTTGAGATAGGTGCTCCAGGTGGAAGGCACTGCACATGCAAAGGCTGA (SEQ ID NO: 3810)
PITPNB	chr22:28290410-28290364	TGAGCTTGGAGTGAAGTCTAGTACGTCTGTGCAGCAAAGAGACCAGA (SEQ ID NO: 3811)
PLSCR1	chr3:146255831-146255783	GACCACATAAACCCATTTTGAATTATTCAACCATTGCTGAACTTCTTGA (SEQ ID NO: 3812)
PMS1	chr2:190683464-190683555	GGATTCCCCCAGCAGACGTTTTTCATCTAAGAAATGGCTTGAGTGCTTCCTTTTATCGGGTGCTGTGATAGATTCTCAAAATATGAAAATGA (SEQ ID NO: 3813)
PPIP5K2	chr5:102492916-102492948	AACCCAACACAGATCTTAATACCATGAAAAGGA (SEQ ID NO: 3814)
PRSS23	chr11:86651889-86652069	AGCAATCTCTTTGTATTTATACAATTATGACAACAGTAGTAAGAGAAGAAGGTTCAGAGGATACAAGGTAACACACCTACATAAACGACCTACTGGGTACAAATATTGTAAATCAACATAGGCCTAGAAAAGGTGGTCAGATGCTGAATTTTGACTAAATACCTCCGATGGCACATAATGA (SEQ ID NO: 3815)
PRUNE2	chr9:79234303-79234256	AACTAGCTGCCTTTACAATGATCCAGAAATGTCTTCTATGGAGAAGGA (SEQ ID NO: 3816)
PSMA4	chr15:78834921-78834987	AGAGACGCAACATCCACAAGCTTCTTGATGAAGTCTTTTTTCTGAAAAAATTTATAAACTCAATGA (SEQ ID NO: 3817)
PXK	chr3:58321084-58321179	CTGTAAAGTTTGACTGAGAAATGTTGCATCAGCCCTGAAGTTTATTGAGAAAATCTTACGCTGATGCAAACTTTTTGGACTGTTAGTGTCTTATGA (SEQ ID NO: 3818)
RAF1	chr3:12645036-12644977	AATAACAACCTGAGTGCTTCTCCCAGGGCGTGGTCCAGACGATTTTGTTTGAGGGGAAGA (SEQ ID NO: 3819)
RARS2	chr6:88257102-88256965	AATTGGAGAAATTAGTACTTGTGGCATAGATTGTTGTGCGGTCAGCTCTTACTGTTCTTGAGCAGCATTTTAAGAGAAGAAATGACAGGACTTGATGAAAAAGTATAAGAAATATACAGTATAAAAAAAGCTATATGA (SEQ ID NO: 3820)
RFWD2	chr1:176044514-176044399	GACTAAGATTTGAATTTATTATGTATATGAAGATCTTAAAATTTAAGCCATTAGCTAAAGAAACTATTGGAGGAGATCTTTTATTGTATTCTGTCAGCTGTTTAACTCAGTAATGA (SEQ ID NO: 3821)
RNFT1	chr17:58039977-58039901	GAATTTCTCTTGGAATTGGGCTGCTAACAACTTTTATGTATGCAAACAAAAGCATTGTAAATCAGGTTTTTCTAAGA (SEQ ID NO: 3822)
RPA1	chr17:1745069-1745127	ACGTCAGCTATCAGTTTAAGCATTACTTCTATGCCTAGTTTGCTGAGACTTTATAATGA (SEQ ID NO: 3823)

Gene Symbol	Coordinates	Sequence
RPS6KB2	chr11:67196453-67196493	GACGCATGTCCCCTTGCCGAGTTGAGGGCAGCTGGCCTAGA (SEQ ID NO: 3824)
SAMD4A	chr14:55115465-55115566	ATGTGATGGGAAGTCTCTGGAAGAGTTGAGAAGGAGAATGAAGGCGCTTCATTGACCCTTGAAAATGACCACTCTGAATGCGGCACAGAGAGTAATGAAAGA (SEQ ID NO: 3825)
SAR1A	chr10:71926149-71926032	TGCATCTAAGTGGCATTCTGATTCACATTATTGATAAGACTGATTTCCTAGAGTTGTTCTTCACTGGATGACAGCAGTCGTATGTCTAGGGAATGTGAATGAACCGCTGCCTGGAGGA (SEQ ID NO: 3826)
SCO1	chr17:10594966-10594907	AGAAAGGATTTGAACTTGGCCTTCATGTATCAACTAAGTTAATCGAGCCTTGAATTGAGA (SEQ ID NO: 3827)
SEC24A	chr5:134013731-134013842	AGACCGGGTCTCTCGTTGTCACCCAGGTTAGAGTGCAGTTCCATGATCATAGCTCACTGCAGCCTTGAACTCTTGGGCTCAAGCAGTCCTCCTGCCTCAGCCTCCAGACAGA (SEQ ID NO: 3828)
SERGEF	chr11:18031686-18031622	GTGTCTTCAAAAACAAACATATTTAAAAGATTTTACTTCTCATCTCCAGGAAGAACCAGCTAGGA (SEQ ID NO: 3829)
SH3YL1	chr2:224920-224868	GTAACAGAAATGAATATAAGCTCTATCCTGGACTTTCCAGCTATCATGAGAGA (SEQ ID NO: 3830)
SKA2	chr17:57196856-57196757	AAAAATCCAGTTACACTCTTAAAGGAATTGTCAGTGATAAAGTCTCGATATCAAACTTTGTATGCCCGCTTTAAACCAGTTGCTGTTGAGCAGAAAGAGA (SEQ ID NO: 3831)
SMYD3	chr1:246394576-246394501	CTATATCAGAAAAGCAGGAAACCAGAGAAAATATACCTATTTGAAAGTGGCATGTCAGCTGGGATGAGAGAGAAGA (SEQ ID NO: 3832)
SNAP23	chr15:42805372-42805407	TATTGGAATATGACAGGGAAGATGAATTCACTATGA (SEQ ID NO: 3833)
SNHG16	chr17:74554456-74554545	AGGCCTTTCTTTGTTTGGCATCTGCAGAGACGGTGAAAAGCAGAGCTCCAGGTTGAAGGATCAGAGTAATAGATGGAGCCCTTAACATGA (SEQ ID NO: 3834)
SNX7	chr1:99204216-99204359	AGTTTGCAAAGGAAGGAAAGGAGCAGAGACTTGAATGAGCAGAAAATCATTTCAGGGCCTGTTCTCTATGTCCTTGCTATCCCTGTCTTCTGTAGCTATTCTGAAACCATCAACAAAGGAGCACACCATTCCATCAGCAAAAGA (SEQ ID NO: 3835)
SPATA5	chr4:123901321-123901384	AACCTTTATATAAATGGAATCATACTGTATACAACCTTTTGGAATTAGCTTTTTTCACATATGA (SEQ ID NO: 3836)
SPIDR	chr8:48185929-48186042	GTATTCAGTAGAAGCAGATGAACAGCCAGATGAAGAGATGGATAGAGCAAGACATGGACATTATAAAGGAATTCAATAGAAGCACATGAACGGCCAGATGAAGAGATGGATAGA (SEQ ID NO: 3837)

Gene Symbol	Coordinates	Sequence
SPRYD7	chr13:50492357-50492229	GTGTGGTTGTACGTGCCTGTAGTCCCAGCTACTTGAGAGG CTGAGCTGAGAGGATCTCTTGAGCCGGGGAGGTCAAGTCT CCTGTGAGCAGTGATCATCGTGCCGCTGCACTCCAGCCTT GGCACCAGA (SEQ ID NO: 3838)
SRGAP1	chr12:64319388-64319457	TCACAGATACCACGTGTTAATATCTAAAGTAGAAAAAGGA ATAAAGCAAAGGAGGACAAAAAGAAAAGGA (SEQ ID NO: 3839)
STAT1	chr2:191843332-191843254	GTTTGTTATCTGCAGATCAAGGATGTGAGTCAATGTAATC TGCAACCCGTTCTTGGAAGGAATCACATTTCCCACAGGA (SEQ ID NO: 3840)
STXBP6	chr14:25411028-25410930	GTGGTCCCTGAGTTAAGAACATGCAATGGCACTCTCTCAA GGAGAGGAAGGAGCCAAAGAAGAAAGAGGTCCAAAGCA GAAAAGAGCAGACAGCTAAGA (SEQ ID NO: 3841)
SUPT20H	chr13:37585794-37585696	TTGAAGACGATAATTCTAACTTCCTGTCAGTTGAAGACGA TAATTCTAACTTCCTGTCAGTTGAAGACGATAATTCTAACT TCACACTTAATTAAAAGA (SEQ ID NO: 3842)
TAF2	chr8:120771346-120771264	GAAGATGATCACCTTGCCAAGGAAGCATCATGTAATATAT CAGCTCATCAGCAGGGAGTGAAGAGGAAGTCTGATACAC CACTGGGGTCCCCACTAGAACCTGGTCAAATACTGGAGAA GAATGAGGATAGCAGTAAAGTCAAACTCAAAATCAGA (SEQ ID NO: 3843)
TAF2	chr8:120757276-120757121	TTTTGAGATCCACCAAATATGTCATTGTTGCCAGTCTTCTT TCCCAAGATGTATGGATAGTTTTTAATGTCTCATAAATATG A (SEQ ID NO: 3844)
TBC1D15	chr12:72278640-72278801	TTTGACAGACCTGAAATCAATCAAGCAAAACAAAGAGGG TATGGGCTGGTCCTATTTGGTATTCTGTCTAAAGGATGACG TCGTTCTCCCTGCTCTACACTTTCATCAAGGAGATAGCAAA CTACTGATTGAATCTCTTGAAAAATATGTGGTATTGTGTGA (SEQ ID NO: 3845)
TCF12	chr15:57227695-57227728	GTTTTTGGGGAACAGGTGGTATTTGGTGACATGA (SEQ ID NO: 3846)
TJP2	chr9:71792959-71793045	GGATTGGTGTCTCTATCATCCAGCTGGCCATTAAACAACC AAAGCTTCATCATCCTAGATAACCTGTGAGCTCTCAGAGG AGACAGA (SEQ ID NO: 3847)
TMEM189-UBE2V1	chr20:48713357-48713209	GAGTAAAAGTCCCTCGCAATTTCCGACTGTTGGAAGAACT CGAAGAAGGCCAGAAAGGAGTAGGAGATGGCACAGTTAG CTGGGGTCTAGAAGATGACGAAGACATGACACTTACAAG ATGGACAGGGATGATAATTGGGCCTCCAAGA (SEQ ID NO: 3848)
TMEM214	chr2:27260130-27260168	CCATCCTAGATCTGAGATTTGCAACCTGGAAGTTCAAGA (SEQ ID NO: 3849)

Gene Symbol	Coordinates	Sequence
TNS3	chr7:47337036-47336903	GCAGGCCCACCCATGAAACATACACGACACCACAGAGACCTCCCTGAAGGTCCCTCAACTGCATGGACATGTAGTTCTTCCAGCCAAGCAGAGGGATCCCGGCCAGGTCCCCACTGATCCAGTTTGCAAAAAGA (SEQ ID NO: 3850)
TOE1	chr1:45807382-45807415	GTTTATGGGGAACAGGTGGTGTTTGGTTAAATGA (SEQ ID NO: 3851)
TRAF3	chr14:103356688-103356763	CACCAATACATTATTATGAAGTCAGTACAGAGAGATTGGCATCTTAGTATTTTCTGAGGAAGAGAACAGCCAAAGA (SEQ ID NO: 3852)
TSPAN2	chr1:115601892-115601858	GTTTTGTGGGGAACAGGTGGTGTTTGGTTACATGA (SEQ ID NO: 3853)
TUBE1	chr6:112405449-112405392	AGTGGTTGGTGATGGTGGAAGTATTTCCAAGGGAAAAATATGTTCTTTAAAAGCACGA (SEQ ID NO: 3854)
TYW5	chr2:200813345-200813295	TGACAGCATGAACTGTCAGAAGCTTTGAGTTCAAGCATCTTGGGAGCAAGA (SEQ ID NO: 3855)
UBE2V1	chr20:48713357-48713209	GAGTAAAAGTCCCTCGCAATTTCCGACTGTTGGAAGAACTCGAAGAAGGCCAGAAAGGAGTAGGAGATGGCACAGTTAGCTGGGGTCTAGAAGATGACGAAGACATGACACTTACAAGATGGACAGGGATGATAATTGGGCCTCCAAGA (SEQ ID NO: 3856)
URGCP	chr7:43945050-43944971	GCTTTGGGGCAGTGGTCATTTCCGGGACCAGGCCTTTTCATTGCCAGCTGACTACCCAGCACTTTGAGCTCATGAATAGA (SEQ ID NO: 3857)
XRN2	chr20:21307793-21307903	GTGGTTTGAATTGAGAAGGGAAGTATAGCAAAAGCTTGAGAAAGCCTTACCGTCTGGAGTTTGGACTGTATCCTATAGGCAATGAGTAGTCATGAAAATGATTTGAGAGGA (SEQ ID NO: 3858)
XRN2	chr20:21326472-21326525	CCATCAACAACTCTTAGCTGAAAGAGGGATAAGGCCCAAGCAAGGATAGAGAGA (SEQ ID NO: 3859)
ZNF232	chr17:5012080-5012041	GTGAGAGACTTTGCCTGTTTCATCACTCATAAAATTAGGA (SEQ ID NO: 3860)
ZNF680	chr7:64002295-64002108	GCAGAACTGGCCGTGAACTGTGGCTCAGGGAGCTGGAACTGAGTCATCGAACTGCTTCAGAAACCACAGTAAAGGACAAGGTCTGCAGGCCTGCCTGCGTGGCTATAAATGGCTGTCTTCCTCCAGGCCTCTGGAAGGGCACGGTCTCTCCCAGACTGTGGCTGGGAGGAGTTTGGGATGATTAGAGA (SEQ ID NO: 3861)

[001029] Diseases or disorders associated with expression of an aberrant gene product for certain genes described herein are listed in **Table 15**, wherein contacting a patient cell with a compound described herein or administering to a subject in need thereof a compound described

herein has been demonstrated to modulate the expression of associated RNA transcripts and are thus expected to be useful in preventing or ameliorating a disease or disorder caused by expression of an aberrant gene product.

[001030] **Table 15** Diseases or disorders associated with expression of an aberrant gene product for certain genes.

Gene	GeneID	Example(s) of Associated Disease or Disorder
ABCC3	8714	Cholestasis, Colorectal Neoplasms, Peripheral Nervous System Diseases
ADAM17	6868	Blister, Inflammatory Skin and Bowel Disease, Neonatal
ANXA11	311	Sarcoidosis
APLP2	334	Nerve Degeneration, Myocardial Ischemia
ASPH	444	Ectopia Lentis, Spontaneous Filtering Blebs, and Craniofacial Dysmorphism
ATXN1	6310	Spinocerebellar Ataxia 1, Spinocerebellar Ataxias
AXIN1	8312	Carcinoma, Hepatocellular, Caudal Duplication Anomaly
BECN1	8678	Status Epilepticus, Colonic Neoplasms, Lewy Body Disease, Myocardial Infarction, Lung Neoplasms
BHMT2	23743	Cleft Lip, Cleft Palate
C11orf30	56946	Dermatitis, Atopic, Breast Neoplasms, Polycystic Ovary Syndrome
C11orf73	51501	Stomach Neoplasms, Melanoma, Disease Progression
CASP7	840	Myocardial Reperfusion Injury, Vitiligo, Breast Neoplasms, Leukemia, Myeloid, Acute
CDH13	1012	Lung Neoplasms, Carcinoma, Hepatocellular, Prostatic Neoplasms, Carcinoma, Non-Small-Cell Lung, Esophageal Neoplasms, Amphetamine-Related Disorders, Substance-Related Disorders, Barrett Esophagus
CHEK1	1111	Glomerulonephritis, IGA, Peripheral Nervous System Diseases
CRISPLD2	83716	Neurotoxicity Syndromes, Lung Diseases, Liver Diseases
DCAF17	80067	Woodhouse Sakati syndrome
DHFR	1719	Megaloblastic Anemia due to Dihydrofolate Reductase Deficiency, Osteosarcoma, Autistic Disorder, Folic Acid Deficiency, Neoplasm Metastasis, Colorectal Neoplasms, Nervous System Diseases, Anemia, Megaloblastic, Drug-Related Side Effects and Adverse Reactions, Metabolism, Inborn Errors, Infertility, Female, Abortion, Spontaneous, Pancytopenia
DIAPH3	81624	Neuropathy, auditory neuropathy, benign epilepsy with centrotemporal spikes, prostate cancer, pancreatitis, prostatitis, sensorineural hearing loss
DENND5A	23258	Stomatitis
DNAJC13	23317	Parkinson Disease
DOCK1	1793	Substance-Related Disorders
DYRK1A	1859	Mental Retardation, Autosomal Dominant 7

Gene	GeneID	Example(s) of Associated Disease or Disorder
EIF2B3	8891	Leukoencephalopathy with Vanishing White Matter, Vanishing White Matter Leukodystrophy with Ovarian Failure
ENAH	55740	Glomerulonephritis, IGA
EP300	2033	Rubinstein-Taybi Syndrome, Endometrial Neoplasms, Carcinoma, Transitional Cell, Esophageal Squamous Cell Carcinoma, Urinary Bladder Neoplasms, Colorectal Neoplasms, Carcinoma, Adenoid Cystic, Small Cell Lung Carcinoma, Colon Carcinoma, Rubinstein-Taybi Syndrome 2
ERCC1	2067	Cerebrooculofacioskeletal Syndrome 4, Carcinoma, Non-Small-Cell Lung, Stomach Neoplasms, Neoplasms, Neoplasm Metastasis, Melanoma, Testicular Neoplasms, Peripheral Nervous System Diseases, Adenocarcinoma of lung, Nasopharyngeal carcinoma, Uterine Cervical Neoplasms, Arsenic Poisoning, Neoplasms, Germ Cell and Embryonal
ERLIN2	11160	Intellectual Disability, Spastic Paraplegia 18, Autosomal Recessive
ERRFI1	54206	Endometriosis, Polycystic Ovary Syndrome
EVC	2121	Ellis-Van Creveld Syndrome, Weyers acrofacial dysostosis
FAM126A	84668	Leukodystrophy, Hypomyelinating, 5, Substance-Related Disorders, Intellectual Disability, Peripheral Nervous System Diseases
FAM13A	10144	Pulmonary Disease, Chronic Obstructive, Idiopathic Pulmonary Fibrosis
FAM198B	51313	Glomerulonephritis, IGA
FBN2	2201	Congenital contractural arachnodactyly, Colorectal Neoplasms
FHOD3	80206	Substance-Related Disorders
GALC	2581	Krabbe disease, leukodystrophy, metachromatic leukodystrophy, lipid storage disease, infantile krabbe disease, chron's disease, neuropathy, neuronitis, motor neuron disease, hereditary spastic paraplegia, cerebritis, peripheral neuropathy, paraplegia, spasticity, Gaucher's disease, blindness, lysosomal storage disease, gangliosidosis, farber lipogranulomatosis, lipogranulomatosis, open-angle glaucoma, primary open angle glaucoma, glaucoma, multiple sclerosis, hepatitis, squamous cell carcinoma, hematopoietic stem cell transplantation, late-infantile or juvenile krabbe disease, adult krabbe disease
GGCT	79017	Meningioma, osteosarcoma, tuberculosis, gestational diabetes, leukemia, eczema, eczema herpeticum, myoblastoma
GOLGA4	2803	Arsenic Poisoning, Prostatic Neoplasms, Skin Diseases
GPSM2	29899	Chudley-Mccullough syndrome
GULP1	51454	Thyroid Diseases
HLTF	6596	Colon cancer, adenocarcinoma, colorectal cancer, adenoma, gastric cancer, squamous cell carcinoma, cervical squamous cell carcinoma, cervical adenocarcinoma, endometrial adenocarcinoma, cervicitis, gastric cardia adenocarcinoma, cervical cancer, esophagitis, laryngeal squamous cell carcinoma, laryngitis, esophageal squamous cell carcinoma
HMGA2	8091	Neoplasms, Lipomatosis, Multiple, Birth Weight
HNMT	3176	Asthma, Urticaria, Rhinitis, Drug Hypersensitivity, Susceptibility to Asthma

Gene	GeneID	Example(s) of Associated Disease or Disorder
HPS1	3257	Albinism with hemorrhagic diathesis and pigmented reticuloendothelial cells
HSD17B4	3295	Bifunctional peroxisomal enzyme deficiency, Gonadal dysgenesis XX type deafness, Zellweger Syndrome, Peroxisomal Disorders, Spasms, Infantile
HTT	3064	Huntington Disease, Movement Disorders, Manganese Poisoning, Cadmium Poisoning
IVD	3712	Acidemia, isovaleric
KDM6A	7403	Esophageal Squamous Cell Carcinoma, Urinary Bladder Neoplasms, Neoplasms, Carcinoma, Adenoid Cystic, Carcinoma, Transitional Cell, KABUKI SYNDROME 2
MED13L	23389	Transposition of the Great Arteries, Dextro-Looped 1, Intellectual Disability
MFN2	9927	Charcot-Marie-Tooth Disease, Axonal, Type 2A2, Hereditary Motor And Sensory Neuropathy VI, Charcot-Marie-Tooth Disease, Cardiomegaly
MRPS28	28957	Breast Neoplasms
MYLK	4638	Aortic Aneurysm, Familial Thoracic 7, Acute Lung Injury, Pneumonia, Neoplasm Metastasis, Glaucoma, Gastrointestinal Diseases, Vascular Diseases, Hypersensitivity, Brain Edema, Neoplasm Invasiveness, Glioma, Hypercholesterolemia
NGF	4803	Neuropathy, Hereditary Sensory And Autonomic, Type V, Inflammation, Cystitis, Hyperalgesia, Urinary Bladder, Overactive, Hereditary Sensory and Autonomic Neuropathies, Glomerulonephritis, Heroin Dependence, Peripheral Nervous System Diseases, Epilepsy, Tonic-Clonic, Hyperkinesis, Neurogenic Inflammation, Lewy Body Disease, Kidney Failure, Chronic, Nerve Degeneration, Lung Injury, Seizures, Bronchial Hyperreactivity, Nervous System Diseases, Renal Insufficiency, Chronic, Skin Ulcer, Corneal Ulcer, Parkinsonian Disorders, Neurodegenerative Diseases, Amnesia, Status Epilepticus, Parkinson Disease, Cocaine-Related Disorders, Neurobehavioral Manifestations, Nephritis, Interstitial
NT5C2	22978	Precursor Cell Lymphoblastic Leukemia-Lymphoma, Recurrence, Spastic Paraplegia 45, Autosomal Recessive
OSMR	9180	Amyloidosis IX, Glomerulonephritis, IGA, Carcinoma, Non-Small-Cell Lung, Amyloidosis, Primary Cutaneous
OXCT1	5019	Succinyl-CoA:3-oxoacid CoA transferase deficiency, Osteoporosis
PAPD4	167153	Sleeping sickness
PCM1	5108	Schizophrenia, Thyroid cancer, papillary
PDXDC1	23042	Carcinoma, Renal Cell, Glomerulonephritis, IGA, Carboxy-lyase activity, pyridoxal phosphate binding
PIGN	23556	Multiple Congenital Anomalies-Hypotonia-Seizures Syndrome 1

Gene	GeneID	Example(s) of Associated Disease or Disorder
PIK3CD	5293	Activated PI3K-delta Syndrome, Lymphoma, Large B-Cell, Diffuse, Prostatic Neoplasms
PIK3R1	5295	Short Syndrome, Insulin Resistance, Carcinoma, Mammary Neoplasms, Experimental, Burkitt Lymphoma, Mammary Neoplasms, Animal, Autosomal Recessive Agammaglobulinemia 7
PIKFYVE	200576	Corneal Dystrophy, Fleck
PITPNB	23760	Obesity
PLEKHA1	59338	Macular Degeneration, Age-Related, 1
PLSCR1	5359	Influenza, Human
POMT2	29954	Muscular Dystrophy-Dystroglycanopathy (Limb-Girdle), Type C, 2, Muscular Dystrophy-Dystroglycanopathy (Congenital with Mental Retardation), Type B, 2, Muscular Dystrophy-Dystroglycanopathy (Congenital with Brain and Eye Anomalies), Type A, 2, Walker-Warburg Syndrome, Congenital muscular dystrophy
PPARG	5468	Obesity, Familial Partial Lipodystrophy Type 3, Hypertension, Diabetes Mellitus, Type 2, Inflammation, Acute Lung Injury, Acute Kidney Injury, Diabetes Mellitus, Experimental, Insulin Resistance, Diabetes Mellitus, Atherosclerosis, Colonic Neoplasms, Colorectal Neoplasms, Thyroid Neoplasms, Alzheimer Disease, Adenocarcinoma, Stomach Neoplasms, Dyslipidemias, Pancreatic Neoplasms, Melanoma, Lipodystrophy, Familial Partial, Crohn Disease, Metabolic Diseases, Carcinoma, Hepatocellular, Colon Carcinoma, Psoriasis, Ischemia, Reperfusion Injury, Osteoarthritis, Glioma, Liver Neoplasms, Polycystic Kidney, Autosomal Dominant, Leukostasis, Thyroid cancer, follicular, Lipidoses, Glomerulonephritis, Nerve Degeneration, Pituitary ACTH Hypersecretion, Carotid Intimal Medial Thickness 1, Barrett Esophagus, Lymphoma, T-Cell, Chronobiology Disorders, Obesity, Morbid
PPHLN1	51535	Nervous system disorders, for example, interacts with synphilin-1, mutations of which are implicated in Parkinson's disease, gastric cancer, ichthyosis
PRPF31	26121	Retinitis Pigmentosa 11, Retinitis Pigmentosa
PRSS23	11098	Melanoma
PSMA4	5685	Carcinoma, Mammary Neoplasms, Experimental, HIV Infections, Mammary Neoplasms, Animal, Liver Neoplasms
PXK	54899	Lupus Erythematosus, Systemic, Arthritis, Rheumatoid
RAF1	5894	Noonan Syndrome 5, Noonan Syndrome, Leopard syndrome, 2, Leopard Syndrome, Glioma, Cardiomyopathy, Hypertrophic, Carcinoma, Non-Small-Cell Lung, Lung Neoplasms, Breast Neoplasms, Liver Neoplasms, Kidney Neoplasms, Cardiomyopathy, Dilated, Hyperalgesia
RARS2	57038	Pontocerebellar Hypoplasia Type 6
RFWD2	64326	Autistic Disorder

Gene	GeneID	Example(s) of Associated Disease or Disorder
RPA1	6117	Chloracne
RPS10	6204	Diamond-Blackfan Anemia 9
RPS6KB2	6199	Breast Neoplasms
SAMD4A	23034	Substance-Related Disorders
SCO1	6341	Cytochrome-c Oxidase Deficiency, Mitochondrial Diseases
SLC12A2	6558	Hypertension, Epilepsy, Epilepsy, Temporal Lobe, Carcinoma, Mammary Neoplasms, Experimental, Glucose Intolerance, Prostatic Neoplasms, Movement Disorders, Cardiovascular Diseases, Mammary Neoplasms, Animal
SMYD3	64754	Amphetamine-Related Disorders
SNAP23	8773	Myocardial Ischemia
SPATA5	166378	Schizophrenia
STAT1	6772	Susceptibility ToMycobacterial and Viral Infections, Autosomal Recessive, Candidiasis, Familial, 7, Arthritis, Experimental, Carcinoma, Hepatocellular, Mycobacterium Infections, Candidiasis, Chronic Mucocutaneous, Liver Cirrhosis, Arthritis, Rheumatoid, Cytomegalovirus Infections, Hearing Loss, Disease Progression, Mycobacterium Infections, Nontuberculous, Influenza, Human
STRN3	29966	Cerebritis, cerebral cavernous malformation, cavernous malformation, cerebral cavernous malformations 3, neuronitis
STXBP6	29091	Autistic Disorder
TAF2	6873	Mental Retardation, Autosomal Recessive 40, Intellectual Disability
TCF12	6938	Craniosynostosis 3, Craniosynostoses
TCF4	6925	Pitt-Hopkins syndrome, Seizures, Peripheral Nervous System Diseases, Craniofacial Abnormalities, Heart Diseases, Microcephaly, Liver Neoplasms
TIAM1	7074	Amyotrophic lateral sclerosis 1
TJP2	9414	Hypercholanemia, Familial, Hearing Loss, Cholestasis, Intrahepatic
TRAF3	7187	Susceptibility to Herpes Simplex Encephalitis, 3
VPS29	51699	Down syndrome, paraplegia
WNK1	65125	Neuropathy, Hereditary Sensory and Autonomic, Type IIA, Pseudohypoaldosteronism, Type IIc, Hypertension, Kidney Diseases, Pseudohypoaldosteronism, Peripheral Nervous System Diseases
ZCCHC8	55596	Intellectual Disability

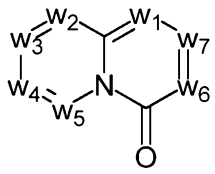
[001031] It will be appreciated that, although specific embodiments of the invention have been described herein for purposes of illustration, the invention described herein is not to be limited in scope by the specific embodiments herein disclosed. These embodiments are intended as illustrations of several aspects of the invention. Any equivalent embodiments are intended to be

within the scope of this invention. Indeed, various modifications of the invention in addition to those shown and described herein will become apparent to those skilled in the art from the foregoing description, which modification also intended to be within the scope of this invention.

[001032] All references cited herein are incorporated herein by reference in their entirety and for all purposes to the same extent as if each individual publication or patent or patent application was specifically and individually indicated to be incorporated by reference in its entirety for all purposes.

What is claimed is:

1. A method for producing a mature mRNA transcript comprising an iExon, the method comprising contacting a pre-mRNA transcript with a compound of Formula (I) or a form thereof, wherein the pre-mRNA transcript comprises two exons and an intron, wherein one exon is upstream of the intron and the other exon is downstream of the intron, wherein the intron comprises in 5' to 3' order: a first 5' splice site, a first branch point, a first 3' splice site, an endogenous intronic recognition element for splicing modifier (iREMS), a second branch point, and a second 3' splice site, wherein the iREMS comprises an RNA sequence GAgurngn (SEQ ID NO: 2), wherein r is adenine or guanine and n is any nucleotide, wherein the pre-mRNA transcript is a pre-mRNA transcript of a gene that is selected from ABCB8, ABCC3, ADAM17, ADCY3, AGPAT4, ANKRA2, ANXA11, APIP, APPL2, ARHGAP1, ARL15, ASAP1, ASPH, ATAD2B, ATXN1, BECN1, BHMT2, BICD1, BTN3A1, C11orf30, C11orf73, C12orf4, C14orf132, C8orf44, C8orf44-SGK3, C8orf88, CASC3, CASP7, CCDC122, CDH13, CECR7, CENPI, CEP112, CEP192, CHEK1, CMAHP, CNRIP1, COPS7B, CPSF4, CRISPLD2, CRYBG3, CSNK1E, CSNK1G1, DCAF17, DCUN1D4, DDX42, DENND1A, DENND5A, DGKA, DHFR, DIAPH3, DNAJC13, DNMBP, DOCK1, DYRK1A, EIF2B3, ENAH, ENOX1, EP300, ERC1, ERLIN2, ERRFI1, EVC, FAF1, FAIM, FAM126A, FAM13A, FAM162A, FAM174A, FBN2, FER, FHOD3, FOCAD, GALC, GCFC2, GGACT, GLCE, GOLGA4, GOLGB1, GPSM2, GULP1, GXYLT1, HDX, HLTF, HMGA2, HNMT, HSD17B12, HSD17B4, HTT, IFT57, IVD, KDM6A, KIAA1524, KIAA1715, LETM2, LOC400927, LRRC42, LUC7L3, LYRM1, MB21D2, MCM10, MED13L, MEDAG, MEMO1, MFN2, MMS19, MRPL45, MRPS28, MTERF3, MYCBP2, MYLK, MYOF, NGF, NREP, NSUN4, NT5C2, OSMR, OXCT1, PAPD4, PCM1, PDE7A, PDS5B, PDXDC1, PIGN, PIK3CD, PIK3R1, PIKFYVE, PITPNB, PLEKHA1, PLSCR1, PMS1, POMT2, PPARG, PPIP5K2, PPP1R26, PRPF31, PRSS23, PSMA4, PXK, RAF1, RAPGEF1, RARS2, RBKS, RERE, RFWD2, RPA1, RPS10, SAMD4A, SAR1A, SCO1, SEC24A, SENP6, SERGEF, SGK3, SLC12A2, SLC25A17, SLC44A2, SMYD3, SNAP23, SNHG16, SNX7, SOS2, SPATA5, SPIDR, SPRYD7, SRGAP1, SRRM1, STAT1, STXBP6, SUPT20H, TAF2, TASP1, TBC1D15, TCF12, TCF4, TIAM1, TJP2, TMC3, TMEM214, TNRC6A, TNS3, TOE1, TRAF3, TSPAN2, TTC7B, TYW5, UBAP2L, URGCP, VAV2, WDR27, WDR37, WDR91, WNK1, XRN2, ZCCHC8, ZFP82, ZNF138, ZNF232 or ZNF37BP, and wherein Formula (I) is:



(I),

wherein:

w_1 and w_5 are independently C-R_a or N;

w_2 is C-R_b or N;

w_3, w_4 and w_7 are independently C-R_1, C-R_2, C-R_a or N;

w_6 is C-R_1, C-R_2, C-R_c or N;

wherein one of w_3, w_4, w_6 and w_7 is C-R_1 and one other of w_3, w_4, w_6 and w_7 is C-R_2, provided that,

when w_3 is C-R_1, then w_6 is C-R_2 and w_4 and w_7 are independently C-R_a or N; or,

when w_3 is C-R_2, then w_6 is C-R_1 and w_4 and w_7 are independently C-R_a or N; or,

when w_4 is C-R_1, then w_7 is C-R_2 and w_3 is C-R_a or N and w_6 is C-R_c or N; or,

when w_4 is C-R_2, then w_7 is C-R_1 and w_3 is C-R_a or N and w_6 is C-R_c or N; and,

wherein any one, two or three of w_1, w_2, w_3, w_4, w_5, w_6 and w_7 may optionally be N;

R_1 is C_{1-8}alkyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino, C_{1-8}alkoxy-C_{1-8}alkyl-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, amino-C_{1-8}alkyl, C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, amino-C_{1-8}alkyl-amino, (amino-C_{1-8}alkyl)$_2$-amino, (amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, amino-C_{1-8}alkoxy, C_{1-8}alkyl-amino-C_{1-8}alkoxy, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkoxy, amino-C_{2-8}alkenyl, C_{1-8}alkyl-amino-C_{2-8}alkenyl, (C_{1-8}alkyl)$_2$-amino-C_{2-8}alkenyl, amino-C_{2-8}alkynyl, C_{1-8}alkyl-amino-C_{2-8}alkynyl, (C_{1-8}alkyl)$_2$-amino-C_{2-8}alkynyl, halo-C_{1-8}alkyl-amino,

(halo-C_{1-8}alkyl)$_2$-amino, (halo-C_{1-8}alkyl)(C_{1-8}alkyl)amino, hydroxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkoxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkoxy, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl-amino, [(hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, [(hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, heterocyclyl, heterocyclyl-C_{1-8}alkyl, heterocyclyl-C_{1-8}alkoxy, heterocyclyl-amino, (heterocyclyl)(C_{1-8}alkyl)amino, heterocyclyl-amino-C_{1-8}alkyl, heterocyclyl-C_{1-8}alkyl-amino, (heterocyclyl-C_{1-8}alkyl)$_2$-amino, (heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heterocyclyl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (heterocyclyl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heterocyclyl-oxy, heterocyclyl-carbonyl, heterocyclyl-carbonyl-oxy, C_{3-14}cycloalkyl, aryl-C_{1-8}alkyl-amino, (aryl-C_{1-8}alkyl)$_2$-amino, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, aryl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (aryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heteroaryl, heteroaryl-C_{1-8}alkyl, heteroaryl-C_{1-8}alkoxy, heteroaryl-amino, heteroaryl-C_{1-8}alkyl-amino, (heteroaryl-C_{1-8}alkyl)$_2$-amino, (heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heteroaryl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (heteroaryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl or (heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl;

wherein, each instance of heterocyclyl, C_{3-14}cycloalkyl, aryl and heteroaryl is optionally substituted with one, two or three R_3 substituents and optionally, with one additional R_4 substituent; or,

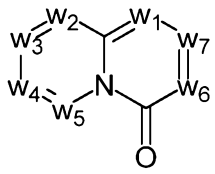
wherein, each instance of heterocyclyl, C_{3-14}cycloalkyl, aryl and heteroaryl is optionally substituted with one, two, three or four R_3 substituents;

R_2 is aryl, aryl-amino, aryl-amino-carbonyl, heterocyclyl, heteroaryl or heteroaryl-amino; wherein, each instance of aryl, heterocyclyl and heteroaryl is optionally substituted with one, two or three R_6 substituents and optionally, with one additional R_7 substituent;
R_a is, in each instance, independently selected from hydrogen, halogen, C_{1-8}alkyl or deuterium;
R_b is hydrogen, halogen, C_{1-8}alkyl, C_{1-8}alkoxy or deuterium;
R_c is hydrogen, halogen, C_{1-8}alkyl or deuterium;
R_3 is, in each instance, independently selected from cyano, halogen, hydroxy, oxo, C_{1-8}alkyl, halo-C_{1-8}alkyl, C_{1-8}alkyl-carbonyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl, C_{1-8}alkoxy-carbonyl, amino, C_{1-8}alkyl-amino, $(C_{1-8}alkyl)_2$-amino, amino-C_{1-8}alkyl, C_{1-8}alkyl-amino-C_{1-8}alkyl, $(C_{1-8}alkyl)_2$-amino-C_{1-8}alkyl, amino-C_{1-8}alkyl-amino, C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, $(C_{1-8}alkyl\text{-}amino\text{-}C_{1-8}alkyl)_2$-amino, $(C_{1-8}alkyl)_2$-amino-C_{1-8}alkyl-amino, $[(C_{1-8}alkyl)_2\text{-}amino\text{-}C_{1-8}alkyl]_2$-amino, $(C_{1-8}alkyl\text{-}amino\text{-}C_{1-8}alkyl)(C_{1-8}alkyl)$amino, $[(C_{1-8}alkyl)_2\text{-}amino\text{-}C_{1-8}alkyl](C_{1-8}alkyl)$amino, C_{1-8}alkoxy-C_{1-8}alkyl-amino, $(C_{1-8}alkoxy\text{-}C_{1-8}alkyl)_2$-amino, $(C_{1-8}alkoxy\text{-}C_{1-8}alkyl)(C_{1-8}alkyl)$amino, C_{1-8}alkyl-carbonyl-amino, C_{1-8}alkoxy-carbonyl-amino, hydroxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkoxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino, $(hydroxy\text{-}C_{1-8}alkyl)_2$-amino or $(hydroxy\text{-}C_{1-8}alkyl)(C_{1-8}alkyl)$amino;
R_4 is C_{3-14}cycloalkyl, C_{3-14}cycloalkyl-C_{1-8}alkyl, C_{3-14}cycloalkyl-amino, aryl-C_{1-8}alkyl, aryl-C_{1-8}alkoxy-carbonyl, aryl-sulfonyloxy-C_{1-8}alkyl, heterocyclyl or heterocyclyl-C_{1-8}alkyl; wherein, each instance of C_{3-14}cycloalkyl, aryl and heterocyclyl is optionally substituted with one, two or three R_5 substituents;
R_5 is, in each instance, independently selected from halogen, hydroxy, cyano, nitro, C_{1-8}alkyl, halo-C_{1-8}alkyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, amino, C_{1-8}alkyl-amino, $(C_{1-8}alkyl)_2$-amino or C_{1-8}alkyl-thio;

R_6 is, in each instance, independently selected from halogen, hydroxy, cyano, nitro, C_{1-8}alkyl, C_{2-8}alkenyl, halo-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl, amino, C_{1-8}alkyl-amino, $(C_{1-8}alkyl)_2$-amino or C_{1-8}alkyl-thio; and,
R_7 is C_{3-14}cycloalkyl, C_{3-14}cycloalkyl-oxy, aryl, heterocyclyl or heteroaryl.

2. A method for modulating the amount of a mature mRNA transcript produced by a pre-mRNA transcript, the method comprising contacting the pre-mRNA transcript with a compound of Formula (I) or a form thereof, wherein the pre-mRNA transcript comprises two exons and an intron, wherein one exon is upstream of the intron and the other exon is downstream of the intron, wherein the intron comprises a RNA nucleotide sequence comprising in 5' to 3' order: an endogenous intronic recognition element for splicing modifier (iREMS), a first branch point, and a first 3' splice site, wherein the iREMS comprises an RNA sequence GAgurngn (SEQ ID NO: 2), wherein r is adenine or guanine and n is any nucleotide, and wherein the pre-mRNA transcript is a pre-mRNA transcript of a gene that is selected from ABCA10, ABCB8, ABCC3, ACTA2, ADAL, ADAMTS1, ADCY3, ADD1, ADGRG6, ADH6, ADHFE1, AFF3, AGPAT4, AKAP3, ANK1, ANK3, ANKRA2, ANKRD33B, ANKRD36, AP4B1-AS1, APIP, ARHGAP1, ARHGAP12, ARHGEF16, ARID5B, ARL15, ARL9, ARMCX6, ASIC1, ATG5, ATP2A3, ATXN1, B3GALT2, B3GNT6, BCL2L15, BCYRN1, BECN1, BHMT2, BIN3-IT1, BIRC3, BIRC6, BTG2, BTN3A1, C10orf54, C11orf70, C11orf94, C12orf4, C12orf56, C14orf132, C19orf47, C1orf86, C3, C7orf31, C8orf34, C8orf44, C8orf44-SGK3, C8orf88, CA13, CA3, CACNA2D2, CACNB1, CADM1, CAND2, CASP7, CCDC122, CCDC79, CCER2, CCNF, CECR7, CELSR1, CEMIP, CENPI, CEP112, CEP170, CEP192, CFH, CHEK1, CIITA, CLDN23, CLTA, CMAHP, CNGA4, CNRIP1, CNTD1, COL11A1, COL14A1, COL15A1, COL5A1, COL5A3, COL6A6, COL8A1, COLEC12, COMP, CPA4, CPQ, CPSF4, CRISPLD2, CRLF1, CRYBG3, CRYL1, CSNK1E, CSNK1G1, CYB5R2, CYGB, CYP1B1, DAGLB, DCAF17, DCLK1, DCN, DDIT4L, DDX50, DEGS1, DEPTOR, DFNB59, DIRAS3, DLG5, DLGAP4, DNAH8, DNAJC13, DNAJC27, DNMBP, DOCK11, DYNC1I1, DYRK1A, DZIP1L, EFEMP1, EGR3, ELN, ELP4, EMX2OS, ENAH, ENPP1, EP300, ERCC1, ERCC8, ERGIC3, ERLIN2, ERRFI1, ESM1, EVC, EVC2, F2R, FAIM, FAM126A, FAM13A, FAM160A1, FAM162A, FAM174A, FAM20A, FAM46B, FAM65B, FAP, FARP1, FBLN2, FBN2, FBXL6, FCHO1, FGFR2, FGL2, FLT1, FRAS1, FSCN2, GAL3ST4, GALNT15, GATA6, GBGT1, GCNT1, GDF6, GGACT, GLCE, GNAQ, GPR183, GPR50, GPRC5A, GPRC5B, GRTP1, GUCA1B, GULP1, GXYLT1, HAPLN1, HAPLN2, HAS3, HAVCR2, HDAC5, HDX, HECTD2-AS1, HEPH, HEY1, HMGA2, HMGN3-AS1, HNMT, HOOK3, HPS1, HSPA1L, HTATIP2, IFT57, IGDCC4, IGF2R, IGFBP3, IL16, INA, INPP5K, INTU, IQCG, ITGA11, ITGA8, ITGB8, ITIH1, ITPKA, IVD,

KAT6B, KCNS1, KCNS2, KDM6A, KDSR, KIAA1456, KIAA1462, KIAA1755, KIT, KLF17, KLRG1, KMT2D, KRT7, KRTAP1-1, KRTAP1-5, L3MBTL2, LAMB2P1, LETM2, LGI2, LGR4, LHX9, LINC00472, LINC00570, LINC00578, LINC00607, LINC00678, LINC00702, LINC00886, LINC00961, LINC01011, LINC01118, LINC01204, LMOD1, LOC400927, LRBA, LRP4, LRRC32, LRRC39, LRRC42, LSAMP, LUM, LYPD1, LYRM1, MAFB, MAMDC2, MAN2A1, MAN2C1, MAPK13, MASP1, MB, MB21D2, MC4R, MCM10, MED13L, MEGF6, MFN2, MIAT, MIR612, MLLT10, MMP10, MMP24, MN1, MOXD1, MRPL45, MRPL55, MRPS28, MRVI1, MSH4, MTERF3, MXRA5, MYCBP2, NA, NAALADL2, NAE1, NAGS, NDNF, NGF, NGFR, NHLH1, NLN, NOTCH3, NOTUM, NOVA2, NOX4, NRROS, OCLN, OLR1, OSBPL10, OXCT1, OXCT2, PAIP2B, PBLD, PDE1C, PDE5A, PDGFD, PDGFRB, PDS5B, PEAR1, PHACTR3, PIGN, PIK3CD, PIK3R1, PIKFYVE, PIM2, PITPNM3, PLEK2, PLEKHA1, PLEKHA6, PLEKHH2, PLSCR1, PNISR, PODN, POLN, POLR1A, POMT2, PPARG, PPIP5K2, PPM1E, PPP1R26, PPP3CA, PRKCA, PRKG1, PRPF31, PRPH2, PRRG4, PRUNE2, PSMD6-AS2, PTGIS, PTX3, PXK, RAB30, RAB38, RAB44, RAD9B, RAF1, RAPGEF1, RARS, RARS2, RBBP8, RBKS, RDX, RERE, RFX3-AS1, RGCC, ROR1, ROR2, RPA1, RPS10, RPS6KB2, SAMD4A, SCARNA9, SEC24A, SENP6, SERGEF, SGK3, SH3YL1, SHROOM3, SIGLEC10, SKA2, SLC12A2, SLC24A3, SLC35F3, SLC39A10, SLC44A2, SLC46A2, SLC4A11, SLC6A15, SLC7A11, SLC9A3, SLIT3, SMG1P3, SMTN, SNED1, SNX7, SORBS2, SORCS2, SOX7, SPATA18, SPATA5, SPDYA, SPEF2, SPIDR, SPRYD7, SRGAP1, SRRM1, STAC2, STAT4, STK32B, STRN4, STS, STXBP6, SULF1, SVEP1, SYNGR2, SYNPO, SYNPO2, SYNPO2L, TAGLN3, TANGO6, TASP1, TCF12, TCF4, TGFA, TGFB2, TGFB3, TGM2, THBS2, TIAM1, TMC3, TMEM102, TMEM119, TMEM134, TMEM189-UBE2V1, TMEM214, TMEM256-PLSCR3, TMEM50B, TNFAIP8L3, TNFRSF14, TNRC18P1, TNRC6A, TNXB, TP53AIP1, TPRG1, TRIM66, TRPC4, TSHZ2, TSPAN11, TSPAN18, TSPAN7, TSSK3, TTC7B, TUBE1, TXNIP, TYW5, URGCP, USP27X, UVRAG, VAV2, VIM-AS1, VPS41, VSTM2L, VWF, WDR27, WDR91, WISP1, WNK1, WNT10B, YDJC, ZBTB26, ZCCHC5, ZCCHC8, ZFP82, ZMIZ1-AS1, ZNF138, ZNF212, ZNF232, ZNF350, ZNF431, ZNF660, ZNF680, ZNF79, or ZNF837, and, wherein Formula (I) is:



(I),

wherein:

w_1 and w_5 are independently C-R_a or N;

w_2 is C-R_b or N;

w_3, w_4 and w_7 are independently C-R_1, C-R_2, C-R_a or N;

w_6 is C-R_1, C-R_2, C-R_c or N;

wherein one of w_3, w_4, w_6 and w_7 is C-R_1 and one other of w_3, w_4, w_6 and w_7 is C-R_2, provided that,

when w_3 is C-R_1, then w_6 is C-R_2 and w_4 and w_7 are independently C-R_a or N; or,

when w_3 is C-R_2, then w_6 is C-R_1 and w_4 and w_7 are independently C-R_a or N; or,

when w_4 is C-R_1, then w_7 is C-R_2 and w_3 is C-R_a or N and w_6 is C-R_c or N; or,

when w_4 is C-R_2, then w_7 is C-R_1 and w_3 is C-R_a or N and w_6 is C-R_c or N; and,

wherein any one, two or three of w_1, w_2, w_3, w_4, w_5, w_6 and w_7 may optionally be N;

R_1 is C_{1-8}alkyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino, C_{1-8}alkoxy-C_{1-8}alkyl-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, amino-C_{1-8}alkyl, C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, amino-C_{1-8}alkyl-amino, (amino-C_{1-8}alkyl)$_2$-amino, (amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, amino-C_{1-8}alkoxy, C_{1-8}alkyl-amino-C_{1-8}alkoxy, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkoxy, amino-C_{2-8}alkenyl, C_{1-8}alkyl-amino-C_{2-8}alkenyl, (C_{1-8}alkyl)$_2$-amino-C_{2-8}alkenyl, amino-C_{2-8}alkynyl, C_{1-8}alkyl-amino-C_{2-8}alkynyl, (C_{1-8}alkyl)$_2$-amino-C_{2-8}alkynyl, halo-C_{1-8}alkyl-amino,

(halo-C_{1-8}alkyl)$_2$-amino, (halo-C_{1-8}alkyl)(C_{1-8}alkyl)amino, hydroxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkoxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkoxy, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl-amino, [(hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, [(hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, heterocyclyl, heterocyclyl-C_{1-8}alkyl, heterocyclyl-C_{1-8}alkoxy, heterocyclyl-amino, (heterocyclyl)(C_{1-8}alkyl)amino, heterocyclyl-amino-C_{1-8}alkyl, heterocyclyl-C_{1-8}alkyl-amino, (heterocyclyl-C_{1-8}alkyl)$_2$-amino, (heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heterocyclyl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (heterocyclyl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heterocyclyl-oxy, heterocyclyl-carbonyl, heterocyclyl-carbonyl-oxy, C_{3-14}cycloalkyl, aryl-C_{1-8}alkyl-amino, (aryl-C_{1-8}alkyl)$_2$-amino, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, aryl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (aryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heteroaryl, heteroaryl-C_{1-8}alkyl, heteroaryl-C_{1-8}alkoxy, heteroaryl-amino, heteroaryl-C_{1-8}alkyl-amino, (heteroaryl-C_{1-8}alkyl)$_2$-amino, (heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heteroaryl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (heteroaryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl or (heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl;

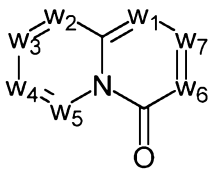
wherein, each instance of heterocyclyl, C_{3-14}cycloalkyl, aryl and heteroaryl is optionally substituted with one, two or three R_3 substituents and optionally, with one additional R_4 substituent; or,

wherein, each instance of heterocyclyl, C_{3-14}cycloalkyl, aryl and heteroaryl is optionally substituted with one, two, three or four R_3 substituents;

R_2 is aryl, aryl-amino, aryl-amino-carbonyl, heterocyclyl, heteroaryl or heteroaryl-amino; wherein, each instance of aryl, heterocyclyl and heteroaryl is optionally substituted with one, two or three R_6 substituents and optionally, with one additional R_7 substituent;
R_a is, in each instance, independently selected from hydrogen, halogen, C_{1-8}alkyl or deuterium;
R_b is hydrogen, halogen, C_{1-8}alkyl, C_{1-8}alkoxy or deuterium;
R_c is hydrogen, halogen, C_{1-8}alkyl or deuterium;
R_3 is, in each instance, independently selected from cyano, halogen, hydroxy, oxo, C_{1-8}alkyl, halo-C_{1-8}alkyl, C_{1-8}alkyl-carbonyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl, C_{1-8}alkoxy-carbonyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino, amino-C_{1-8}alkyl, C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, amino-C_{1-8}alkyl-amino, C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl]$_2$-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, C_{1-8}alkoxy-C_{1-8}alkyl-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, C_{1-8}alkyl-carbonyl-amino, C_{1-8}alkoxy-carbonyl-amino, hydroxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkoxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino or (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino;
R_4 is C_{3-14}cycloalkyl, C_{3-14}cycloalkyl-C_{1-8}alkyl, C_{3-14}cycloalkyl-amino, aryl-C_{1-8}alkyl, aryl-C_{1-8}alkoxy-carbonyl, aryl-sulfonyloxy-C_{1-8}alkyl, heterocyclyl or heterocyclyl-C_{1-8}alkyl; wherein, each instance of C_{3-14}cycloalkyl, aryl and heterocyclyl is optionally substituted with one, two or three R_5 substituents;
R_5 is, in each instance, independently selected from halogen, hydroxy, cyano, nitro, C_{1-8}alkyl, halo-C_{1-8}alkyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino or C_{1-8}alkyl-thio;
R_6 is, in each instance, independently selected from halogen, hydroxy, cyano, nitro, C_{1-8}alkyl, C_{2-8}alkenyl, halo-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino or C_{1-8}alkyl-thio; and,
R_7 is C_{3-14}cycloalkyl, C_{3-14}cycloalkyl-oxy, aryl, heterocyclyl or heteroaryl.

3. The method of claim 2, wherein the intron further comprises a first 5' splice site, a second branch point, and a second 3' splice site upstream of the iREMS.

4. A method for producing a mature mRNA transcript comprising an iExon, the method comprising contacting a pre-mRNA transcript with a compound of Formula (I) or a form thereof, wherein the pre-mRNA transcript comprises two exons and an intron, wherein one exon is upstream of the intron and the other exon is downstream of the intron, wherein the intron comprises in 5' to 3' order: a first 5' splice site, a first branch point, a first 3' splice site, a non-endogenous intronic recognition element for splicing modifier (iREMS), a second branch point, and a second 3' splice site, wherein the iREMS comprises an RNA sequence GAgurngn (SEQ ID NO: 2), wherein r is adenine or guanine and n is any nucleotide, and wherein wherein Formula (I) is:



(I),

wherein:

w_1 and w_5 are independently C-R_a or N;

w_2 is C-R_b or N;

w_3, w_4 and w_7 are independently C-R_1, C-R_2, C-R_a or N;

w_6 is C-R_1, C-R_2, C-R_c or N;

wherein one of w_3, w_4, w_6 and w_7 is C-R_1 and one other of w_3, w_4, w_6 and w_7 is C-R_2, provided that,

when w_3 is C-R_1, then w_6 is C-R_2 and w_4 and w_7 are independently C-R_a or N; or,

when w_3 is C-R_2, then w_6 is C-R_1 and w_4 and w_7 are independently C-R_a or N; or,

when w_4 is C-R_1, then w_7 is C-R_2 and w_3 is C-R_a or N and w_6 is C-R_c or N; or,

when w_4 is C-R_2, then w_7 is C-R_1 and w_3 is C-R_a or N and w_6 is C-R_c or N; and,

wherein any one, two or three of w_1, w_2, w_3, w_4, w_5, w_6 and w_7 may optionally be N;

R_1 is C_{1-8}alkyl, amino, C_{1-8}alkyl-amino, $(C_{1-8}alkyl)_2$-amino, C_{1-8}alkoxy-C_{1-8}alkyl-amino, $(C_{1-8}alkoxy\text{-}C_{1-8}alkyl)_2$-amino, ($C_{1-8}$alkoxy-$C_{1-8}$alkyl)($C_{1-8}$alkyl)amino, amino-$C_{1-8}$alkyl, C_{1-8}alkyl-amino-C_{1-8}alkyl, $(C_{1-8}alkyl)_2$-amino-C_{1-8}alkyl,

C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, amino-C_{1-8}alkyl-amino, (amino-C_{1-8}alkyl)$_2$-amino, (amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, amino-C_{1-8}alkoxy, C_{1-8}alkyl-amino-C_{1-8}alkoxy, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkoxy, amino-C_{2-8}alkenyl, C_{1-8}alkyl-amino-C_{2-8}alkenyl, (C_{1-8}alkyl)$_2$-amino-C_{2-8}alkenyl, amino-C_{2-8}alkynyl, C_{1-8}alkyl-amino-C_{2-8}alkynyl, (C_{1-8}alkyl)$_2$-amino-C_{2-8}alkynyl, halo-C_{1-8}alkyl-amino, (halo-C_{1-8}alkyl)$_2$-amino, (halo-C_{1-8}alkyl)(C_{1-8}alkyl)amino, hydroxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkoxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkoxy, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl-amino, [(hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, [(hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, heterocyclyl, heterocyclyl-C_{1-8}alkyl, heterocyclyl-C_{1-8}alkoxy, heterocyclyl-amino, (heterocyclyl)(C_{1-8}alkyl)amino, heterocyclyl-amino-C_{1-8}alkyl, heterocyclyl-C_{1-8}alkyl-amino, (heterocyclyl-C_{1-8}alkyl)$_2$-amino, (heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heterocyclyl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (heterocyclyl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heterocyclyl-oxy, heterocyclyl-carbonyl, heterocyclyl-carbonyl-oxy, C_{3-14}cycloalkyl, aryl-C_{1-8}alkyl-amino, (aryl-C_{1-8}alkyl)$_2$-amino, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, aryl-C_{1-8}alkyl-amino-C_{1-8}alkyl,

(aryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heteroaryl, heteroaryl-C_{1-8}alkyl, heteroaryl-C_{1-8}alkoxy, heteroaryl-amino, heteroaryl-C_{1-8}alkyl-amino, (heteroaryl-C_{1-8}alkyl)$_2$-amino, (heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heteroaryl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (heteroaryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl or (heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl;

wherein, each instance of heterocyclyl, C_{3-14}cycloalkyl, aryl and heteroaryl is optionally substituted with one, two or three R_3 substituents and optionally, with one additional R_4 substituent; or,

wherein, each instance of heterocyclyl, C_{3-14}cycloalkyl, aryl and heteroaryl is optionally substituted with one, two, three or four R_3 substituents;

R_2 is aryl, aryl-amino, aryl-amino-carbonyl, heterocyclyl, heteroaryl or heteroaryl-amino; wherein, each instance of aryl, heterocyclyl and heteroaryl is optionally substituted with one, two or three R_6 substituents and optionally, with one additional R_7 substituent;

R_a is, in each instance, independently selected from hydrogen, halogen, C_{1-8}alkyl or deuterium;

R_b is hydrogen, halogen, C_{1-8}alkyl, C_{1-8}alkoxy or deuterium;

R_c is hydrogen, halogen, C_{1-8}alkyl or deuterium;

R_3 is, in each instance, independently selected from cyano, halogen, hydroxy, oxo, C_{1-8}alkyl, halo-C_{1-8}alkyl, C_{1-8}alkyl-carbonyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl, C_{1-8}alkoxy-carbonyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino, amino-C_{1-8}alkyl, C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, amino-C_{1-8}alkyl-amino, C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl]$_2$-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, C_{1-8}alkoxy-C_{1-8}alkyl-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, C_{1-8}alkyl-carbonyl-amino, C_{1-8}alkoxy-carbonyl-amino, hydroxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkoxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino or (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino;

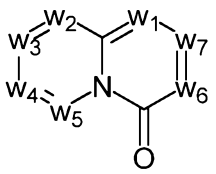
R_4 is C_{3-14}cycloalkyl, C_{3-14}cycloalkyl-C_{1-8}alkyl, C_{3-14}cycloalkyl-amino, aryl-C_{1-8}alkyl, aryl-C_{1-8}alkoxy-carbonyl, aryl-sulfonyloxy-C_{1-8}alkyl, heterocyclyl or heterocyclyl-C_{1-8}alkyl; wherein, each instance of C_{3-14}cycloalkyl, aryl and heterocyclyl is optionally substituted with one, two or three R_5 substituents;

R_5 is, in each instance, independently selected from halogen, hydroxy, cyano, nitro, C_{1-8}alkyl, halo-C_{1-8}alkyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, amino, C_{1-8}alkyl-amino, $(C_{1-8}alkyl)_2$-amino or C_{1-8}alkyl-thio;

R_6 is, in each instance, independently selected from halogen, hydroxy, cyano, nitro, C_{1-8}alkyl, C_{2-8}alkenyl, halo-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl, amino, C_{1-8}alkyl-amino, $(C_{1-8}alkyl)_2$-amino or C_{1-8}alkyl-thio; and,

R_7 is C_{3-14}cycloalkyl, C_{3-14}cycloalkyl-oxy, aryl, heterocyclyl or heteroaryl.

5. A method for modulating the amount of a mature mRNA transcript produced by a pre-mRNA transcript, the method comprising contacting the pre-mRNA transcript with the a compound of Formula (I) or a form thereof, wherein the pre-mRNA transcript comprises two exons and an intron, wherein one exon is upstream of the intron and the other exon is downstream of the intron, wherein the intron comprises a RNA nucleotide sequence comprising in 5' to 3' order: a non-endogenous intronic recognition element for splicing modifier (iREMS), a first branch point, and a first 3' splice site, wherein the iREMS comprises an RNA sequence GAgurngn (SEQ ID NO: 2), wherein r is adenine or guanine and n is any nucleotide, and wherein wherein Formula (I) is:



(I),

wherein:

w_1 and w_5 are independently C-R_a or N;

w_2 is C-R_b or N;

w_3, w_4 and w_7 are independently C-R_1, C-R_2, C-R_a or N;

w_6 is C-R_1, C-R_2, C-R_c or N;

wherein one of w_3, w_4, w_6 and w_7 is C-R_1 and one other of w_3, w_4, w_6 and w_7 is C-R_2, provided that,

when w_3 is C-R_1, then w_6 is C-R_2 and w_4 and w_7 are independently C-R_a or N; or,

when w_3 is C-R_2, then w_6 is C-R_1 and w_4 and w_7 are independently C-R_a or N; or,

when w_4 is C-R_1, then w_7 is C-R_2 and w_3 is C-R_a or N and w_6 is C-R_c or N; or,

when w_4 is C-R_2, then w_7 is C-R_1 and w_3 is C-R_a or N and w_6 is C-R_c or N; and,

wherein any one, two or three of w_1, w_2, w_3, w_4, w_5, w_6 and w_7 may optionally be N;

R_1 is C_{1-8}alkyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino, C_{1-8}alkoxy-C_{1-8}alkyl-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, amino-C_{1-8}alkyl, C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, amino-C_{1-8}alkyl-amino, (amino-C_{1-8}alkyl)$_2$-amino, (amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, amino-C_{1-8}alkoxy, C_{1-8}alkyl-amino-C_{1-8}alkoxy, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkoxy, amino-C_{2-8}alkenyl, C_{1-8}alkyl-amino-C_{2-8}alkenyl, (C_{1-8}alkyl)$_2$-amino-C_{2-8}alkenyl, amino-C_{2-8}alkynyl, C_{1-8}alkyl-amino-C_{2-8}alkynyl, (C_{1-8}alkyl)$_2$-amino-C_{2-8}alkynyl, halo-C_{1-8}alkyl-amino, (halo-C_{1-8}alkyl)$_2$-amino, (halo-C_{1-8}alkyl)(C_{1-8}alkyl)amino, hydroxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkoxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkoxy, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkoxy, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkoxy, hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl-amino,

[(hydroxy-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, [(hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, heterocyclyl, heterocyclyl-C_{1-8}alkyl, heterocyclyl-C_{1-8}alkoxy, heterocyclyl-amino, (heterocyclyl)(C_{1-8}alkyl)amino, heterocyclyl-amino-C_{1-8}alkyl, heterocyclyl-C_{1-8}alkyl-amino, (heterocyclyl-C_{1-8}alkyl)$_2$-amino, (heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heterocyclyl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (heterocyclyl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (heterocyclyl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heterocyclyl-oxy, heterocyclyl-carbonyl, heterocyclyl-carbonyl-oxy, C_{3-14}cycloalkyl, aryl-C_{1-8}alkyl-amino, (aryl-C_{1-8}alkyl)$_2$-amino, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, aryl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (aryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, (aryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl, heteroaryl, heteroaryl-C_{1-8}alkyl, heteroaryl-C_{1-8}alkoxy, heteroaryl-amino, heteroaryl-C_{1-8}alkyl-amino, (heteroaryl-C_{1-8}alkyl)$_2$-amino, (heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino, heteroaryl-C_{1-8}alkyl-amino-C_{1-8}alkyl, (heteroaryl-C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl or (heteroaryl-C_{1-8}alkyl)(C_{1-8}alkyl)amino-C_{1-8}alkyl;

wherein, each instance of heterocyclyl, C_{3-14}cycloalkyl, aryl and heteroaryl is optionally substituted with one, two or three R_3 substituents and optionally, with one additional R_4 substituent; or,

wherein, each instance of heterocyclyl, C_{3-14}cycloalkyl, aryl and heteroaryl is optionally substituted with one, two, three or four R_3 substituents;

R_2 is aryl, aryl-amino, aryl-amino-carbonyl, heterocyclyl, heteroaryl or heteroaryl-amino; wherein, each instance of aryl, heterocyclyl and heteroaryl is optionally substituted with one, two or three R_6 substituents and optionally, with one additional R_7 substituent;

R_a is, in each instance, independently selected from hydrogen, halogen, C_{1-8}alkyl or deuterium;

R_b is hydrogen, halogen, C_{1-8}alkyl, C_{1-8}alkoxy or deuterium;

R_c is hydrogen, halogen, C_{1-8}alkyl or deuterium;

R_3 is, in each instance, independently selected from cyano, halogen, hydroxy, oxo, C_{1-8}alkyl, halo-C_{1-8}alkyl, C_{1-8}alkyl-carbonyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl, C_{1-8}alkoxy-carbonyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino,

amino-C_{1-8}alkyl, C_{1-8}alkyl-amino-C_{1-8}alkyl, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl, amino-C_{1-8}alkyl-amino, C_{1-8}alkyl-amino-C_{1-8}alkyl-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl-amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl]$_2$-amino, (C_{1-8}alkyl-amino-C_{1-8}alkyl)(C_{1-8}alkyl)amino, [(C_{1-8}alkyl)$_2$-amino-C_{1-8}alkyl](C_{1-8}alkyl)amino, C_{1-8}alkoxy-C_{1-8}alkyl-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)$_2$-amino, (C_{1-8}alkoxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino, C_{1-8}alkyl-carbonyl-amino, C_{1-8}alkoxy-carbonyl-amino, hydroxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkoxy-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl-amino, (hydroxy-C_{1-8}alkyl)$_2$-amino or (hydroxy-C_{1-8}alkyl)(C_{1-8}alkyl)amino;

R_4 is C_{3-14}cycloalkyl, C_{3-14}cycloalkyl-C_{1-8}alkyl, C_{3-14}cycloalkyl-amino, aryl-C_{1-8}alkyl, aryl-C_{1-8}alkoxy-carbonyl, aryl-sulfonyloxy-C_{1-8}alkyl, heterocyclyl or heterocyclyl-C_{1-8}alkyl; wherein, each instance of C_{3-14}cycloalkyl, aryl and heterocyclyl is optionally substituted with one, two or three R_5 substituents;

R_5 is, in each instance, independently selected from halogen, hydroxy, cyano, nitro, C_{1-8}alkyl, halo-C_{1-8}alkyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino or C_{1-8}alkyl-thio;

R_6 is, in each instance, independently selected from halogen, hydroxy, cyano, nitro, C_{1-8}alkyl, C_{2-8}alkenyl, halo-C_{1-8}alkyl, hydroxy-C_{1-8}alkyl, C_{1-8}alkoxy, halo-C_{1-8}alkoxy, C_{1-8}alkoxy-C_{1-8}alkyl, amino, C_{1-8}alkyl-amino, (C_{1-8}alkyl)$_2$-amino or C_{1-8}alkyl-thio; and,

R_7 is C_{3-14}cycloalkyl, C_{3-14}cycloalkyl-oxy, aryl, heterocyclyl or heteroaryl.

6. The method of any one of claims 1-5, wherein the iREMS comprises an RNA sequence GAguragu, and wherein r is adenine or guanine.

7. The method of any one of claims 1-5, wherein the iREMS comprises an RNA sequence NNGAgurngn (SEQ ID NO: 1), and wherein r is adenine or guanine and n or N is any nucleotide.

8. The method of claim 7, wherein the RNA sequence NNGAgurngn (SEQ ID NO: 1) is selected from the group consisting of ANGAgurngn (SEQ ID NO: 29), CNGAgurngn (SEQ ID NO: 35), GNGAgurngn (SEQ ID NO: 41), UNGAgurngn (SEQ ID NO: 47), NAGAgurngn (SEQ ID NO: 30), NCGAgurngn (SEQ ID NO: 36),

NGGAgurngn (SEQ ID NO: 42), NUGAgurngn (SEQ ID NO: 48),
AAGAgurngn (SEQ ID NO: 31), ACGAgurngn (SEQ ID NO: 37),
AGGAgurngn (SEQ ID NO: 43), AUGAgurngn (SEQ ID NO: 49),
CAGAgurngn (SEQ ID NO: 32), CCGAgurngn (SEQ ID NO: 38),
CGGAgurngn (SEQ ID NO: 44), CUGAgurngn (SEQ ID NO: 50),
GAGAgurngn (SEQ ID NO: 33), GCGAgurngn (SEQ ID NO: 39),
GGGAgurngn (SEQ ID NO: 45), GUGAgurngn (SEQ ID NO: 51),
UAGAgurngn (SEQ ID NO: 34), UCGAgurngn (SEQ ID NO: 40),
UGGAgurngn (SEQ ID NO: 46) and UUGAgurngn (SEQ ID NO: 52), wherein r is adenine or guanine and n or N is any nucleotide.

9. The method of any one of claims 1-5, wherein the iREMS comprises an RNA sequence NNGAguragu (SEQ ID NO: 3862), wherein r is adenine or guanine and N is any nucleotide.

10. The method of claim 9, wherein the RNA sequence NNGAguragu (SEQ ID NO: 3862) is selected from the group consisting of
ANGAguragu (SEQ ID NO: 437), CNGAguragu (SEQ ID NO: 443),
GNGAguragu (SEQ ID NO: 449), UNGAguragu (SEQ ID NO: 455),
NAGAguragu (SEQ ID NO: 438), NCGAguragu (SEQ ID NO: 444),
NGGAguragu (SEQ ID NO: 450), NUGAguragu (SEQ ID NO: 456),
AAGAguragu (SEQ ID NO: 439), ACGAguragu (SEQ ID NO: 445),
AGGAguragu (SEQ ID NO: 451), AUGAguragu (SEQ ID NO: 457),
CAGAguragu (SEQ ID NO: 440), CCGAguragu (SEQ ID NO: 446),
CGGAguragu (SEQ ID NO: 452), CUGAguragu (SEQ ID NO: 458),
GAGAguragu (SEQ ID NO: 441), GCGAguragu (SEQ ID NO: 447),
GGGAguragu (SEQ ID NO: 453), GUGAguragu (SEQ ID NO: 459),
UAGAguragu (SEQ ID NO: 442), UCGAguragu (SEQ ID NO: 448),
UGGAguragu (SEQ ID NO: 454) and UUGAguragu (SEQ ID NO: 460), wherein r is adenine or guanine, and N is any nucleotide.

11. An artificial gene construct comprising an RNA sequence comprising exons and one or more introns, wherein at least one intron comprises an iREMS that is downstream of a

branch point and a 3' splice site, and wherein the iREMS comprises the sequence GAgurngn (SEQ ID NO: 2), wherein r is adenine or guanine and n is any nucleotide.

12. An artificial gene construct comprising an RNA sequence comprising two exons and an intron, wherein one exon is upstream of the intron and the other exon is downstream of the intron, wherein the RNA nucleotide sequence of the intron comprises in 5' to 3' order: a first 5' splice site, a first branch point, a first 3' splice site, an iREMS, a second branch point and a second 3' splice site, wherein the iREMS comprises an RNA sequence GAgurngn (SEQ ID NO: 2), wherein r is adenine or guanine and n is any nucleotide.

13. An artificial gene construct comprising an RNA sequence comprising two exons and an intron, wherein one exon is upstream of the intron and the other exon is downstream of the intron, wherein the RNA nucleotide sequence of the intron comprises in 5' to 3' order: an iREMS, a first branch point and a first 3' splice site, wherein the iREMS comprises an RNA sequence GAgurngn (SEQ ID NO: 2), wherein r is adenine or guanine and n is any nucleotide.

14. The method of any one of claims 1-10, wherein the pre-mRNA transcript is in a cell or a lysate of the cell and the method comprises contacting the cell or cell lysate with the compound.

15. The method of claim 14, wherein the modulation of the production of the mature mRNA transcript modulates the amount and/or type of a protein translated from the mature mRNA transcript and produced in the cell or lysate of the cell.

16. The method of any one of claims 1-10, 14 and 15, wherein the pre-mRNA transcript encodes a detectable reporter protein.

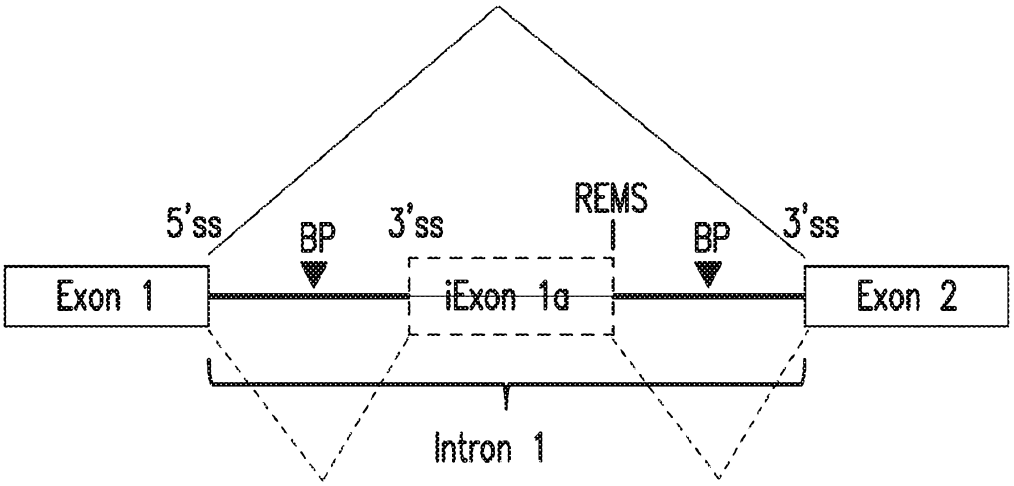


FIG. 1A

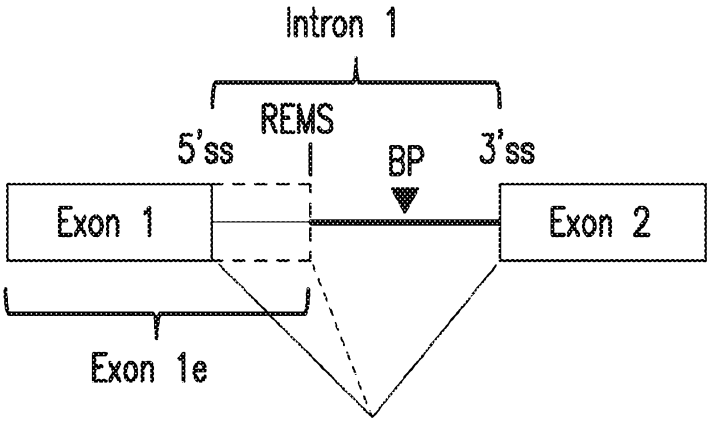


FIG. 1B

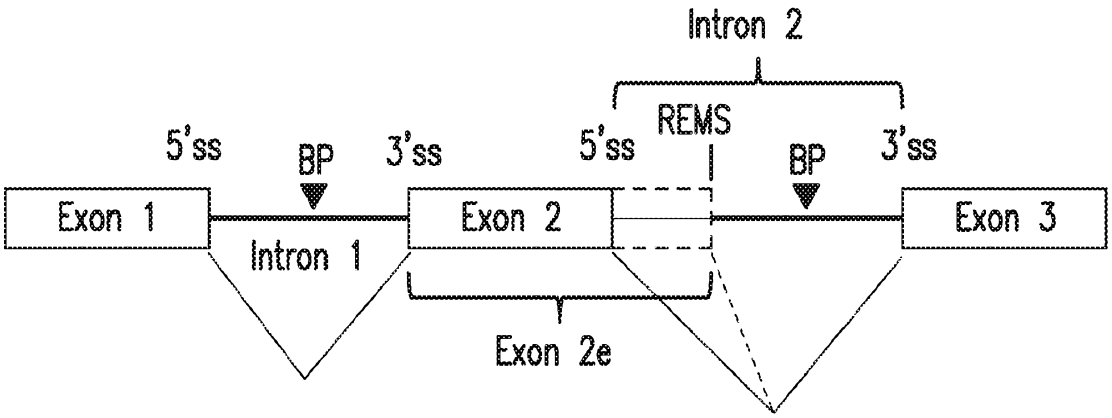


FIG. 1C

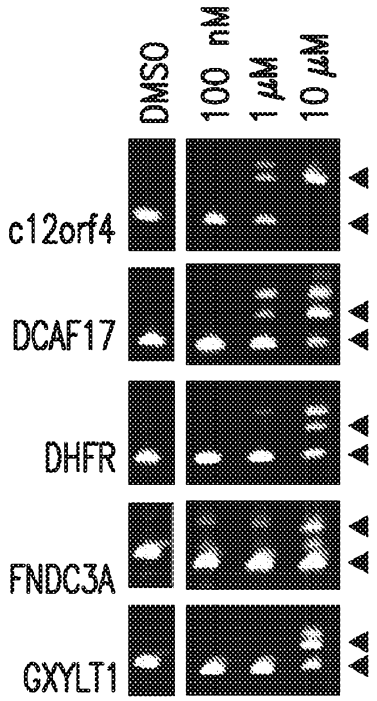


FIG. 2A

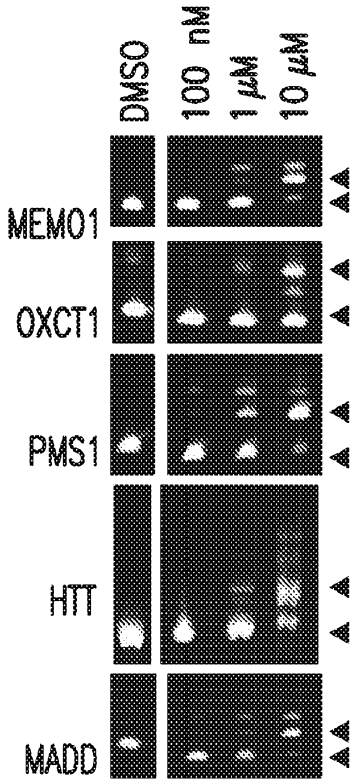


FIG. 2B

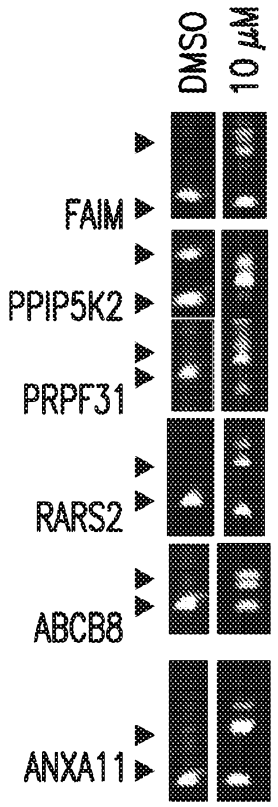


FIG. 2C

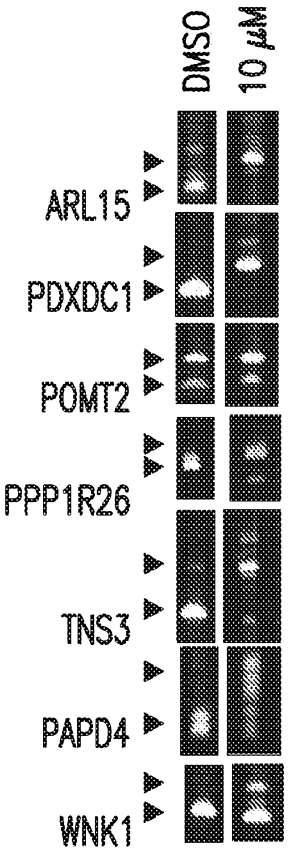


FIG. 2D

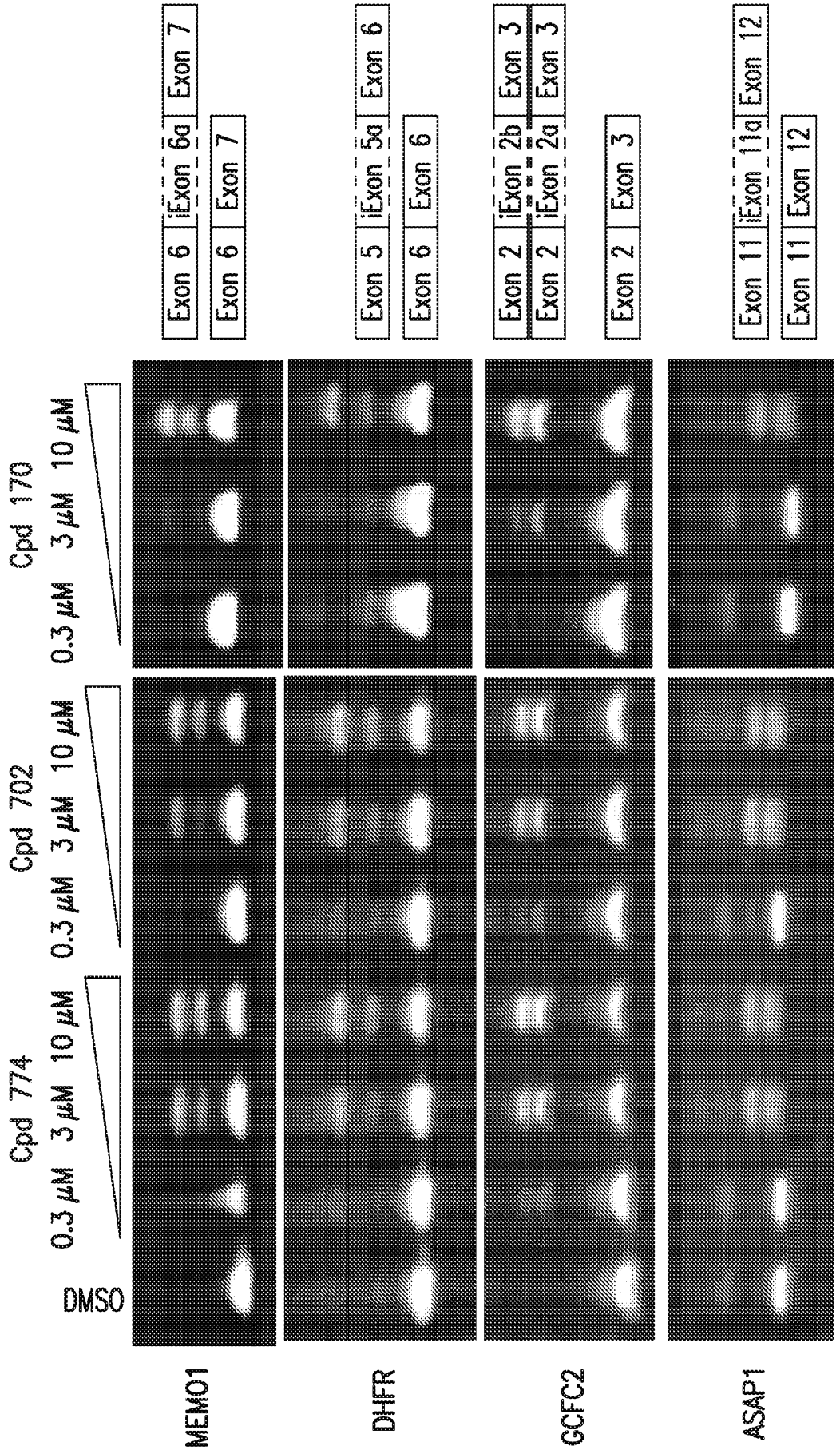

DMSO
Cpd 774
0.3 μM 3 μM 10 μM
Cpd 702
0.3 μM 3 μM 10 μM
Cpd 170
0.3 μM 3 μM 10 μM
MEMO1
Exon 6
iExon 6a
Exon 7
Exon 6
Exon 7
DHFR
Exon 5
iExon 5a
Exon 6
Exon 6
Exon 6
GCFC2
Exon 2
iExon 2b
Exon 3
Exon 2
iExon 2a
Exon 3
Exon 2
Exon 3
ASAP1
Exon 11
iExon 11a
Exon 12
Exon 11
Exon 12

FIG. 3

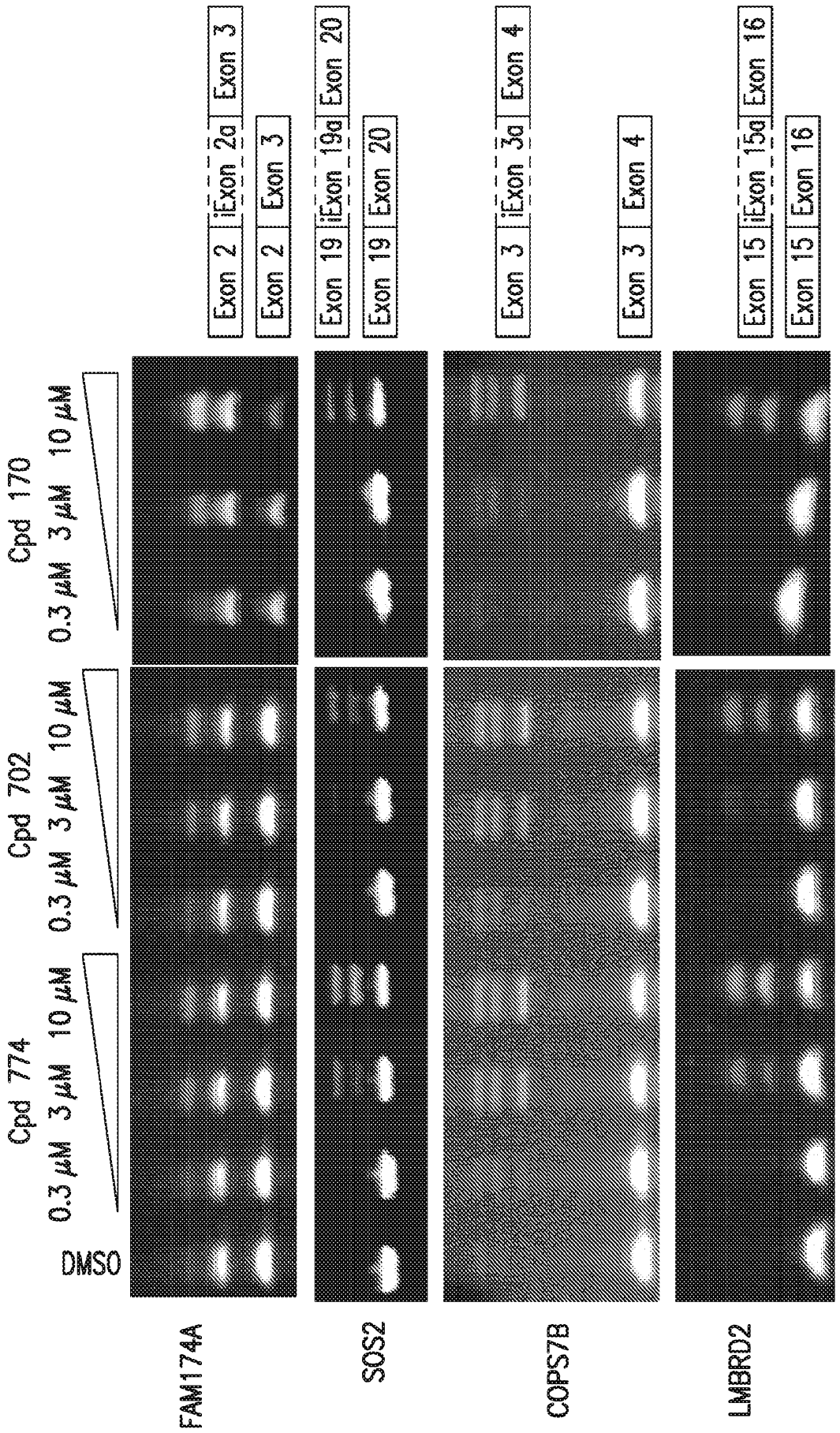

DMSO
Cpd 774
0.3 μM 3 μM 10 μM
Cpd 702
0.3 μM 3 μM 10 μM
Cpd 170
0.3 μM 3 μM 10 μM
FAM174A
SOS2
COPS7B
LMBRD2
Exon 2
iExon 2a
Exon 3
Exon 2
Exon 3
Exon 19
iExon 19a
Exon 20
Exon 19
Exon 20
Exon 3
iExon 3a
Exon 4
Exon 3
Exon 4
Exon 15
iExon 15a
Exon 16
Exon 15
Exon 16

FIG. 4

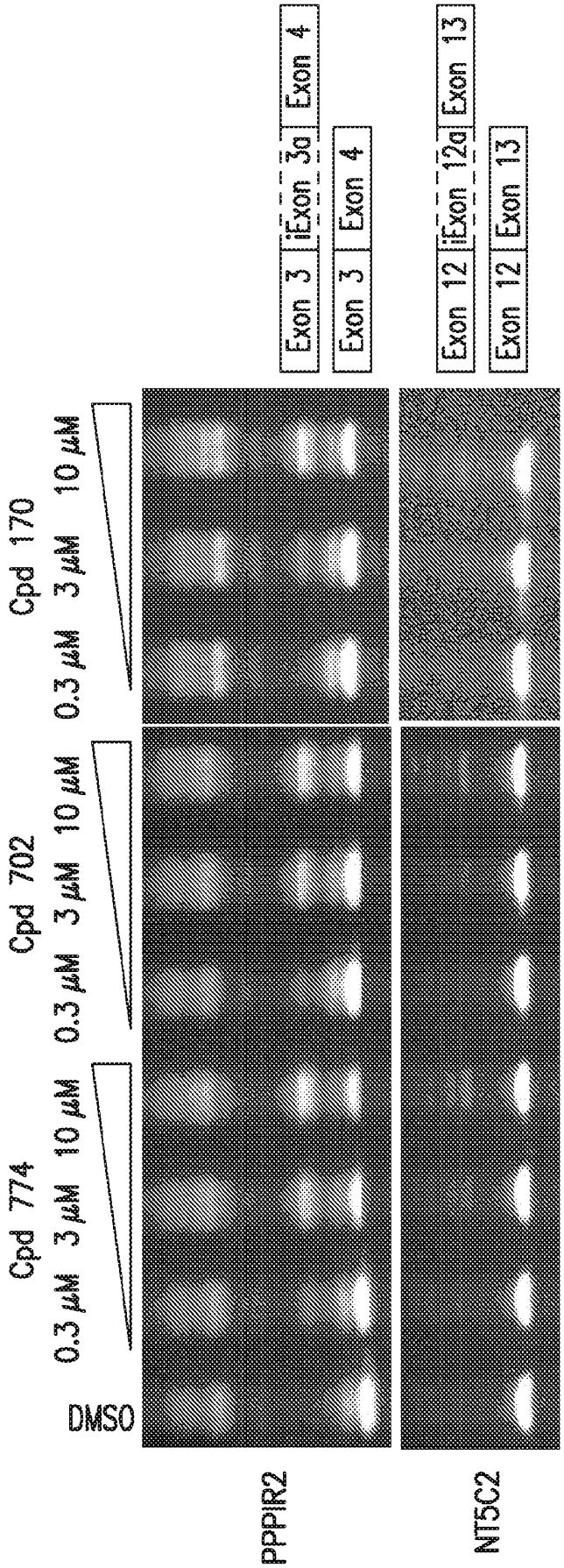

Exon 3
iExon 3a
Exon 4
Exon 3
Exon 4
Exon 12
iExon 12a
Exon 13
Exon 12
Exon 13
Cpd 170
0.3 μM
3 μM
10 μM
Cpd 702
0.3 μM
3 μM
10 μM
Cpd 774
0.3 μM
3 μM
10 μM
DMSO
PPPIR2
NT5C2

FIG. 5

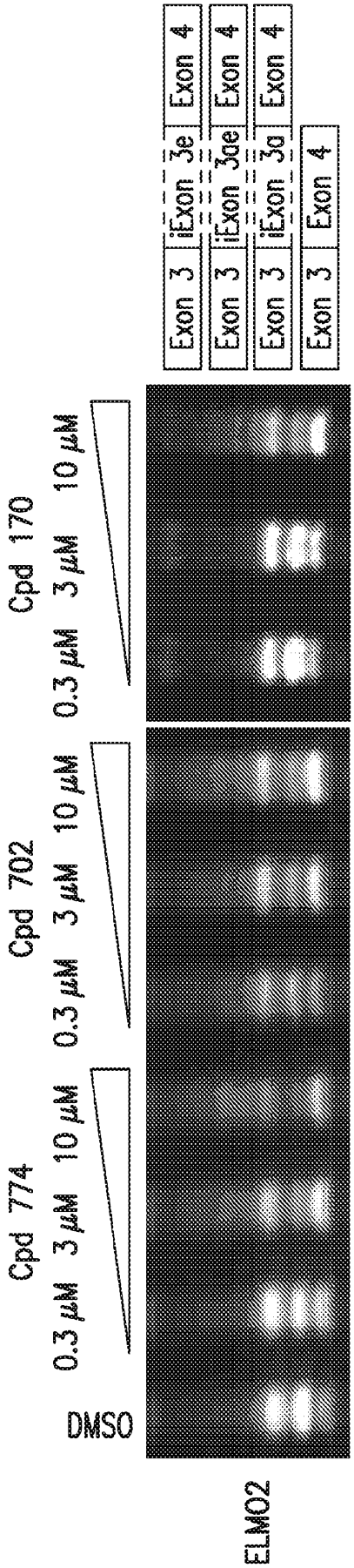

ELMO2
DMSO
Cpd 774
0.3 μM 3 μM 10 μM
Cpd 702
0.3 μM 3 μM 10 μM
Cpd 170
0.3 μM 3 μM 10 μM
Exon 3
iExon 3e
Exon 4
Exon 3
iExon 3ae
Exon 4
Exon 3
iExon 3a
Exon 4
Exon 3
Exon 4

FIG. 6A

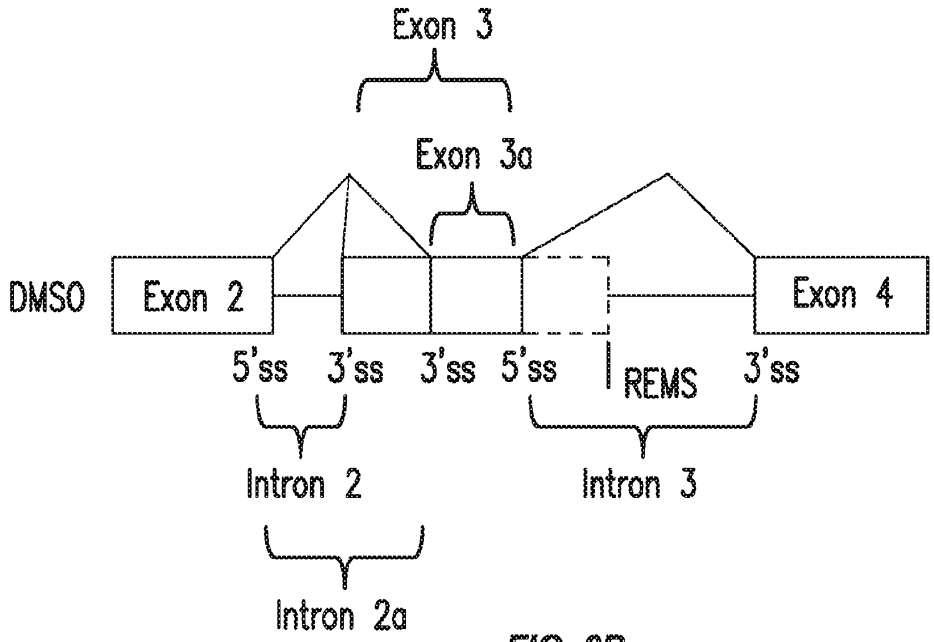

Exon 3
Exon 3a
DMSO
Exon 2
Exon 4
5'ss
3'ss
3'ss
5'ss
REMS
3'ss
Intron 2
Intron 3
Intron 2a

FIG. 6B

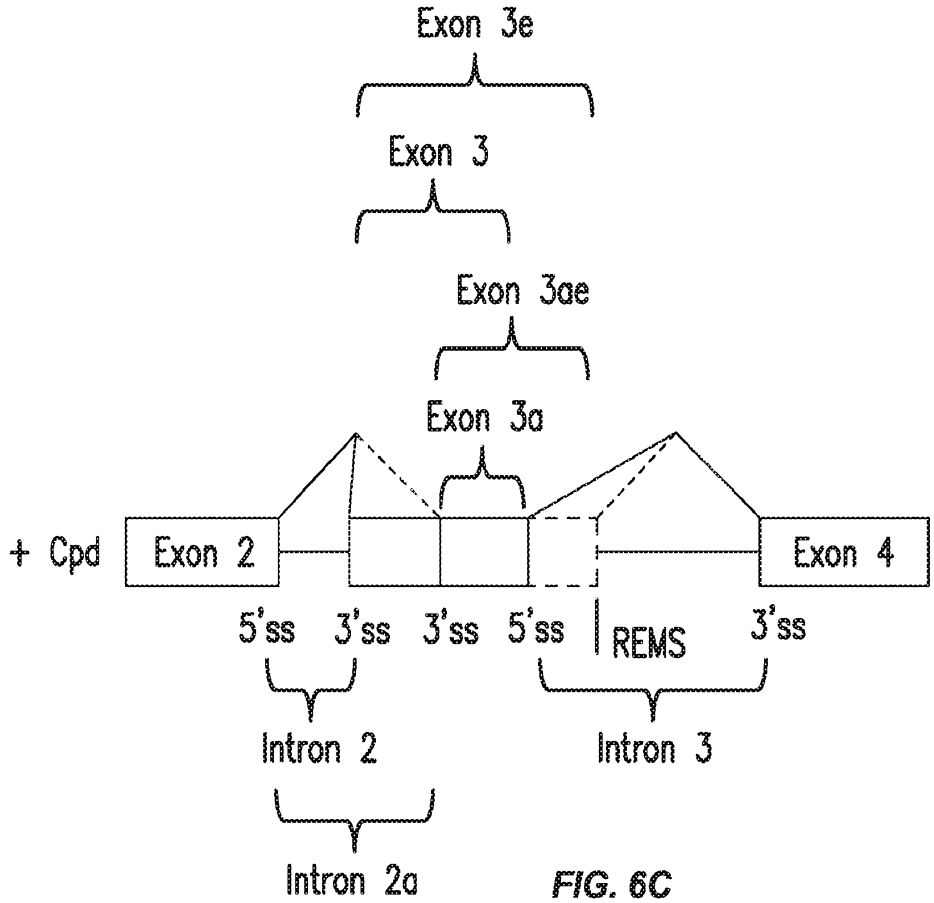

Exon 3e
Exon 3
Exon 3ae
Exon 3a
+ Cpd
Exon 2
Exon 4
5'ss
3'ss
3'ss
5'ss
REMS
3'ss
Intron 2
Intron 3
Intron 2a

FIG. 6C

SEQUENCE LISTING

<110> PTC Therapeutics, Inc.
Bhattacharyya, Anuradha
Dakka, Amal
Effenberger, Kerstin
Gabbeta, Vijayalakshmi
Li, Wencheng
Naryshkin, Nikolai
Trotta, Christopher
Wiedinger, Kari

<120> Methods for Modulating RNA Splicing

<130> 10589-275-228

<140> TBA
<141> On even date herewith

<150> 62/426,619
<151> 2016-11-28

<160> 3866

<170> PatentIn version 3.5

<210> 1
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1
nngagurngn 10

<210> 2
<211> 8
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (6)..(6)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 2
gagurngn 8

<210> 3
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3
nngagtrngn 10

<210> 4
<211> 8
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (6)..(6)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 4
gagtrngn 8

<210> 5
<211> 4
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 5
anga 4

<210> 6
<211> 4
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 6
naga 4

<210> 7
<211> 4
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 7
aaga 4

<210> 8
<211> 4
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 8
caga 4

<210> 9
<211> 4
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 9
gaga 4

<210> 10
<211> 4
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 10
uaga 4

<210> 11
<211> 4
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 11
cnga 4

<210> 12
<211> 4
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 12
ncga 4

<210> 13
<211> 4
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 13
acga 4

<210> 14
<211> 4
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 14
ccga 4

<210> 15
<211> 4
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 15
gcga 4

<210> 16
<211> 4
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 16
ucga 4

<210> 17
<211> 4
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 17
gnga 4

<210> 18
<211> 4
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 18
ngga 4

<210> 19
<211> 4
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 19
agga 4

<210> 20
<211> 4
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 20
cgga 4

<210> 21
<211> 4
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 21
ggga 4

<210> 22
<211> 4
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 22
ugga 4

<210> 23
<211> 4
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 23
unga 4

<210> 24
<211> 4
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 24
nuga 4

<210> 25
<211> 4
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 25
auga 4

<210> 26
<211> 4
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 26
cuga 4

<210> 27
<211> 4
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 27
guga 4

<210> 28
<211> 4
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 28
uuga 4

<210> 29
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 29
angagurngn 10

<210> 30
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 30
nagagurngn 10

<210> 31
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 31
aagagurngn 10

<210> 32
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 32
cagagurngn 10

<210> 33
<211> 10
<212> RNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 33
gagagurngn 10

<210> 34
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 34
uagagurngn 10

<210> 35
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)

<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 35
cngagurngn 10

<210> 36
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 36
ncgagurngn 10

<210> 37
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 37
acgagurngn 10

<210> 38
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 38
ccgagurngn 10

<210> 39
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 39
gcgagurngn 10

<210> 40
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 40
ucgagurngn 10

<210> 41
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>

<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 41
gngagurngn 10

<210> 42
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 42
nggagurngn 10

<210> 43
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature

<222> (10)..(10)
<223> n is a, c, g, or u

<400> 43
aggagurngn 10

<210> 44
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 44
cggagurngn 10

<210> 45
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 45
gggagurngn 10

<210> 46
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 46
uggagurngn 10

<210> 47
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 47
ungagurngn 10

<210> 48
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 48
nugagurngn 10

<210> 49
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 49
augagurngn 10

<210> 50

<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 50
cugagurngn 10

<210> 51
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 51
gugagurngn 10

<210> 52
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 52
uugagurngn 10

<210> 53
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 53
angaguragn 10

<210> 54
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 54
nagaguragn 10

<210> 55
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 55
aagaguragn 10

<210> 56
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 56
cagaguragn 10

<210> 57
<211> 10
<212> RNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 57
gagaguragn 10

<210> 58
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 58
uagaguragn 10

<210> 59
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 59
cngaguragn 10

<210> 60
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 60
ncgaguragn 10

<210> 61
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 61
acgaguragn 10

<210> 62
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 62
ccgaguragn 10

<210> 63
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 63
gcgaguragn 10

<210> 64
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 64
ucgaguragn 10

<210> 65
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 65
gngaguragn 10

<210> 66
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 66
nggaguragn 10

<210> 67
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 67
aggaguragn 10

<210> 68
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 68
cggaguragn 10

<210> 69
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 69
gggaguragn 10

<210> 70
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)

<223> n is a, c, g, or u

<400> 70
uggaguragn 10

<210> 71
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 71
ungaguragn 10

<210> 72
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 72
nugaguragn 10

<210> 73
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 73
augaguragn 10

<210> 74
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 74
cugaguragn 10

<210> 75
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 75
gugaguragn 10

<210> 76
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 76
uugaguragn 10

<210> 77
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 77
angagurcgn 10

<210> 78
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 78
nagagurcgn 10

<210> 79
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 79
aagagurcgn 10

<210> 80
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 80
cagagurcgn 10

<210> 81
<211> 10

<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 81
gagagurcgn 10

<210> 82
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 82
uagagurcgn 10

<210> 83
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 83
cngagurcgn 10

<210> 84
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 84
ncgagurcgn 10

<210> 85
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 85
acgagurcgn 10

<210> 86
<211> 10
<212> RNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 86
ccgagurcgn 10

<210> 87
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 87
gcgagurcgn 10

<210> 88
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 88
ucgagurcgn 10

<210> 89
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 89
gngagurcgn 10

<210> 90
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 90
nggagurcgn 10

<210> 91
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 91
aggagurcgn 10

<210> 92
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 92
cggagurcgn 10

<210> 93
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 93
gggagurcgn 10

<210> 94
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 94
uggagurcgn 10

<210> 95
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 95
ungagurcgn 10

<210> 96
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 96
nugagurcgn 10

<210> 97
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 97
augagurcgn 10

<210> 98
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 98
cugagurcgn 10

<210> 99
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)

<223> n is a, c, g, or u

<400> 99
gugagurcgn 10

<210> 100
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 100
uugagurcgn 10

<210> 101
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 101
angagurggn 10

<210> 102
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 102
nagagurggn 10

<210> 103
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 103
aagagurggn 10

<210> 104
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 104
cagagurggn 10

<210> 105
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 105
gagagurggn 10

<210> 106
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 106
uagagurggn 10

<210> 107
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 107
cngagurggn 10

<210> 108
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 108
ncgagurggn 10

<210> 109
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 109
acgagurggn 10

<210> 110
<211> 10

<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 110
ccgagurggn 10

<210> 111
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 111
gcgagurggn 10

<210> 112
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 112
ucgagurggn 10

<210> 113
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 113
gngagurggn 10

<210> 114
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 114
nggagurggn 10

<210> 115
<211> 10
<212> RNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 115
aggagurggn 10

<210> 116
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 116
cggagurggn 10

<210> 117
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 117
gggagurggn 10

<210> 118
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 118
uggagurggn 10

<210> 119
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 119
ungagurggn 10

<210> 120
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>

<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 120
nugagurggn 10

<210> 121
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 121
augagurggn 10

<210> 122
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 122
cugagurggn 10

<210> 123
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 123
gugagurggn 10

<210> 124
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 124
uugagurggn 10

<210> 125
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 125
angagurugn 10

<210> 126

<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 126
nagagurugn 10

<210> 127
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 127
aagagurugn 10

<210> 128
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)

<223> n is a, c, g, or u

<400> 128
cagagurugn 10

<210> 129
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 129
gagagurugn 10

<210> 130
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 130
uagagurugn 10

<210> 131
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 131
cngagurugn 10

<210> 132
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 132
ncgagurugn 10

<210> 133
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 133
acgagurugn 10

<210> 134
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 134
ccgagurugn 10

<210> 135
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 135
gcgagurugn 10

<210> 136
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 136
ucgagurugn 10

<210> 137
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 137
gngagurugn 10

<210> 138
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 138
nggagurugn 10

<210> 139
<211> 10

<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 139
aggagurugn 10

<210> 140
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 140
cggagurugn 10

<210> 141
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 141
gggagurugn 10

<210> 142
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 142
uggagurugn 10

<210> 143
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 143
ungagurugn 10

<210> 144
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature

<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 144
nugagurugn 10

<210> 145
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 145
augagurugn 10

<210> 146
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 146
cugagurugn 10

<210> 147
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 147
gugagurugn 10

<210> 148
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 148
uugagurugn 10

<210> 149
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 149
angaguraga 10

<210> 150
<211> 10

<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 150
nagaguraga 10

<210> 151
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 151
aagaguraga 10

<210> 152
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 152
cagaguraga 10

<210> 153
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 153
gagaguraga 10

<210> 154
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 154
uagaguraga 10

<210> 155
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 155
cngaguraga 10

<210> 156
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 156
ncgaguraga 10

<210> 157
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 157
acgaguraga 10

<210> 158
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 158
ccgaguraga 10

<210> 159
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 159
gcgaguraga 10

<210> 160
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 160
ucgaguraga 10

<210> 161
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 161
gngaguraga 10

<210> 162
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 162
nggaguraga 10

<210> 163
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 163
aggaguraga 10

<210> 164
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 164
cggaguraga 10

<210> 165
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 165
gggaguraga 10

<210> 166
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 166
uggaguraga 10

<210> 167
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 167
ungaguraga 10

<210> 168
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 168
nugaguraga 10

<210> 169
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 169
augaguraga 10

<210> 170
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 170
cugaguraga 10

<210> 171
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 171
gugaguraga 10

<210> 172
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 172
uugaguraga 10

<210> 173
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 173
angagurcga 10

<210> 174
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 174
nagagurcga 10

<210> 175
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 175
aagagurcga 10

<210> 176
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 176
cagagurcga 10

<210> 177
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 177
gagagurcga 10

<210> 178
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 178
uagagurcga 10

<210> 179
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 179
cngagurcga 10

<210> 180
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 180
ncgagurcga 10

<210> 181
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 181
acgagurcga 10

<210> 182
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 182
ccgagurcga 10

<210> 183
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 183
gcgagurcga 10

<210> 184
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 184
ucgagurcga 10

<210> 185
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 185
gngagurcga 10

<210> 186
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 186
nggagurcga 10

<210> 187
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 187
aggagurcga 10

<210> 188
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 188
cggagurcga 10

<210> 189
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 189
gggagurcga 10

<210> 190
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 190
uggagurcga 10

<210> 191
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 191
ungagurcga 10

<210> 192
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 192
nugagurcga 10

<210> 193
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 193
augagurcga 10

<210> 194
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 194
cugagurcga 10

<210> 195
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 195
gugagurcga 10

<210> 196
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 196
uugagurcga 10

<210> 197
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 197
angagurgga 10

<210> 198
<211> 10
<212> RNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 198
nagagurgga 10

<210> 199
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 199
aagagurgga 10

<210> 200
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 200
cagagurgga 10

<210> 201
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 201
gagagurgga 10

<210> 202
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 202
uagagurgga 10

<210> 203
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 203
cngagurgga 10

<210> 204
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 204
ncgagurgga 10

<210> 205
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 205
acgagurgga 10

<210> 206
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 206
ccgagurgga 10

<210> 207
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 207
gcgagurgga 10

<210> 208
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 208
ucgagurgga 10

<210> 209
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)

<223> n is a, c, g, or u

<400> 209
gngagurgga 10

<210> 210
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 210
nggagurgga 10

<210> 211
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 211
aggagurgga 10

<210> 212
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 212
cggagurgga 10

<210> 213
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 213
gggagurgga 10

<210> 214
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 214
uggagurgga 10

<210> 215
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 215
ungagurgga 10

<210> 216
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 216
nugagurgga 10

<210> 217
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 217
augagurgga 10

<210> 218
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 218
cugagurgga 10

<210> 219
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 219
gugagurgga 10

<210> 220
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 220
uugagurgga 10

<210> 221
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 221
angaguruga 10

<210> 222
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 222
nagaguruga 10

<210> 223
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 223
aagaguruga 10

<210> 224
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 224
cagaguruga 10

<210> 225
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 225
gagaguruga 10

<210> 226
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 226
uagaguruga 10

<210> 227
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 227
cngaguruga 10

<210> 228
<211> 10

<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 228
ncgaguruga 10

<210> 229
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 229
acgaguruga 10

<210> 230
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 230
ccgaguruga 10

<210> 231
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 231
gcgaguruga 10

<210> 232
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 232
ucgaguruga 10

<210> 233
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 233
gngaguruga 10

<210> 234
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 234
nggaguruga 10

<210> 235
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 235
aggaguruga 10

<210> 236
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 236
cggaguruga 10

<210> 237
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 237
gggaguruga 10

<210> 238
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 238
uggaguruga 10

<210> 239
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 239
ungaguruga 10

<210> 240
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 240
nugaguruga 10

<210> 241
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 241
augaguruga 10

<210> 242
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 242
cugaguruga 10

<210> 243
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 243
gugaguruga 10

<210> 244
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 244
uugaguruga 10

<210> 245
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 245
angaguragc 10

<210> 246
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 246
nagaguragc 10

<210> 247
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 247
aagaguragc 10

<210> 248
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 248
cagaguragc 10

<210> 249
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 249
gagaguragc 10

<210> 250
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 250
uagaguragc 10

<210> 251
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 251
cngaguragc 10

<210> 252
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 252
ncgaguragc 10

<210> 253
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 253
acgaguragc 10

<210> 254
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 254
ccgaguragc 10

<210> 255
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 255
gcgaguragc 10

<210> 256
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 256
ucgaguragc 10

<210> 257
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 257
gngaguragc 10

<210> 258
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 258
nggaguragc 10

<210> 259
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 259
aggaguragc 10

<210> 260
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 260
cggaguragc 10

<210> 261
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 261
gggaguragc 10

<210> 262
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 262
uggaguragc 10

<210> 263
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 263
ungaguragc 10

<210> 264
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 264
nugaguragc 10

<210> 265
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 265
augaguragc 10

<210> 266
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 266
cugaguragc 10

<210> 267
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 267
gugaguragc 10

<210> 268
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 268
uugaguragc 10

<210> 269
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 269
angagurcgc 10

<210> 270
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 270
nagagurcgc 10

<210> 271
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 271
aagagurcgc 10

<210> 272
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 272
cagagurcgc 10

<210> 273
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 273
gagagurcgc 10

<210> 274
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 274
uagagurcgc 10

<210> 275
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 275
cngagurcgc 10

<210> 276
<211> 10
<212> RNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 276
ncgagurcgc 10

<210> 277
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 277
acgagurcgc 10

<210> 278
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 278
ccgagurcgc 10

<210> 279
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 279
gcgagurcgc 10

<210> 280
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 280
ucgagurcgc 10

<210> 281
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 281
gngagurcgc 10

<210> 282
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 282
nggagurcgc 10

<210> 283
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 283
aggagurcgc 10

<210> 284
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 284
cggagurcgc 10

<210> 285
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 285
gggagurcgc 10

<210> 286
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 286
uggagurcgc 10

<210> 287
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)

<223> n is a, c, g, or u

<400> 287
ungagurcgc 10

<210> 288
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 288
nugagurcgc 10

<210> 289
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 289
augagurcgc 10

<210> 290
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 290
cugagurcgc 10

<210> 291
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 291
gugagurcgc 10

<210> 292
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 292
uugagurcgc 10

<210> 293
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 293
angagurggc 10

<210> 294
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 294
nagagurggc 10

<210> 295
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 295
aagagurggc 10

<210> 296
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 296
cagagurggc 10

<210> 297
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 297
gagagurggc 10

<210> 298
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 298
uagagurggc 10

<210> 299
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 299
cngagurggc 10

<210> 300
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 300
ncgagurggc 10

<210> 301
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 301
acgagurggc 10

<210> 302
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 302
ccgagurggc 10

<210> 303
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 303
gcgagurggc 10

<210> 304
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 304
ucgagurggc 10

<210> 305
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 305
gngagurggc 10

<210> 306
<211> 10

<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 306
nggagurggc 10

<210> 307
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 307
aggagurggc 10

<210> 308
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 308
cggagurggc 10

<210> 309
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 309
gggagurggc 10

<210> 310
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 310
uggagurggc 10

<210> 311
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 311
ungagurggc 10

<210> 312
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 312
nugagurggc 10

<210> 313
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 313
augagurggc 10

<210> 314
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 314
cugagurggc 10

<210> 315
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 315
gugagurggc 10

<210> 316
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 316
uugagurggc 10

<210> 317
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 317
angagurugc 10

<210> 318
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 318
nagagurugc 10

<210> 319
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 319
aagagurugc 10

<210> 320
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 320
cagagurugc 10

<210> 321
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 321
gagagurugc 10

<210> 322
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 322
uagagurugc 10

<210> 323
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 323
cngagurugc 10

<210> 324
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 324
ncgagurugc 10

<210> 325
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 325
acgagurugc 10

<210> 326
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 326
ccgagurugc 10

<210> 327
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 327
gcgagurugc 10

<210> 328
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 328
ucgagurugc 10

<210> 329
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 329
gngagurugc 10

<210> 330
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 330
nggagurugc 10

<210> 331
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 331
aggagurugc 10

<210> 332
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 332
cggagurugc 10

<210> 333
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 333
gggagurugc 10

<210> 334
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 334
uggagurugc 10

<210> 335
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 335
ungagurugc 10

<210> 336
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 336
nugagurugc 10

<210> 337
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 337
augagurugc 10

<210> 338
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 338
cugagurugc 10

<210> 339
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 339
gugagurugc 10

<210> 340
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 340
uugagurugc 10

<210> 341
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 341
angaguragg 10

<210> 342
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 342
nagaguragg 10

<210> 343
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 343
aagaguragg 10

<210> 344
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 344
cagaguragg 10

<210> 345
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 345
gagaguragg 10

<210> 346
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 346
uagaguragg 10

<210> 347
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 347
cngaguragg 10

<210> 348
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 348
ncgaguragg 10

<210> 349
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 349
acgaguragg 10

<210> 350
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 350
ccgaguragg 10

<210> 351
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 351
gcgaguragg 10

<210> 352
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 352
ucgaguragg 10

<210> 353
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 353
gngaguragg 10

<210> 354
<211> 10
<212> RNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 354
nggaguragg 10

<210> 355
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 355
aggaguragg 10

<210> 356
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 356
cggaguragg 10

<210> 357
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 357
gggaguragg 10

<210> 358
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 358
uggaguragg 10

<210> 359
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 359
ungaguragg 10

<210> 360
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 360
nugaguragg 10

<210> 361
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 361
augaguragg 10

<210> 362
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 362
cugaguragg 10

<210> 363
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 363
gugaguragg 10

<210> 364
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 364
uugaguragg 10

<210> 365
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)

<223> n is a, c, g, or u

<400> 365
angagurcgg 10

<210> 366
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 366
nagagurcgg 10

<210> 367
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 367
aagagurcgg 10

<210> 368
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 368
cagagurcgg 10

<210> 369
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 369
gagagurcgg 10

<210> 370
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 370
uagagurcgg 10

<210> 371
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 371
cngagurcgg 10

<210> 372
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 372
ncgagurcgg 10

<210> 373
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 373
acgagurcgg 10

<210> 374
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 374
ccgagurcgg 10

<210> 375
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 375
gcgagurcgg 10

<210> 376
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 376
ucgagurcgg 10

<210> 377
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 377
gngagurcgg 10

<210> 378
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 378
nggagurcgg 10

<210> 379
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 379
aggagurcgg 10

<210> 380
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 380
cggagurcgg 10

<210> 381
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 381
gggagurcgg 10

<210> 382
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 382
uggagurcgg 10

<210> 383
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 383
ungagurcgg 10

<210> 384
<211> 10

<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 384
nugagurcgg 10

<210> 385
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 385
augagurcgg 10

<210> 386
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 386
cugagurcgg 10

<210> 387
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 387
gugagurcgg 10

<210> 388
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 388
uugagurcgg 10

<210> 389
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 389
angagurggg 10

<210> 390
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 390
nagagurggg 10

<210> 391
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 391
aagagurggg 10

<210> 392
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 392
cagagurggg 10

<210> 393
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 393
gagagurggg 10

<210> 394
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 394
uagagurggg 10

<210> 395
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 395
cngagurggg 10

<210> 396
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 396
ncgagurggg 10

<210> 397
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 397
acgagurggg 10

<210> 398
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 398
ccgagurggg 10

<210> 399
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 399
gcgagurggg 10

<210> 400
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 400
ucgagurggg 10

<210> 401
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 401
gngagurggg 10

<210> 402
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 402
nggagurggg 10

<210> 403
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 403
aggagurggg 10

<210> 404
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 404
cggagurggg 10

<210> 405
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 405
gggagurggg 10

<210> 406
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 406
uggagurggg 10

<210> 407
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 407
ungagurggg 10

<210> 408
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 408
nugagurggg 10

<210> 409
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 409
augagurggg 10

<210> 410
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 410
cugagurggg 10

<210> 411
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 411
gugagurggg 10

<210> 412
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 412
uugagurggg 10

<210> 413
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 413
angagurugg 10

<210> 414
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 414
nagagurugg 10

<210> 415
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 415
aagagurugg 10

<210> 416
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 416
cagagurugg 10

<210> 417
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 417
gagagurugg 10

<210> 418
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 418
uagagurugg 10

<210> 419
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 419
cngagurugg 10

<210> 420
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 420
ncgagurugg 10

<210> 421
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 421
acgagurugg 10

<210> 422
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 422
ccgagurugg 10

<210> 423
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 423
gcgagurugg 10

<210> 424
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 424
ucgagurugg 10

<210> 425
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 425
gngagurugg 10

<210> 426
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 426
nggagurugg 10

<210> 427
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 427
aggagurugg 10

<210> 428
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 428
cggagurugg 10

<210> 429
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 429
gggagurugg 10

<210> 430
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 430
uggagurugg 10

<210> 431
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 431
ungagurugg 10

<210> 432
<211> 10
<212> RNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 432
nugagurugg 10

<210> 433
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 433
augagurugg 10

<210> 434
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 434
cugagurugg 10

<210> 435
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 435
gugagurugg 10

<210> 436
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 436
uugagurugg 10

<210> 437
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 437
angaguragu 10

<210> 438
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 438
nagaguragu 10

<210> 439
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 439
aagaguragu 10

<210> 440
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 440
cagaguragu 10

<210> 441
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 441
gagaguragu 10

<210> 442
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 442
uagaguragu 10

<210> 443
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)

<223> n is a, c, g, or u

<400> 443
cngaguragu 10

<210> 444
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 444
ncgaguragu 10

<210> 445
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 445
acgaguragu 10

<210> 446
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 446
ccgaguragu 10

<210> 447
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 447
gcgaguragu 10

<210> 448
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 448
ucgaguragu 10

<210> 449
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 449
gngaguragu 10

<210> 450
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 450
nggaguragu 10

<210> 451
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 451
aggaguragu 10

<210> 452
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 452
cggaguragu 10

<210> 453
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 453
gggaguragu 10

<210> 454
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 454
uggaguragu 10

<210> 455
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 455
ungaguragu 10

<210> 456
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 456
nugaguragu 10

<210> 457
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 457
augaguragu 10

<210> 458
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 458
cugaguragu 10

<210> 459
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 459
gugaguragu 10

<210> 460
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 460
uugaguragu 10

<210> 461
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 461
angagurcgu 10

<210> 462
<211> 10

<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 462
nagagurcgu 10

<210> 463
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 463
aagagurcgu 10

<210> 464
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 464
cagagurcgu 10

<210> 465
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 465
gagagurcgu 10

<210> 466
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 466
uagagurcgu 10

<210> 467
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 467
cngagurcgu 10

<210> 468
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 468
ncgagurcgu 10

<210> 469
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 469
acgagurcgu 10

<210> 470
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 470
ccgagurcgu 10

<210> 471
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 471
gcgagurcgu 10

<210> 472
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 472
ucgagurcgu 10

<210> 473
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 473
gngagurcgu 10

<210> 474
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 474
nggagurcgu 10

<210> 475
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 475
aggagurcgu 10

<210> 476
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 476
cggagurcgu 10

<210> 477
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 477
gggagurcgu 10

<210> 478
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 478
uggagurcgu 10

<210> 479
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 479
ungagurcgu 10

<210> 480
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 480
nugagurcgu 10

<210> 481
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 481
augagurcgu 10

<210> 482
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 482
cugagurcgu 10

<210> 483
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 483
gugagurcgu 10

<210> 484
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 484
uugagurcgu 10

<210> 485
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 485
angagurggu 10

<210> 486
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 486
nagagurggu 10

<210> 487
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 487
aagagurggu 10

<210> 488
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 488
cagagurggu 10

<210> 489
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 489
gagagurggu 10

<210> 490
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 490
uagagurggu 10

<210> 491
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 491
cngagurggu 10

<210> 492
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 492
ncgagurggu 10

<210> 493
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 493
acgagurggu 10

<210> 494
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 494
ccgagurggu 10

<210> 495
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 495
gcgagurggu 10

<210> 496
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 496
ucgagurggu 10

<210> 497
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 497
gngagurggu 10

<210> 498
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 498
nggagurggu 10

<210> 499
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 499
aggagurggu 10

<210> 500
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 500
cggagurggu 10

<210> 501
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 501
gggagurggu 10

<210> 502
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 502
uggagurggu 10

<210> 503
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 503
ungagurggu 10

<210> 504
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 504
nugagurggu 10

<210> 505
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 505
augagurggu 10

<210> 506
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 506
cugagurggu 10

<210> 507
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 507
gugagurggu 10

<210> 508
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 508
uugagurggu 10

<210> 509
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 509
angagurugu 10

<210> 510
<211> 10
<212> RNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 510
nagagurugu 10

<210> 511
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 511
aagagurugu 10

<210> 512
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 512
cagagurugu 10

<210> 513
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 513
gagagurugu 10

<210> 514
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 514
uagagurugu 10

<210> 515
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 515
cngagurugu 10

<210> 516
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 516
ncgagurugu 10

<210> 517
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 517
acgagurugu 10

<210> 518
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 518
ccgagurugu 10

<210> 519
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 519
gcgagurugu 10

<210> 520
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 520
ucgagurugu 10

<210> 521
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)

<223> n is a, c, g, or u

<400> 521
gngagurugu 10

<210> 522
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 522
nggagurugu 10

<210> 523
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 523
aggagurugu 10

<210> 524
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 524
cggagurugu 10

<210> 525
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 525
gggagurugu 10

<210> 526
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 526
uggagurugu 10

<210> 527
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 527
ungagurugu 10

<210> 528
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 528
nugagurugu 10

<210> 529
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 529
augagurugu 10

<210> 530
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 530
cugagurugu 10

<210> 531
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 531
gugagurugu 10

<210> 532
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 532
uugagurugu 10

<210> 533
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 533
angagurnga 10

<210> 534
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 534
nagagurnga 10

<210> 535
<211> 10
<212> RNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 535
aagagurnga 10

<210> 536
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 536
cagagurnga 10

<210> 537
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 537
gagagurnga 10

<210> 538
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 538
uagagurnga 10

<210> 539
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 539
cngagurnga 10

<210> 540
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>

<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 540
ncgagurnga 10

<210> 541
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 541
acgagurnga 10

<210> 542
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 542
ccgagurnga 10

<210> 543
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 543
gcgagurnga 10

<210> 544
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 544
ucgagurnga 10

<210> 545
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 545
gngagurnga 10

<210> 546

<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 546
nggagurnga 10

<210> 547
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 547
aggagurnga 10

<210> 548
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)

<223> n is a, c, g, or u

<400> 548
cggagurnga 10

<210> 549
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 549
gggagurnga 10

<210> 550
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 550
uggagurnga 10

<210> 551
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 551
ungagurnga 10

<210> 552
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 552
nugagurnga 10

<210> 553
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 553
augagurnga 10

<210> 554
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 554
cugagurnga 10

<210> 555
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 555
gugagurnga 10

<210> 556
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 556
uugagurnga 10

<210> 557
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 557
angagurngc 10

<210> 558
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 558
nagagurngc 10

<210> 559
<211> 10

<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 559
aagagurngc 10

<210> 560
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 560
cagagurngc 10

<210> 561
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 561
gagagurngc 10

<210> 562
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 562
uagagurngc 10

<210> 563
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 563
cngagurngc 10

<210> 564
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature

<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 564
ncgagurngc 10

<210> 565
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 565
acgagurngc 10

<210> 566
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 566
ccgagurngc 10

<210> 567
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 567
gcgagurngc 10

<210> 568
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 568
ucgagurngc 10

<210> 569
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 569

gngagurngc 10

<210> 570
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 570
nggagurngc 10

<210> 571
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 571
aggagurngc 10

<210> 572
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 572
cggagurngc 10

<210> 573
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 573
gggagurngc 10

<210> 574
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 574
uggagurngc 10

<210> 575
<211> 10
<212> RNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 575
ungagurngc 10

<210> 576
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 576
nugagurngc 10

<210> 577
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)

<223> n is a, c, g, or u

<400> 577
augagurngc 10

<210> 578
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 578
cugagurngc 10

<210> 579
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 579
gugagurngc 10

<210> 580
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 580
uugagurngc 10

<210> 581
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 581
angagurngg 10

<210> 582
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 582
nagagurngg 10

<210> 583
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 583
aagagurngg 10

<210> 584
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 584
cagagurngg 10

<210> 585
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 585
gagagurngg 10

<210> 586
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 586
uagagurngg 10

<210> 587
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 587
cngagurngg 10

<210> 588
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 588
ncgagurngg 10

<210> 589
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 589
acgagurngg 10

<210> 590
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 590
ccgagurngg 10

<210> 591
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 591
gcgagurngg 10

<210> 592
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 592
ucgagurngg 10

<210> 593
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature

<222> (8)..(8)
<223> n is a, c, g, or u

<400> 593
gngagurngg 10

<210> 594
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 594
nggagurngg 10

<210> 595
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 595
aggagurngg 10

<210> 596
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 596
cggagurngg 10

<210> 597
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 597
gggagurngg 10

<210> 598
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 598
uggagurngg 10

<210> 599
<211> 10

<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 599
ungagurngg 10

<210> 600
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 600
nugagurngg 10

<210> 601
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 601
augagurngg 10

<210> 602
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 602
cugagurngg 10

<210> 603
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 603
gugagurngg 10

<210> 604
<211> 10
<212> RNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 604
uugagurngg 10

<210> 605
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 605
angagurngu 10

<210> 606
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)

<223> n is a, c, g, or u

<400> 606
nagagurngu 10

<210> 607
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 607
aagagurngu 10

<210> 608
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 608
cagagurngu 10

<210> 609
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 609
gagagurngu 10

<210> 610
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 610
uagagurngu 10

<210> 611
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 611
cngagurngu 10

<210> 612
<211> 10
<212> RNA

<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 612
ncgagurngu 10

<210> 613
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 613
acgagurngu 10

<210> 614
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 614
ccgagurngu 10

<210> 615
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 615
gcgagurngu 10

<210> 616
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 616
ucgagurngu 10

<210> 617
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)

<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 617
gngagurngu 10

<210> 618
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 618
nggagurngu 10

<210> 619
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 619
aggagurngu 10

<210> 620
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 620
cggagurngu 10

<210> 621
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 621
gggagurngu 10

<210> 622
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 622
uggagurngu 10

<210> 623
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 623
ungagurngu 10

<210> 624
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 624
nugagurngu 10

<210> 625
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 625
augagurngu 10

<210> 626
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 626
cugagurngu 10

<210> 627
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 627
gugagurngu 10

<210> 628
<211> 10

<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 628
uugagurngu 10

<210> 629
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 629
angaguangn 10

<210> 630
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 630
nagaguangn 10

<210> 631
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 631
aagaguangn 10

<210> 632
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 632
cagaguangn 10

<210> 633
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 633
gagaguangn 10

<210> 634
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>

<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 634
uagaguangn 10

<210> 635
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 635
cngaguangn 10

<210> 636
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature

<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 636
ncgaguangn 10

<210> 637
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 637
acgaguangn 10

<210> 638
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)

<223> n is a, c, g, or u

<400> 638
ccgaguangn 10

<210> 639
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 639
gcgaguangn 10

<210> 640
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 640
ucgaguangn 10

<210> 641
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 641
gngaguangn 10

<210> 642
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 642
nggaguangn 10

<210> 643
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 643
aggaguangn 10

<210> 644
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 644
cggaguangn 10

<210> 645
<211> 10

<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 645
gggaguangn 10

<210> 646
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 646
uggaguangn 10

<210> 647
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 647
ungaguangn 10

<210> 648
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 648
nugaguangn 10

<210> 649
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 649
augaguangn 10

<210> 650
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 650
cugaguangn 10

<210> 651
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 651
gugaguangn 10

<210> 652
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 652
uugaguangn 10

<210> 653
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature

<222> (10)..(10)
<223> n is a, c, g, or u

<400> 653
angaguaagn 10

<210> 654
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 654
nagaguaagn 10

<210> 655
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 655
aagaguaagn 10

<210> 656
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 656
cagaguaagn 10

<210> 657
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 657
gagaguaagn 10

<210> 658
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 658
uagaguaagn 10

<210> 659
<211> 10

<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 659
cngaguaagn 10

<210> 660
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 660
ncgaguaagn 10

<210> 661
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 661
acgaguaagn 10

<210> 662
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 662
ccgaguaagn 10

<210> 663
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 663
gcgaguaagn 10

<210> 664
<211> 10
<212> RNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 664
ucgaguaagn 10

<210> 665
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 665
gngaguaagn 10

<210> 666
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)

<223> n is a, c, g, or u

<400> 666
nggaguaagn 10

<210> 667
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 667
aggaguaagn 10

<210> 668
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 668
cggaguaagn 10

<210> 669
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 669
gggaguaagn 10

<210> 670
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 670
uggaguaagn 10

<210> 671
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 671
ungaguaagn 10

<210> 672
<211> 10
<212> RNA

<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 672
nugaguaagn 10

<210> 673
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 673
augaguaagn 10

<210> 674
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 674
cugaguaagn 10

<210> 675
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 675
gugaguaagn 10

<210> 676
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 676
uugaguaagn 10

<210> 677
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)

<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 677
angaguacgn 10

<210> 678
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 678
nagaguacgn 10

<210> 679
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 679
aagaguacgn 10

<210> 680
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 680
cagaguacgn 10

<210> 681
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 681
gagaguacgn 10

<210> 682
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 682
uagaguacgn 10

<210> 683
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 683
cngaguacgn 10

<210> 684
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 684
ncgaguacgn 10

<210> 685
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 685
acgaguacgn 10

<210> 686
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 686
ccgaguacgn 10

<210> 687
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 687
gcgaguacgn 10

<210> 688
<211> 10

<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 688
ucgaguacgn 10

<210> 689
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 689
gngaguacgn 10

<210> 690
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 690
nggaguacgn 10

<210> 691
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 691
aggaguacgn 10

<210> 692
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 692
cggaguacgn 10

<210> 693
<211> 10
<212> RNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 693
gggaguacgn 10

<210> 694
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 694
uggaguacgn 10

<210> 695
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 695
ungaguacgn 10

<210> 696
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 696
nugaguacgn 10

<210> 697
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 697
augaguacgn 10

<210> 698
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 698
cugaguacgn 10

<210> 699
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 699
gugaguacgn 10

<210> 700
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 700
uugaguacgn 10

<210> 701
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 701
angaguaggn 10

<210> 702
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 702
nagaguaggn 10

<210> 703
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 703
aagaguaggn 10

<210> 704
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 704
cagaguaggn 10

<210> 705
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 705
gagaguaggn 10

<210> 706
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)

<223> n is a, c, g, or u

<400> 706
uagaguaggn 10

<210> 707
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 707
cngaguaggn 10

<210> 708
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 708
ncgaguaggn 10

<210> 709
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 709
acgaguaggn 10

<210> 710
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 710
ccgaguaggn 10

<210> 711
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 711
gcgaguaggn 10

<210> 712
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 712
ucgaguaggn 10

<210> 713
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 713
gngaguaggn 10

<210> 714
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 714
nggaguaggn 10

<210> 715
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 715
aggaguaggn 10

<210> 716
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 716
cggaguaggn 10

<210> 717
<211> 10

<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 717
gggaguaggn 10

<210> 718
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 718
uggaguaggn 10

<210> 719
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 719
ungaguaggn 10

<210> 720
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 720
nugaguaggn 10

<210> 721
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 721
augaguaggn 10

<210> 722
<211> 10
<212> RNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 722
cugaguaggn 10

<210> 723
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 723
gugaguaggn 10

<210> 724
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 724
uugaguaggn 10

<210> 725
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 725
angaguaugn 10

<210> 726
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 726
nagaguaugn 10

<210> 727
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 727
aagaguaugn 10

<210> 728
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 728
cagaguaugn 10

<210> 729
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 729
gagaguaugn 10

<210> 730
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 730
uagaguaugn 10

<210> 731
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 731
cngaguaugn 10

<210> 732
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 732
ncgaguaugn 10

<210> 733
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 733
acgaguaugn 10

<210> 734
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 734
ccgaguaugn 10

<210> 735
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)

<223> n is a, c, g, or u

<400> 735
gcgaguaugn 10

<210> 736
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 736
ucgaguaugn 10

<210> 737
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 737
gngaguaugn 10

<210> 738
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 738
nggaguaugn 10

<210> 739
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 739
aggaguaugn 10

<210> 740
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 740
cggaguaugn 10

<210> 741
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 741
gggaguaugn 10

<210> 742
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 742
uggaguaugn 10

<210> 743
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 743
ungaguaugn 10

<210> 744
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 744
nugaguaugn 10

<210> 745
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 745
augaguaugn 10

<210> 746
<211> 10

<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 746
cugaguaugn 10

<210> 747
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 747
gugaguaugn 10

<210> 748
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 748
uugaguaugn 10

<210> 749
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 749
angaguaaga 10

<210> 750
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 750
nagaguaaga 10

<210> 751
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 751
aagaguaaga 10

<210> 752
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 752
cagaguaaga 10

<210> 753
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 753
gagaguaaga 10

<210> 754
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 754
uagaguaaga 10

<210> 755
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 755
cngaguaaga 10

<210> 756
<211> 10

<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 756
ncgaguaaga 10

<210> 757
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 757
acgaguaaga 10

<210> 758
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 758
ccgaguaaga 10

<210> 759
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 759
gcgaguaaga 10

<210> 760
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 760
ucgaguaaga 10

<210> 761
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 761
gngaguaaga 10

<210> 762
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 762
nggaguaaga 10

<210> 763
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 763
aggaguaaga 10

<210> 764
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 764
cggaguaaga 10

<210> 765
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 765
gggaguaaga 10

<210> 766
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 766
uggaguaaga 10

<210> 767
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 767
ungaguaaga 10

<210> 768
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 768
nugaguaaga 10

<210> 769
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 769
augaguaaga 10

<210> 770
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 770
cugaguaaga 10

<210> 771
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 771
gugaguaaga 10

<210> 772
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 772
uugaguaaga 10

<210> 773
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 773
angaguacga 10

<210> 774
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 774
nagaguacga 10

<210> 775
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 775
aagaguacga 10

<210> 776
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 776
cagaguacga 10

<210> 777
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 777
gagaguacga 10

<210> 778
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 778
uagaguacga 10

<210> 779
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 779
cngaguacga 10

<210> 780
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 780
ncgaguacga 10

<210> 781
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 781
acgaguacga 10

<210> 782
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 782
ccgaguacga 10

<210> 783
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 783
gcgaguacga 10

<210> 784
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 784
ucgaguacga 10

<210> 785
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 785
gngaguacga 10

<210> 786
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 786
nggaguacga 10

<210> 787
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 787
aggaguacga 10

<210> 788
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 788
cggaguacga 10

<210> 789
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 789
gggaguacga 10

<210> 790
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 790
uggaguacga 10

<210> 791
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 791
ungaguacga 10

<210> 792
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 792
nugaguacga 10

<210> 793
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 793
augaguacga 10

<210> 794
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 794
cugaguacga 10

<210> 795
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 795
gugaguacga 10

<210> 796
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 796
uugaguacga 10

<210> 797
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 797
angaguagga 10

<210> 798
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 798
nagaguagga 10

<210> 799
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 799
aagaguagga 10

<210> 800
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 800
cagaguagga 10

<210> 801
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 801
gagaguagga 10

<210> 802
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 802
uagaguagga 10

<210> 803
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 803
cngaguagga 10

<210> 804
<211> 10
<212> RNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 804
ncgaguagga 10

<210> 805
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 805
acgaguagga 10

<210> 806
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 806
ccgaguagga 10

<210> 807
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 807
gcgaguagga 10

<210> 808
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 808
ucgaguagga 10

<210> 809
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 809
gngaguagga 10

<210> 810
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 810
nggaguagga 10

<210> 811
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 811
aggaguagga 10

<210> 812
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 812
cggaguagga 10

<210> 813
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 813
gggaguagga 10

<210> 814
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 814
uggaguagga 10

<210> 815
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)

<223> n is a, c, g, or u

<400> 815
ungaguagga 10

<210> 816
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 816
nugaguagga 10

<210> 817
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 817
augaguagga 10

<210> 818
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 818
cugaguagga 10

<210> 819
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 819
gugaguagga 10

<210> 820
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 820
uugaguagga 10

<210> 821
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 821
angaguauga 10

<210> 822
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 822
nagaguauga 10

<210> 823
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 823
aagaguauga 10

<210> 824
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 824
cagaguauga 10

<210> 825
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 825
gagaguauga 10

<210> 826
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 826
uagaguauga 10

<210> 827
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 827
cngaguauga 10

<210> 828
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 828
ncgaguauga 10

<210> 829
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 829
acgaguauga 10

<210> 830
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 830
ccgaguauga 10

<210> 831
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 831
gcgaguauga 10

<210> 832
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 832
ucgaguauga 10

<210> 833
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 833
gngaguauga 10

<210> 834
<211> 10

<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 834
nggaguauga 10

<210> 835
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 835
aggaguauga 10

<210> 836
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 836
cggaguauga 10

<210> 837
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 837
gggaguauga 10

<210> 838
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 838
uggaguauga 10

<210> 839
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 839
ungaguauga 10

<210> 840
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 840
nugaguauga 10

<210> 841
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 841
augaguauga 10

<210> 842
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 842
cugaguauga 10

<210> 843
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 843
gugaguauga 10

<210> 844
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 844
uugaguauga 10

<210> 845
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 845
angaguaagc 10

<210> 846
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 846
nagaguaagc 10

<210> 847
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 847
aagaguaagc 10

<210> 848
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 848
cagaguaagc 10

<210> 849
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 849
gagaguaagc 10

<210> 850
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 850
uagaguaagc 10

<210> 851
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 851
cngaguaagc 10

<210> 852
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 852
ncgaguaagc 10

<210> 853
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 853
acgaguaagc 10

<210> 854
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 854
ccgaguaagc 10

<210> 855
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 855
gcgaguaagc 10

<210> 856
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 856
ucgaguaagc 10

<210> 857
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 857
gngaguaagc 10

<210> 858
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 858
nggaguaagc 10

<210> 859
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 859
aggaguaagc 10

<210> 860
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 860
cggaguaagc 10

<210> 861
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 861
gggaguaagc 10

<210> 862
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 862
uggaguaagc 10

<210> 863
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 863
ungaguaagc 10

<210> 864
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 864
nugaguaagc 10

<210> 865
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 865
augaguaagc 10

<210> 866
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 866
cugaguaagc 10

<210> 867
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 867
gugaguaagc 10

<210> 868
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 868
uugaguaagc 10

<210> 869
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 869
angaguacgc 10

<210> 870
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 870
nagaguacgc 10

<210> 871
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 871
aagaguacgc 10

<210> 872
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 872
cagaguacgc 10

<210> 873
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 873
gagaguacgc 10

<210> 874
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 874
uagaguacgc 10

<210> 875
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 875
cngaguacgc 10

<210> 876
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 876
ncgaguacgc 10

<210> 877
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 877
acgaguacgc 10

<210> 878
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 878
ccgaguacgc 10

<210> 879
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 879
gcgaguacgc 10

<210> 880
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 880
ucgaguacgc 10

<210> 881
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 881
gngaguacgc 10

<210> 882
<211> 10
<212> RNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 882
nggaguacgc 10

<210> 883
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 883
aggaguacgc 10

<210> 884
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 884
cggaguacgc 10

<210> 885
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 885
gggaguacgc 10

<210> 886
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 886
uggaguacgc 10

<210> 887
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 887
ungaguacgc 10

<210> 888
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 888
nugaguacgc 10

<210> 889
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 889
augaguacgc 10

<210> 890
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 890
cugaguacgc 10

<210> 891
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 891
gugaguacgc 10

<210> 892
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 892
uugaguacgc 10

<210> 893
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)

<223> n is a, c, g, or u

<400> 893
angaguaggc 10

<210> 894
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 894
nagaguaggc 10

<210> 895
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 895
aagaguaggc 10

<210> 896
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 896
cagaguaggc 10

<210> 897
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 897
gagaguaggc 10

<210> 898
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 898
uagaguaggc 10

<210> 899
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 899
cngaguaggc 10

<210> 900
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 900
ncgaguaggc 10

<210> 901
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 901
acgaguaggc 10

<210> 902
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 902
ccgaguaggc 10

<210> 903
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 903
gcgaguaggc 10

<210> 904
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 904
ucgaguaggc 10

<210> 905
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 905
gngaguaggc 10

<210> 906
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 906
nggaguaggc 10

<210> 907
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 907
aggaguaggc 10

<210> 908
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 908
cggaguaggc 10

<210> 909
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 909
gggaguaggc 10

<210> 910
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 910
uggaguaggc 10

<210> 911
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 911
ungaguaggc 10

<210> 912
<211> 10

<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 912
nugaguaggc 10

<210> 913
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 913
augaguaggc 10

<210> 914
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 914
cugaguaggc 10

<210> 915
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 915
gugaguaggc 10

<210> 916
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 916
uugaguaggc 10

<210> 917
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 917
angaguaugc 10

<210> 918
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 918
nagaguaugc 10

<210> 919
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 919
aagaguaugc 10

<210> 920
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 920
cagaguaugc 10

<210> 921
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 921
gagaguaugc 10

<210> 922
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 922
uagaguaugc 10

<210> 923
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 923
cngaguaugc 10

<210> 924
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 924
ncgaguaugc 10

<210> 925
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 925
acgaguaugc 10

<210> 926
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 926
ccgaguaugc 10

<210> 927
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 927
gcgaguaugc 10

<210> 928
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 928
ucgaguaugc 10

<210> 929
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 929
gngaguaugc 10

<210> 930
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 930
nggaguaugc 10

<210> 931
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 931
aggaguaugc 10

<210> 932
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 932
cggaguaugc 10

<210> 933
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 933
gggaguaugc 10

<210> 934
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 934
uggaguaugc 10

<210> 935
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 935
ungaguaugc 10

<210> 936
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 936
nugaguaugc 10

<210> 937
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 937
augaguaugc 10

<210> 938
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 938
cugaguaugc 10

<210> 939
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 939
gugaguaugc 10

<210> 940
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 940
uugaguaugc 10

<210> 941
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 941
angaguaagg 10

<210> 942
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 942
nagaguaagg 10

<210> 943
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 943
aagaguaagg 10

<210> 944
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 944
cagaguaagg 10

<210> 945
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 945
gagaguaagg 10

<210> 946
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 946
uagaguaagg 10

<210> 947
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 947
cngaguaagg 10

<210> 948
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 948
ncgaguaagg 10

<210> 949
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 949
acgaguaagg 10

<210> 950
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 950
ccgaguaagg 10

<210> 951
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 951
gcgaguaagg 10

<210> 952
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 952
ucgaguaagg 10

<210> 953
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 953
gngaguaagg 10

<210> 954
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 954
nggaguaagg 10

<210> 955
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 955
aggaguaagg 10

<210> 956
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 956
cggaguaagg 10

<210> 957
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 957
gggaguaagg 10

<210> 958
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 958
uggaguaagg 10

<210> 959
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 959
ungaguaagg 10

<210> 960
<211> 10
<212> RNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 960
nugaguaagg 10

<210> 961
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 961
augaguaagg 10

<210> 962
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 962
cugaguaagg 10

<210> 963
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 963
gugaguaagg 10

<210> 964
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 964
uugaguaagg 10

<210> 965
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 965
angaguacgg 10

<210> 966
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 966
nagaguacgg 10

<210> 967
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 967
aagaguacgg 10

<210> 968
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 968
cagaguacgg 10

<210> 969
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 969
gagaguacgg 10

<210> 970
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 970
uagaguacgg 10

<210> 971
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)

<223> n is a, c, g, or u

<400> 971
cngaguacgg 10

<210> 972
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 972
ncgaguacgg 10

<210> 973
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 973
acgaguacgg 10

<210> 974
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 974
ccgaguacgg 10

<210> 975
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 975
gcgaguacgg 10

<210> 976
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 976
ucgaguacgg 10

<210> 977
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 977
gngaguacgg 10

<210> 978
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 978
nggaguacgg 10

<210> 979
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 979
aggaguacgg 10

<210> 980
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 980
cggaguacgg 10

<210> 981
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 981
gggaguacgg 10

<210> 982
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 982
uggaguacgg 10

<210> 983
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 983
ungaguacgg 10

<210> 984
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 984
nugaguacgg 10

<210> 985
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 985
augaguacgg 10

<210> 986
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 986
cugaguacgg 10

<210> 987
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 987
gugaguacgg 10

<210> 988
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 988
uugaguacgg 10

<210> 989
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 989
angaguaggg 10

<210> 990
<211> 10

<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 990
nagaguaggg 10

<210> 991
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 991
aagaguaggg 10

<210> 992
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 992
cagaguaggg 10

<210> 993
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 993
gagaguaggg 10

<210> 994
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 994
uagaguaggg 10

<210> 995
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 995
cngaguaggg 10

<210> 996
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 996
ncgaguaggg 10

<210> 997
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 997
acgaguaggg 10

<210> 998
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 998
ccgaguaggg 10

<210> 999
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 999
gcgaguaggg 10

<210> 1000
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1000
ucgaguaggg 10

<210> 1001
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1001
gngaguaggg 10

<210> 1002
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1002
nggaguaggg 10

<210> 1003
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1003
aggaguaggg 10

<210> 1004
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1004
cggaguaggg 10

<210> 1005
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1005
gggaguaggg 10

<210> 1006
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1006
uggaguaggg 10

<210> 1007
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1007
ungaguaggg 10

<210> 1008
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1008
nugaguaggg 10

<210> 1009
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1009
augaguaggg 10

<210> 1010
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1010
cugaguaggg 10

<210> 1011
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1011
gugaguaggg 10

<210> 1012
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1012
uugaguaggg 10

<210> 1013
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1013
angaguaugg 10

<210> 1014
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1014
nagaguaugg 10

<210> 1015
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1015
aagaguaugg 10

<210> 1016
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1016
cagaguaugg 10

<210> 1017
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1017
gagaguaugg 10

<210> 1018
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1018
uagaguaugg 10

<210> 1019
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1019
cngaguaugg 10

<210> 1020
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1020
ncgaguaugg 10

<210> 1021
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1021
acgaguaugg 10

<210> 1022
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1022
ccgaguaugg 10

<210> 1023
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1023
gcgaguaugg 10

<210> 1024
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1024
ucgaguaugg 10

<210> 1025
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1025
gngaguaugg 10

<210> 1026
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1026
nggaguaugg 10

<210> 1027
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1027
aggaguaugg 10

<210> 1028
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1028
cggaguaugg 10

<210> 1029
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1029
gggaguaugg 10

<210> 1030
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1030
uggaguaugg 10

<210> 1031
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1031
ungaguaugg 10

<210> 1032
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1032
nugaguaugg 10

<210> 1033
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1033
augaguaugg 10

<210> 1034
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1034
cugaguaugg 10

<210> 1035
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1035
gugaguaugg 10

<210> 1036
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1036
uugaguaugg 10

<210> 1037
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1037
angaguaagu 10

<210> 1038
<211> 10
<212> RNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1038
nagaguaagu 10

<210> 1039
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1039
aagaguaagu 10

<210> 1040
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1040
cagaguaagu 10

<210> 1041
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1041
gagaguaagu 10

<210> 1042
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1042
uagaguaagu 10

<210> 1043
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1043
cngaguaagu 10

<210> 1044
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1044
ncgaguaagu 10

<210> 1045
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1045
acgaguaagu 10

<210> 1046
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1046
ccgaguaagu 10

<210> 1047
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1047
gcgaguaagu 10

<210> 1048
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1048
ucgaguaagu 10

<210> 1049
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)

<223> n is a, c, g, or u

<400> 1049
gngaguaagu 10

<210> 1050
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1050
nggaguaagu 10

<210> 1051
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1051
aggaguaagu 10

<210> 1052
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1052
cggaguaagu 10

<210> 1053
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1053
gggaguaagu 10

<210> 1054
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1054
uggaguaagu 10

<210> 1055
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1055
ungaguaagu 10

<210> 1056
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1056
nugaguaagu 10

<210> 1057
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1057
augaguaagu 10

<210> 1058
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1058
cugaguaagu 10

<210> 1059
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1059
gugaguaagu 10

<210> 1060
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1060
uugaguaagu 10

<210> 1061
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1061
angaguacgu 10

<210> 1062
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1062
nagaguacgu 10

<210> 1063
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1063
aagaguacgu 10

<210> 1064
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1064
cagaguacgu 10

<210> 1065
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1065
gagaguacgu 10

<210> 1066
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1066
uagaguacgu 10

<210> 1067
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1067
cngaguacgu 10

<210> 1068
<211> 10

<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1068
ncgaguacgu 10

<210> 1069
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1069
acgaguacgu 10

<210> 1070
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1070
ccgaguacgu 10

<210> 1071
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1071
gcgaguacgu 10

<210> 1072
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1072
ucgaguacgu 10

<210> 1073
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1073
gngaguacgu 10

<210> 1074
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1074
nggaguacgu 10

<210> 1075
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1075
aggaguacgu 10

<210> 1076
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1076
cggaguacgu 10

<210> 1077
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1077
gggaguacgu 10

<210> 1078
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1078
uggaguacgu 10

<210> 1079
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1079
ungaguacgu 10

<210> 1080
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1080
nugaguacgu 10

<210> 1081
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1081
augaguacgu 10

<210> 1082
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1082
cugaguacgu 10

<210> 1083
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1083
gugaguacgu 10

<210> 1084
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1084
uugaguacgu 10

<210> 1085
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1085
angaguaggu 10

<210> 1086
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1086
nagaguaggu 10

<210> 1087
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1087
aagaguaggu 10

<210> 1088
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1088
cagaguaggu 10

<210> 1089
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1089
gagaguaggu 10

<210> 1090
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1090
uagaguaggu 10

<210> 1091
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1091
cngaguaggu 10

<210> 1092
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1092
ncgaguaggu 10

<210> 1093
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1093
acgaguaggu 10

<210> 1094
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1094
ccgaguaggu 10

<210> 1095
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1095
gcgaguaggu 10

<210> 1096
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1096
ucgaguaggu 10

<210> 1097
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1097
gngaguaggu 10

<210> 1098
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1098
nggaguaggu 10

<210> 1099
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1099
aggaguaggu 10

<210> 1100
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1100
cggaguaggu 10

<210> 1101
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1101
gggaguaggu 10

<210> 1102
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1102
uggaguaggu 10

<210> 1103
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1103
ungaguaggu 10

<210> 1104
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1104
nugaguaggu 10

<210> 1105
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1105
augaguaggu 10

<210> 1106
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1106
cugaguaggu 10

<210> 1107
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1107
gugaguaggu 10

<210> 1108
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1108
uugaguaggu 10

<210> 1109
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1109
angaguaugu 10

<210> 1110
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1110
nagaguaugu 10

<210> 1111
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1111
aagaguaugu 10

<210> 1112
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1112
cagaguaugu 10

<210> 1113
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1113
gagaguaugu 10

<210> 1114
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1114
uagaguaugu 10

<210> 1115
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1115
cngaguaugu 10

<210> 1116
<211> 10
<212> RNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1116
ncgaguaugu 10

<210> 1117
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1117
acgaguaugu 10

<210> 1118
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1118
ccgaguaugu 10

<210> 1119
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1119
gcgaguaugu 10

<210> 1120
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1120
ucgaguaugu 10

<210> 1121
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1121
gngaguaugu 10

<210> 1122
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1122
nggaguaugu 10

<210> 1123
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1123
aggaguaugu 10

<210> 1124
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1124
cggaguaugu 10

<210> 1125
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1125
gggaguaugu 10

<210> 1126
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1126
uggaguaugu 10

<210> 1127
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)

<223> n is a, c, g, or u

<400> 1127
ungaguaugu 10

<210> 1128
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1128
nugaguaugu 10

<210> 1129
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1129
augaguaugu 10

<210> 1130
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1130
cugaguaugu 10

<210> 1131
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1131
gugaguaugu 10

<210> 1132
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1132
uugaguaugu 10

<210> 1133
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1133
angaguanga 10

<210> 1134
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1134
nagaguanga 10

<210> 1135
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1135
aagaguanga 10

<210> 1136
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1136
cagaguanga 10

<210> 1137
<211> 10

<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1137
gagaguanga 10

<210> 1138
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1138
uagaguanga 10

<210> 1139
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1139
cngaguanga 10

<210> 1140
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1140
ncgaguanga 10

<210> 1141
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1141
acgaguanga 10

<210> 1142
<211> 10
<212> RNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1142
ccgaguanga 10

<210> 1143
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1143
gcgaguanga 10

<210> 1144
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1144
ucgaguanga 10

<210> 1145
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1145
gngaguanga 10

<210> 1146
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1146
nggaguanga 10

<210> 1147
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1147
aggaguanga 10

<210> 1148
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1148
cggaguanga 10

<210> 1149
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1149
gggaguanga 10

<210> 1150
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1150
uggaguanga 10

<210> 1151
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1151
ungaguanga 10

<210> 1152
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1152
nugaguanga 10

<210> 1153
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1153
augaguanga 10

<210> 1154
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1154
cugaguanga 10

<210> 1155
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)

<223> n is a, c, g, or u

<400> 1155
gugaguanga 10

<210> 1156
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1156
uugaguanga 10

<210> 1157
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1157
angaguangc 10

<210> 1158
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1158
nagaguangc 10

<210> 1159
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1159
aagaguangc 10

<210> 1160
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1160
cagaguangc 10

<210> 1161
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1161
gagaguangc 10

<210> 1162
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1162
uagaguangc 10

<210> 1163
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1163
cngaguangc 10

<210> 1164
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1164
ncgaguangc 10

<210> 1165
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1165
acgaguangc 10

<210> 1166
<211> 10

<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1166
ccgaguangc 10

<210> 1167
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1167
gcgaguangc 10

<210> 1168
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1168
ucgaguangc 10

<210> 1169
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1169
gngaguangc 10

<210> 1170
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1170
nggaguangc 10

<210> 1171
<211> 10
<212> RNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1171
aggaguangc 10

<210> 1172
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1172
cggaguangc 10

<210> 1173
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1173
gggaguangc 10

<210> 1174
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1174
uggaguangc 10

<210> 1175
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1175
ungaguangc 10

<210> 1176
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>

<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1176
nugaguangc 10

<210> 1177
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1177
augaguangc 10

<210> 1178
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1178
cugaguangc 10

<210> 1179
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1179
gugaguangc 10

<210> 1180
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1180
uugaguangc 10

<210> 1181
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1181
angaguangg 10

<210> 1182

<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1182
nagaguangg 10

<210> 1183
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1183
aagaguangg 10

<210> 1184
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)

<223> n is a, c, g, or u

<400> 1184
cagaguangg 10

<210> 1185
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1185
gagaguangg 10

<210> 1186
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1186
uagaguangg 10

<210> 1187
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1187
cngaguangg 10

<210> 1188
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1188
ncgaguangg 10

<210> 1189
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1189
acgaguangg 10

<210> 1190
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1190
ccgaguangg 10

<210> 1191
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1191
gcgaguangg 10

<210> 1192
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1192
ucgaguangg 10

<210> 1193
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1193
gngaguangg 10

<210> 1194
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1194
nggaguangg 10

<210> 1195
<211> 10

<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1195
aggaguangg 10

<210> 1196
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1196
cggaguangg 10

<210> 1197
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1197
gggaguangg 10

<210> 1198
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1198
uggaguangg 10

<210> 1199
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1199
ungaguangg 10

<210> 1200
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature

<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1200
nugaguangg 10

<210> 1201
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1201
augaguangg 10

<210> 1202
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1202
cugaguangg 10

<210> 1203
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1203
gugaguangg 10

<210> 1204
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1204
uugaguangg 10

<210> 1205
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1205

angaguangu 10

<210> 1206
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1206
nagaguangu 10

<210> 1207
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1207
aagaguangu 10

<210> 1208
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1208
cagaguangu 10

<210> 1209
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1209
gagaguangu 10

<210> 1210
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1210
uagaguangu 10

<210> 1211
<211> 10
<212> RNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1211
cngaguangu 10

<210> 1212
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1212
ncgaguangu 10

<210> 1213
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)

<223> n is a, c, g, or u

<400> 1213
acgaguangu 10

<210> 1214
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1214
ccgaguangu 10

<210> 1215
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1215
gcgaguangu 10

<210> 1216
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1216
ucgaguangu 10

<210> 1217
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1217
gngaguangu 10

<210> 1218
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1218
nggaguangu 10

<210> 1219
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1219
aggaguangu 10

<210> 1220
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1220
cggaguangu 10

<210> 1221
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1221
gggaguangu 10

<210> 1222
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1222
uggaguangu 10

<210> 1223
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1223
ungaguangu 10

<210> 1224
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1224
nugaguangu 10

<210> 1225
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1225
augaguangu 10

<210> 1226
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1226
cugaguangu 10

<210> 1227
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1227
gugaguangu 10

<210> 1228
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1228
uugaguangu 10

<210> 1229
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature

<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1229
angagugngn 10

<210> 1230
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1230
nagagugngn 10

<210> 1231
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)

<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1231
aagagugngn 10

<210> 1232
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1232
cagagugngn 10

<210> 1233
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1233
gagagugngn 10

<210> 1234
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1234
uagagugngn 10

<210> 1235
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1235
cngagugngn 10

<210> 1236
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1236
ncgagugngn 10

<210> 1237
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1237

acgagugngn 10

<210> 1238
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1238
ccgagugngn 10

<210> 1239
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1239
gcgagugngn 10

<210> 1240
<211> 10
<212> RNA

<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1240
ucgagugngn 10

<210> 1241
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1241
gngagugngn 10

<210> 1242
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1242
nggagugngn 10

<210> 1243
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1243
aggagugngn 10

<210> 1244
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1244
cggagugngn 10

<210> 1245
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1245
gggagugngn 10

<210> 1246
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature

<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1246
uggagugngn 10

<210> 1247
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1247
ungagugngn 10

<210> 1248
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)

<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1248
nugagugngn 10

<210> 1249
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1249
augagugngn 10

<210> 1250
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1250
cugagugngn 10

<210> 1251
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1251
gugagugngn 10

<210> 1252
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1252
uugagugngn 10

<210> 1253
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1253
angagugagn 10

<210> 1254
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1254
nagagugagn 10

<210> 1255
<211> 10

<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1255
aagagugagn 10

<210> 1256
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1256
cagagugagn 10

<210> 1257
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1257
gagagugagn 10

<210> 1258
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1258
uagagugagn 10

<210> 1259
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1259
cngagugagn 10

<210> 1260
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature

<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1260
ncgagugagn 10

<210> 1261
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1261
acgagugagn 10

<210> 1262
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1262
ccgagugagn 10

<210> 1263
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1263
gcgagugagn 10

<210> 1264
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1264
ucgagugagn 10

<210> 1265
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1265

gngagugagn 10

<210> 1266
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1266
nggagugagn 10

<210> 1267
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1267
aggagugagn 10

<210> 1268
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1268
cggagugagn 10

<210> 1269
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1269
gggagugagn 10

<210> 1270
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1270
uggagugagn 10

<210> 1271
<211> 10
<212> RNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1271
ungagugagn 10

<210> 1272
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1272
nugagugagn 10

<210> 1273
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)

<223> n is a, c, g, or u

<400> 1273
augagugagn 10

<210> 1274
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1274
cugagugagn 10

<210> 1275
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1275
gugagugagn 10

<210> 1276
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1276
uugagugagn 10

<210> 1277
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1277
angagugcgn 10

<210> 1278
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1278
nagagugcgn 10

<210> 1279
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1279
aagagugcgn 10

<210> 1280
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1280
cagagugcgn 10

<210> 1281
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1281
gagagugcgn 10

<210> 1282
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1282
uagagugcgn 10

<210> 1283
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1283
cngagugcgn 10

<210> 1284
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1284
ncgagugcgn 10

<210> 1285
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1285
acgagugcgn 10

<210> 1286
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1286
ccgagugcgn 10

<210> 1287
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1287
gcgagugcgn 10

<210> 1288
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1288
ucgagugcgn 10

<210> 1289
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature

<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1289
gngagugcgn 10

<210> 1290
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1290
nggagugcgn 10

<210> 1291
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1291
aggagugcgn 10

<210> 1292
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1292
cggagugcgn 10

<210> 1293
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1293
gggagugcgn 10

<210> 1294
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1294
uggagugcgn 10

<210> 1295
<211> 10

<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1295
ungagugcgn 10

<210> 1296
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1296
nugagugcgn 10

<210> 1297
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1297
augagugcgn 10

<210> 1298
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1298
cugagugcgn 10

<210> 1299
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1299
gugagugcgn 10

<210> 1300
<211> 10
<212> RNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1300
uugagugcgn 10

<210> 1301
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1301
angagugggn 10

<210> 1302
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)

<223> n is a, c, g, or u

<400> 1302
nagagugggn 10

<210> 1303
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1303
aagagugggn 10

<210> 1304
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1304
cagagugggn 10

<210> 1305
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1305
gagagugggn 10

<210> 1306
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1306
uagagugggn 10

<210> 1307
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1307
cngagugggn 10

<210> 1308
<211> 10
<212> RNA

<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1308
ncgagugggn 10

<210> 1309
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1309
acgagugggn 10

<210> 1310
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1310
ccgaugugggn 10

<210> 1311
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1311
gcgaugugggn 10

<210> 1312
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1312
ucgaugugggn 10

<210> 1313
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)

<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1313
gngagugggn 10

<210> 1314
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1314
nggagugggn 10

<210> 1315
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1315
aggagugggn 10

<210> 1316
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1316
cggagugggn 10

<210> 1317
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1317
gggagugggn 10

<210> 1318
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1318
uggagugggn 10

<210> 1319
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1319
ungaugggn 10

<210> 1320
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1320
nugaugggn 10

<210> 1321
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1321
augaugggn 10

<210> 1322
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1322
cugaugggn 10

<210> 1323
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1323
gugaugggn 10

<210> 1324
<211> 10

<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1324
uugaguggn 10

<210> 1325
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1325
angagugugn 10

<210> 1326
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1326
nagagugugn 10

<210> 1327
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1327
aagagugugn 10

<210> 1328
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1328
cagagugugn 10

<210> 1329
<211> 10
<212> RNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1329
gagagugugn 10

<210> 1330
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1330
uagagugugn 10

<210> 1331
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1331
cngagugugn 10

<210> 1332
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1332
ncgagugugn 10

<210> 1333
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1333
acgagugugn 10

<210> 1334
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1334
ccgagugugn 10

<210> 1335
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1335
gcgagugugn 10

<210> 1336
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1336
ucgagugugn 10

<210> 1337
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1337
gngagugugn 10

<210> 1338
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1338
nggagugugn 10

<210> 1339
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1339
aggagugugn 10

<210> 1340
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1340
cggagugugn 10

<210> 1341
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1341
gggagugugn 10

<210> 1342
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)

<223> n is a, c, g, or u

<400> 1342
uggagugugn 10

<210> 1343
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1343
ungagugugn 10

<210> 1344
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1344
nugagugugn 10

<210> 1345
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1345
augagugugn 10

<210> 1346
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1346
cugagugugn 10

<210> 1347
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1347
gugagugugn 10

<210> 1348
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or u

<400> 1348
uugagugugn 10

<210> 1349
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1349
angagugaga 10

<210> 1350
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1350
nagagugaga 10

<210> 1351
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1351
aagagugaga 10

<210> 1352
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1352
cagagugaga 10

<210> 1353
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1353
gagagugaga 10

<210> 1354
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1354
uagagugaga 10

<210> 1355
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1355
cngagugaga 10

<210> 1356
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1356
ncgagugaga 10

<210> 1357
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1357
acgagugaga 10

<210> 1358
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1358
ccgagugaga 10

<210> 1359
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1359
gcgagugaga 10

<210> 1360
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1360
ucgagugaga 10

<210> 1361
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1361
gngagugaga 10

<210> 1362
<211> 10

<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1362
nggagugaga 10

<210> 1363
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1363
aggagugaga 10

<210> 1364
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1364
cggagugaga 10

<210> 1365
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1365
gggagugaga 10

<210> 1366
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1366
uggagugaga 10

<210> 1367
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1367
ungagugaga 10

<210> 1368
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1368
nugagugaga 10

<210> 1369
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1369
augagugaga 10

<210> 1370
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1370
cugagugaga 10

<210> 1371
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1371
gugagugaga 10

<210> 1372
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1372
uugagugaga 10

<210> 1373
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1373
angagugcga 10

<210> 1374
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1374
nagagugcga 10

<210> 1375
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1375
aagagugcga 10

<210> 1376
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1376
cagagugcga 10

<210> 1377
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1377
gagagugcga 10

<210> 1378
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1378
uagagugcga 10

<210> 1379
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1379
cngagugcga 10

<210> 1380
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1380
ncgagugcga 10

<210> 1381
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1381
acgagugcga 10

<210> 1382
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1382
ccgagugcga 10

<210> 1383
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1383
gcgagugcga 10

<210> 1384
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1384
ucgagugcga 10

<210> 1385
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1385
gngagugcga 10

<210> 1386
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1386
nggagugcga 10

<210> 1387
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1387
aggagugcga 10

<210> 1388
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1388
cggagugcga 10

<210> 1389
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1389
gggagugcga 10

<210> 1390
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1390
uggagugcga 10

<210> 1391
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1391
ungagugcga 10

<210> 1392
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1392
nugagugcga 10

<210> 1393
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1393
augagugcga 10

<210> 1394
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1394
cugagugcga 10

<210> 1395
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1395
gugagugcga 10

<210> 1396
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1396
uugagugcga 10

<210> 1397
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1397
angaguggga 10

<210> 1398
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1398
nagaguggga 10

<210> 1399
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1399
aagaguggga 10

<210> 1400
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1400
cagaguggga 10

<210> 1401
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1401
gagaguggga 10

<210> 1402
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1402
uagaguggga 10

<210> 1403
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1403
cngaguggga 10

<210> 1404
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1404
ncgaguggga 10

<210> 1405
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1405
acgaguggga 10

<210> 1406
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1406
ccgaguggga 10

<210> 1407
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1407
gcgaguggga 10

<210> 1408
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1408
ucgaguggga 10

<210> 1409
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1409
gngaguggga 10

<210> 1410
<211> 10
<212> RNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1410
nggaguggga 10

<210> 1411
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1411
aggaguggga 10

<210> 1412
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1412
cggaguggga 10

<210> 1413
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1413
gggaguggga 10

<210> 1414
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1414
uggaguggga 10

<210> 1415
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1415
ungaguggga 10

<210> 1416
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1416
nugaguggga 10

<210> 1417
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1417
augaguggga 10

<210> 1418
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1418
cugaguggga 10

<210> 1419
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1419
gugaguggga 10

<210> 1420
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1420
uugaguggga 10

<210> 1421
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)

<223> n is a, c, g, or u

<400> 1421
angaguguga 10

<210> 1422
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1422
nagaguguga 10

<210> 1423
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1423
aagaguguga 10

<210> 1424
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1424
cagaguguga 10

<210> 1425
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1425
gagaguguga 10

<210> 1426
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1426
uagaguguga 10

<210> 1427
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1427
cngaguguga 10

<210> 1428
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1428
ncgaguguga 10

<210> 1429
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1429
acgaguguga 10

<210> 1430
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1430
ccgaguguga 10

<210> 1431
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1431
gcgaguguga 10

<210> 1432
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1432
ucgaguguga 10

<210> 1433
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1433
gngaguguga 10

<210> 1434
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1434
nggaguguga 10

<210> 1435
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1435
aggaguguga 10

<210> 1436
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1436
cggaguguga 10

<210> 1437
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1437
gggaguguga 10

<210> 1438
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1438
uggaguguga 10

<210> 1439
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1439
ungaguguga 10

<210> 1440
<211> 10

<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1440
nugaguguga 10

<210> 1441
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1441
augaguguga 10

<210> 1442
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1442
cugaguguga 10

<210> 1443
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1443
gugaguguga 10

<210> 1444
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1444
uugaguguga 10

<210> 1445
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1445
angagugagc 10

<210> 1446
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1446
nagagugagc 10

<210> 1447
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1447
aagagugagc 10

<210> 1448
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1448
cagagugagc 10

<210> 1449
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1449
gagagugagc 10

<210> 1450
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1450
uagagugagc 10

<210> 1451
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1451
cngagugagc 10

<210> 1452
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1452
ncgagugagc 10

<210> 1453
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1453
acgagugagc 10

<210> 1454
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1454
ccgagugagc 10

<210> 1455
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1455
gcgagugagc 10

<210> 1456
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1456
ucgagugagc 10

<210> 1457
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1457
gngagugagc 10

<210> 1458
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1458
nggagugagc 10

<210> 1459
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1459
aggagugagc 10

<210> 1460
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1460
cggagugagc 10

<210> 1461
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1461
gggagugagc 10

<210> 1462
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1462
uggagugagc 10

<210> 1463
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1463
ungagugagc 10

<210> 1464
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1464
nugagugagc 10

<210> 1465
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1465
augagugagc 10

<210> 1466
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1466
cugagugagc 10

<210> 1467
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1467
gugagugagc 10

<210> 1468
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1468
uugagugagc 10

<210> 1469
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1469
angagugcgc 10

<210> 1470
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1470
nagagugcgc 10

<210> 1471
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1471
aagagugcgc 10

<210> 1472
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1472
cagagugcgc 10

<210> 1473
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1473
gagagugcgc 10

<210> 1474
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1474
uagagugcgc 10

<210> 1475
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1475
cngagugcgc 10

<210> 1476
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1476
ncgagugcgc 10

<210> 1477
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1477
acgagugcgc 10

<210> 1478
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1478
ccgagugcgc 10

<210> 1479
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1479
gcgagugcgc 10

<210> 1480
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1480
ucgagugcgc 10

<210> 1481
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1481
gngagugcgc 10

<210> 1482
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1482
nggagugcgc 10

<210> 1483
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1483
aggagugcgc 10

<210> 1484
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1484
cggagugcgc 10

<210> 1485
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1485
gggagugcgc 10

<210> 1486
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1486
uggagugcgc 10

<210> 1487
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1487
ungagugcgc 10

<210> 1488
<211> 10
<212> RNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1488
nugagugcgc 10

<210> 1489
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1489
augagugcgc 10

<210> 1490
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1490
cugagugcgc 10

<210> 1491
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1491
gugagugcgc 10

<210> 1492
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1492
uugagugcgc 10

<210> 1493
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1493
angagugggc 10

<210> 1494
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1494
nagagugggc 10

<210> 1495
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1495
aagagugggc 10

<210> 1496
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1496
cagagugggc 10

<210> 1497
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1497
gagagugggc 10

<210> 1498
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1498
uagagugggc 10

<210> 1499
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)

<223> n is a, c, g, or u

<400> 1499
cngaguggc 10

<210> 1500
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1500
ncgaguggc 10

<210> 1501
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1501
acgaguggc 10

<210> 1502
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1502
ccgaguggc 10

<210> 1503
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1503
gcgagugggc 10

<210> 1504
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1504
ucgagugggc 10

<210> 1505
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1505
gngagugggc 10

<210> 1506
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1506
nggaugggc 10

<210> 1507
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1507
aggaugggc 10

<210> 1508
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1508
cggaugggc 10

<210> 1509
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1509
gggaugggc 10

<210> 1510
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1510
uggaugggc 10

<210> 1511
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1511
ungaugggc 10

<210> 1512
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1512
nugaugggc 10

<210> 1513
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1513
augaugggc 10

<210> 1514
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1514
cugaugggc 10

<210> 1515
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1515
gugaugggc 10

<210> 1516
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1516
uugaugggc 10

<210> 1517
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1517
angagugugc 10

<210> 1518
<211> 10

<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1518
nagagugugc 10

<210> 1519
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1519
aagagugugc 10

<210> 1520
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1520
cagagugugc 10

<210> 1521
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1521
gagagugugc 10

<210> 1522
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1522
uagagugugc 10

<210> 1523
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1523
cngagugugc 10

<210> 1524
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1524
ncgagugugc 10

<210> 1525
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1525
acgagugugc 10

<210> 1526
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1526
ccgagugugc 10

<210> 1527
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1527
gcgagugugc 10

<210> 1528
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1528
ucgagugugc 10

<210> 1529
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1529
gngagugugc 10

<210> 1530
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1530
nggagugugc 10

<210> 1531
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1531
aggagugugc 10

<210> 1532
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1532
cggagugugc 10

<210> 1533
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1533
gggagugugc 10

<210> 1534
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1534
uggagugugc 10

<210> 1535
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1535
ungagugugc 10

<210> 1536
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1536
nugagugugc 10

<210> 1537
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1537
augagugugc 10

<210> 1538
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1538
cugagugugc 10

<210> 1539
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1539
gugagugugc 10

<210> 1540
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1540
uugagugugc 10

<210> 1541
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1541
angagugagg 10

<210> 1542
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1542
nagagugagg 10

<210> 1543
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1543
aagagugagg 10

<210> 1544
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1544
cagagugagg 10

<210> 1545
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1545
gagagugagg 10

<210> 1546
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1546
uagagugagg 10

<210> 1547
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1547
cngagugagg 10

<210> 1548
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1548
ncgagugagg 10

<210> 1549
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1549
acgagugagg 10

<210> 1550
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1550
ccgagugagg 10

<210> 1551
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1551
gcgagugagg 10

<210> 1552
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1552
ucgagugagg 10

<210> 1553
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1553
gngagugagg 10

<210> 1554
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1554
nggagugagg 10

<210> 1555
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1555
aggagugagg 10

<210> 1556
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1556
cggagugagg 10

<210> 1557
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1557
gggagugagg 10

<210> 1558
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1558
uggagugagg 10

<210> 1559
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1559
ungagugagg 10

<210> 1560
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1560
nugagugagg 10

<210> 1561
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1561
augagugagg 10

<210> 1562
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1562
cugagugagg 10

<210> 1563
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1563
gugagugagg 10

<210> 1564
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1564
uugagugagg 10

<210> 1565
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1565
angagugcgg 10

<210> 1566
<211> 10
<212> RNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1566
nagagugcgg 10

<210> 1567
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1567
aagagugcgg 10

<210> 1568
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1568
cagagugcgg 10

<210> 1569
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1569
gagagugcgg 10

<210> 1570
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1570
uagagugcgg 10

<210> 1571
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1571
cngagugcgg 10

<210> 1572
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1572
ncgagugcgg 10

<210> 1573
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1573
acgagugcgg 10

<210> 1574
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1574
ccgagugcgg 10

<210> 1575
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1575
gcgagugcgg 10

<210> 1576
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1576
ucgagugcgg 10

<210> 1577
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)

<223> n is a, c, g, or u

<400> 1577
gngagugcgg 10

<210> 1578
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1578
nggagugcgg 10

<210> 1579
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1579
aggagugcgg 10

<210> 1580
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1580
cggagugcgg 10

<210> 1581
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1581
gggagugcgg 10

<210> 1582
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1582
uggagugcgg 10

<210> 1583
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1583
ungagugcgg 10

<210> 1584
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1584
nugagugcgg 10

<210> 1585
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1585
augagugcgg 10

<210> 1586
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1586
cugagugcgg 10

<210> 1587
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1587
gugagugcgg 10

<210> 1588
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1588
uugagugcgg 10

<210> 1589
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1589
angaguggg 10

<210> 1590
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1590
nagaguggg 10

<210> 1591
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1591
aagaguggg 10

<210> 1592
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1592
cagagugggg 10

<210> 1593
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1593
gagagugggg 10

<210> 1594
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1594
uagagugggg 10

<210> 1595
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1595
cngagugggg 10

<210> 1596
<211> 10

<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1596
ncgaguggg 10

<210> 1597
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1597
acgaguggg 10

<210> 1598
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1598
ccgaguggg 10

<210> 1599
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1599
gcgaguggg 10

<210> 1600
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1600
ucgaguggg 10

<210> 1601
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1601
gngaguggg 10

<210> 1602
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1602
nggaguggg 10

<210> 1603
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1603
aggagugggg 10

<210> 1604
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1604
cggagugggg 10

<210> 1605
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1605
gggagugggg 10

<210> 1606
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1606
uggagugggg 10

<210> 1607
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1607
ungaguggg 10

<210> 1608
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1608
nugaguggg 10

<210> 1609
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1609
augaguggg 10

<210> 1610
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1610
cugaguggg 10

<210> 1611
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1611
gugagugggg 10

<210> 1612
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1612
uugagugggg 10

<210> 1613
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1613
angagugugg 10

<210> 1614
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1614
nagagugugg 10

<210> 1615
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1615
aagagugugg 10

<210> 1616
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1616
cagagugugg 10

<210> 1617
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1617
gagagugugg 10

<210> 1618
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1618
uagagugugg 10

<210> 1619
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1619
cngagugugg 10

<210> 1620
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1620
ncgagugugg 10

<210> 1621
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1621
acgagugugg 10

<210> 1622
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1622
ccgagugugg 10

<210> 1623
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1623
gcgagugugg 10

<210> 1624
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1624
ucgagugugg 10

<210> 1625
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1625
gngagugugg 10

<210> 1626
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1626
nggagugugg 10

<210> 1627
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1627
aggagugugg 10

<210> 1628
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1628
cggagugugg 10

<210> 1629
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1629
gggagugugg 10

<210> 1630
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1630
uggagugugg 10

<210> 1631
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1631
ungagugugg 10

<210> 1632
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1632
nugagugugg 10

<210> 1633
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1633
augagugugg 10

<210> 1634
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1634
cugagugugg 10

<210> 1635
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1635
gugagugugg 10

<210> 1636
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1636
uugagugugg 10

<210> 1637
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1637
angagugagu 10

<210> 1638
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1638
nagagugagu 10

<210> 1639
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1639
aagagugagu 10

<210> 1640
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1640
cagagugagu 10

<210> 1641
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1641
gagagugagu 10

<210> 1642
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1642
uagagugagu 10

<210> 1643
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1643
cngagugagu 10

<210> 1644
<211> 10
<212> RNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1644
ncgagugagu 10

<210> 1645
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1645
acgagugagu 10

<210> 1646
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1646
ccgagugagu 10

<210> 1647
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1647
gcgagugagu 10

<210> 1648
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1648
ucgagugagu 10

<210> 1649
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1649
gngagugagu 10

<210> 1650
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1650
nggagugagu 10

<210> 1651
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1651
aggagugagu 10

<210> 1652
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1652
cggagugagu 10

<210> 1653
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1653
gggagugagu 10

<210> 1654
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1654
uggagugagu 10

<210> 1655
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)

<223> n is a, c, g, or u

<400> 1655
ungagugagu 10

<210> 1656
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1656
nugagugagu 10

<210> 1657
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1657
augagugagu 10

<210> 1658
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1658
cugagugagu 10

<210> 1659
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1659
gugagugagu 10

<210> 1660
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1660
uugagugagu 10

<210> 1661
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1661
angagugcgu 10

<210> 1662
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1662
nagagugcgu 10

<210> 1663
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1663
aagagugcgu 10

<210> 1664
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1664
cagagugcgu 10

<210> 1665
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1665
gagagugcgu 10

<210> 1666
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1666
uagagugcgu 10

<210> 1667
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1667
cngagugcgu 10

<210> 1668
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1668
ncgagugcgu 10

<210> 1669
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1669
acgagugcgu 10

<210> 1670
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1670
ccgagugcgu 10

<210> 1671
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1671
gcgagugcgu 10

<210> 1672
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1672
ucgagugcgu 10

<210> 1673
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1673
gngagugcgu 10

<210> 1674
<211> 10

<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1674
nggagugcgu 10

<210> 1675
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1675
aggagugcgu 10

<210> 1676
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1676
cggagugcgu 10

<210> 1677
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1677
gggagugcgu 10

<210> 1678
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1678
uggagugcgu 10

<210> 1679
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1679
ungagugcgu 10

<210> 1680
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1680
nugagugcgu 10

<210> 1681
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1681
augagugcgu 10

<210> 1682
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1682
cugagugcgu 10

<210> 1683
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1683
gugagugcgu 10

<210> 1684
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1684
uugagugcgu 10

<210> 1685
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1685
angagugggu 10

<210> 1686
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1686
nagagugggu 10

<210> 1687
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1687
aagagugggu 10

<210> 1688
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1688
cagagugggu 10

<210> 1689
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1689
gagagugggu 10

<210> 1690
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1690
uagagugggu 10

<210> 1691
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1691
cngagugggu 10

<210> 1692
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1692
ncgaguggu 10

<210> 1693
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1693
acgaguggu 10

<210> 1694
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1694
ccgaguggu 10

<210> 1695
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1695
gcgaguggu 10

<210> 1696
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1696
ucgaugggu 10

<210> 1697
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1697
gngaugggu 10

<210> 1698
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1698
nggaugggu 10

<210> 1699
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1699
aggaugggu 10

<210> 1700
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1700
cggagugggu 10

<210> 1701
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1701
gggagugggu 10

<210> 1702
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1702
uggagugggu 10

<210> 1703
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1703
ungagugggu 10

<210> 1704
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1704
nugaguggu 10

<210> 1705
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1705
augaguggu 10

<210> 1706
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1706
cugaguggu 10

<210> 1707
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1707
gugagugggu 10

<210> 1708
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1708
uugagugggu 10

<210> 1709
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1709
angagugugu 10

<210> 1710
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1710
nagagugugu 10

<210> 1711
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1711
aagagugugu 10

<210> 1712
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1712
cagagugugu 10

<210> 1713
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1713
gagagugugu 10

<210> 1714
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1714
uagagugugu 10

<210> 1715
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1715
cngagugugu 10

<210> 1716
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1716
ncgagugugu 10

<210> 1717
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1717
acgagugugu 10

<210> 1718
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1718
ccgagugugu 10

<210> 1719
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1719
gcgagugugu 10

<210> 1720
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1720
ucgagugugu 10

<210> 1721
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1721
gngagugugu 10

<210> 1722
<211> 10
<212> RNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1722
nggagugugu 10

<210> 1723
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1723
aggagugugu 10

<210> 1724
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1724
cggagugugu 10

<210> 1725
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1725
gggagugugu 10

<210> 1726
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1726
uggagugugu 10

<210> 1727
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<400> 1727
ungagugugu 10

<210> 1728
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<400> 1728
nugagugugu 10

<210> 1729
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1729
augagugugu 10

<210> 1730
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1730
cugagugugu 10

<210> 1731
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1731
gugagugugu 10

<210> 1732
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1732
uugagugugu 10

<210> 1733
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)

<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1733
angagugnga 10

<210> 1734
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1734
nagagugnga 10

<210> 1735
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1735
aagagugnga 10

<210> 1736
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1736
cagagugnga 10

<210> 1737
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1737
gagagugnga 10

<210> 1738
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1738
uagagugnga 10

<210> 1739
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1739
cngagugnga 10

<210> 1740
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1740
ncgagugnga 10

<210> 1741
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1741
acgagugnga 10

<210> 1742
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1742
ccgagugnga 10

<210> 1743
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1743
gcgagugnga 10

<210> 1744
<211> 10

<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1744
ucgagugnga 10

<210> 1745
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1745
gngagugnga 10

<210> 1746
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1746
nggagugnga 10

<210> 1747
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1747
aggagugnga 10

<210> 1748
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1748
cggagugnga 10

<210> 1749
<211> 10
<212> RNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1749
gggagugnga 10

<210> 1750
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1750
uggagugnga 10

<210> 1751
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1751
ungagugnga 10

<210> 1752
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1752
nugagugnga 10

<210> 1753
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1753
augagugnga 10

<210> 1754
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1754
cugagugnga 10

<210> 1755
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1755
gugagugnga 10

<210> 1756
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1756
uugagugnga 10

<210> 1757
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1757
angagugngc 10

<210> 1758
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1758
nagagugngc 10

<210> 1759
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1759
aagagugngc 10

<210> 1760
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1760
cagagugngc 10

<210> 1761
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1761
gagagugngc 10

<210> 1762
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)

<223> n is a, c, g, or u

<400> 1762
uagagugngc 10

<210> 1763
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1763
cngagugngc 10

<210> 1764
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1764
ncgagugngc 10

<210> 1765
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1765
acgagugngc 10

<210> 1766
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1766
ccgagugngc 10

<210> 1767
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1767
gcgagugngc 10

<210> 1768
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1768
ucgagugngc 10

<210> 1769
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1769
gngagugngc 10

<210> 1770
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1770
nggagugngc 10

<210> 1771
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1771
aggagugngc 10

<210> 1772
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1772
cggagugngc 10

<210> 1773
<211> 10

<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1773
gggagugngc 10

<210> 1774
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1774
uggagugngc 10

<210> 1775
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1775
ungagugngc 10

<210> 1776
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1776
nugagugngc 10

<210> 1777
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1777
augagugngc 10

<210> 1778
<211> 10
<212> RNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1778
cugagugngc 10

<210> 1779
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1779
gugagugngc 10

<210> 1780
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1780
uugagugngc 10

<210> 1781
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1781
angagugngg 10

<210> 1782
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1782
nagagugngg 10

<210> 1783
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1783
aagagugngg 10

<210> 1784
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1784
cagagugngg 10

<210> 1785
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1785
gagagugngg 10

<210> 1786
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1786
uagagugngg 10

<210> 1787
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1787
cngagugngg 10

<210> 1788
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1788
ncgagugngg 10

<210> 1789
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1789
acgagugngg 10

<210> 1790
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1790
ccgagugngg 10

<210> 1791
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)

<223> n is a, c, g, or u

<400> 1791
gcgagugngg 10

<210> 1792
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1792
ucgagugngg 10

<210> 1793
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1793
gngagugngg 10

<210> 1794
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1794
nggagugngg 10

<210> 1795
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1795
aggagugngg 10

<210> 1796
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1796
cggagugngg 10

<210> 1797
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1797
gggagugngg 10

<210> 1798
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1798
uggagugngg 10

<210> 1799
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1799
ungagugngg 10

<210> 1800
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1800
nugagugngg 10

<210> 1801
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1801
augagugngg 10

<210> 1802
<211> 10

<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1802
cugagugngg 10

<210> 1803
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1803
gugagugngg 10

<210> 1804
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1804
uugagugngg 10

<210> 1805
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1805
angagugngu 10

<210> 1806
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1806
nagagugngu 10

<210> 1807
<211> 10
<212> RNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1807
aagagugngu 10

<210> 1808
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1808
cagagugngu 10

<210> 1809
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1809
gagagugngu 10

<210> 1810
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1810
uagagugngu 10

<210> 1811
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1811
cngagugngu 10

<210> 1812
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>

<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1812
ncgagugngu 10

<210> 1813
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1813
acgagugngu 10

<210> 1814
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1814
ccgagugngu 10

<210> 1815
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1815
gcgagugngu 10

<210> 1816
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1816
ucgagugngu 10

<210> 1817
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1817
gngagugngu 10

<210> 1818

<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1818
nggagugngu 10

<210> 1819
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1819
aggagugngu 10

<210> 1820
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)

<223> n is a, c, g, or u

<400> 1820
cggagugngu 10

<210> 1821
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1821
gggagugngu 10

<210> 1822
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1822
uggagugngu 10

<210> 1823
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1823
ungagugngu 10

<210> 1824
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or u

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1824
nugagugngu 10

<210> 1825
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1825
augagugngu 10

<210> 1826
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1826
cugagugngu 10

<210> 1827
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1827
gugagugngu 10

<210> 1828
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or u

<400> 1828
uugagugngu 10

<210> 1829
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1829
angagtrngn 10

<210> 1830
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>

<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1830
nagagtrngn 10

<210> 1831
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1831
aagagtrngn 10

<210> 1832
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1832
cagagtrngn 10

<210> 1833
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1833
gagagtrngn 10

<210> 1834
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1834
tagagtrngn 10

<210> 1835
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1835
cngagtrngn 10

<210> 1836
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1836
ncgagtrngn 10

<210> 1837
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1837
acgagtrngn 10

<210> 1838
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1838
ccgagtrngn 10

<210> 1839
<211> 10
<212> DNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1839
gcgagtrngn 10

<210> 1840
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1840
tcgagtrngn 10

<210> 1841
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)

<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1841
gngagtrngn 10

<210> 1842
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1842
nggagtrngn 10

<210> 1843
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1843
aggagtrngn 10

<210> 1844
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1844
cggagtrngn 10

<210> 1845
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1845
gggagtrngn 10

<210> 1846
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1846
tggagtrngn 10

<210> 1847
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>

<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1847
tngagtrngn 10

<210> 1848
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1848
ntgagtrngn 10

<210> 1849
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature

<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1849
atgagtrngn 10

<210> 1850
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1850
ctgagtrngn 10

<210> 1851
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1851
gtgagtrngn 10

<210> 1852
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1852
ttgagtrngn 10

<210> 1853
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1853
angagtragn 10

<210> 1854
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1854
nagagtragn 10

<210> 1855
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1855
aagagtragn 10

<210> 1856
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1856
cagagtragn 10

<210> 1857
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1857
gagagtragn 10

<210> 1858
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1858
tagagtragn 10

<210> 1859
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1859
cngagtragn 10

<210> 1860
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1860
ncgagtragn 10

<210> 1861
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1861
acgagtragn 10

<210> 1862
<211> 10

<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1862
ccgagtragn 10

<210> 1863
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1863
gcgagtragn 10

<210> 1864
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1864
tcgagtragn 10

<210> 1865
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1865
gngagtragn 10

<210> 1866
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1866
nggagtragn 10

<210> 1867
<211> 10
<212> DNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1867
aggagtragn 10

<210> 1868
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1868
cggagtragn 10

<210> 1869
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1869
gggagtragn 10

<210> 1870
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1870
tggagtragn 10

<210> 1871
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1871
tngagtragn 10

<210> 1872
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>

<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1872
ntgagtragn 10

<210> 1873
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1873
atgagtragn 10

<210> 1874
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1874
ctgagtragn 10

<210> 1875
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1875
gtgagtragn 10

<210> 1876
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1876
ttgagtragn 10

<210> 1877
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1877
angagtrcgn 10

<210> 1878

<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1878
nagagtrcgn 10

<210> 1879
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1879
aagagtrcgn 10

<210> 1880
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)

<223> n is a, c, g, or t

<400> 1880
cagagtrcgn 10

<210> 1881
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1881
gagagtrcgn 10

<210> 1882
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1882
tagagtrcgn 10

<210> 1883
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1883
cngagtrcgn 10

<210> 1884
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1884
ncgagtrcgn 10

<210> 1885
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1885
acgagtrcgn 10

<210> 1886
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1886
ccgagtrcgn 10

<210> 1887
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1887
gcgagtrcgn 10

<210> 1888
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1888
tcgagtrcgn 10

<210> 1889
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1889
gngagtrcgn 10

<210> 1890
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1890
nggagtrcgn 10

<210> 1891
<211> 10

<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1891
aggagtrcgn 10

<210> 1892
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1892
cggagtrcgn 10

<210> 1893
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1893
gggagtrcgn 10

<210> 1894
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1894
tggagtrcgn 10

<210> 1895
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1895
tngagtrcgn 10

<210> 1896
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature

<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1896
ntgagtrcgn 10

<210> 1897
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1897
atgagtrcgn 10

<210> 1898
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1898
ctgagtrcgn 10

<210> 1899
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1899
gtgagtrcgn 10

<210> 1900
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1900
ttgagtrcgn 10

<210> 1901
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1901

angagtrggn 10

<210> 1902
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1902
nagagtrggn 10

<210> 1903
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1903
aagagtrggn 10

<210> 1904
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1904
cagagtrggn 10

<210> 1905
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1905
gagagtrggn 10

<210> 1906
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1906
tagagtrggn 10

<210> 1907
<211> 10
<212> DNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1907
cngagtrggn 10

<210> 1908
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1908
ncgagtrggn 10

<210> 1909
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)

<223> n is a, c, g, or t

<400> 1909
acgagtrggn 10

<210> 1910
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1910
ccgagtrggn 10

<210> 1911
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1911
gcgagtrggn 10

<210> 1912
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1912
tcgagtrggn 10

<210> 1913
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1913
gngagtrggn 10

<210> 1914
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1914
nggagtrggn 10

<210> 1915
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1915
aggagtrggn 10

<210> 1916
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1916
cggagtrggn 10

<210> 1917
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1917
gggagtrggn 10

<210> 1918
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1918
tggagtrggn 10

<210> 1919
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1919
tngagtrggn 10

<210> 1920
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1920
ntgagtrggn 10

<210> 1921
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1921
atgagtrggn 10

<210> 1922
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1922
ctgagtrggn 10

<210> 1923
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1923
gtgagtrggn 10

<210> 1924
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1924
ttgagtrggn 10

<210> 1925
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature

<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1925
angagtrtgn 10

<210> 1926
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1926
nagagtrtgn 10

<210> 1927
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1927
aagagtrtgn 10

<210> 1928
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1928
cagagtrtgn 10

<210> 1929
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1929
gagagtrtgn 10

<210> 1930
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1930
tagagtrtgn 10

<210> 1931
<211> 10

<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1931
cngagtrtgn 10

<210> 1932
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1932
ncgagtrtgn 10

<210> 1933
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1933
acgagtrtgn 10

<210> 1934
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1934
ccgagtrtgn 10

<210> 1935
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1935
gcgagtrtgn 10

<210> 1936
<211> 10
<212> DNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1936
tcgagtrtgn 10

<210> 1937
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1937
gngagtrtgn 10

<210> 1938
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)

<223> n is a, c, g, or t

<400> 1938
nggagtrtgn 10

<210> 1939
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1939
aggagtrtgn 10

<210> 1940
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1940
cggagtrtgn 10

<210> 1941
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1941
gggagtrtgn 10

<210> 1942
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1942
tggagtrtgn 10

<210> 1943
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1943
tngagtrtgn 10

<210> 1944
<211> 10
<212> DNA

<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1944
ntgagtrtgn 10

<210> 1945
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1945
atgagtrtgn 10

<210> 1946
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1946
ctgagtrtgn 10

<210> 1947
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1947
gtgagtrtgn 10

<210> 1948
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 1948
ttgagtrtgn 10

<210> 1949
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)

<223> n is a, c, g, or t

<400> 1949
angagtraga 10

<210> 1950
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 1950
nagagtraga 10

<210> 1951
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1951
aagagtraga 10

<210> 1952
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1952
cagagtraga 10

<210> 1953
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1953
gagagtraga 10

<210> 1954
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1954
tagagtraga 10

<210> 1955
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 1955
cngagtraga 10

<210> 1956
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 1956
ncgagtraga 10

<210> 1957
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1957
acgagtraga 10

<210> 1958
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1958
ccgagtraga 10

<210> 1959
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1959
gcgagtraga 10

<210> 1960
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1960
tcgagtraga 10

<210> 1961
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 1961
gngagtraga 10

<210> 1962
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 1962
nggagtraga 10

<210> 1963
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1963
aggagtraga 10

<210> 1964
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1964
cggagtraga 10

<210> 1965
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1965
gggagtraga 10

<210> 1966
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1966
tggagtraga 10

<210> 1967
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 1967
tngagtraga 10

<210> 1968
<211> 10

<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 1968
ntgagtraga 10

<210> 1969
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1969
atgagtraga 10

<210> 1970
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1970
ctgagtraga 10

<210> 1971
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1971
gtgagtraga 10

<210> 1972
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1972
ttgagtraga 10

<210> 1973
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 1973
angagtrcga 10

<210> 1974
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 1974
nagagtrcga 10

<210> 1975
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1975
aagagtrcga 10

<210> 1976
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1976
cagagtrcga 10

<210> 1977
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1977
gagagtrcga 10

<210> 1978
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1978
tagagtrcga 10

<210> 1979
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 1979
cngagtrcga 10

<210> 1980
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 1980
ncgagtrcga 10

<210> 1981
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1981
acgagtrcga 10

<210> 1982
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1982
ccgagtrcga 10

<210> 1983
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1983
gcgagtrcga 10

<210> 1984
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1984
tcgagtrcga 10

<210> 1985
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 1985
gngagtrcga 10

<210> 1986
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 1986
nggagtrcga 10

<210> 1987
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1987
aggagtrcga 10

<210> 1988
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1988
cggagtrcga 10

<210> 1989
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1989
gggagtrcga 10

<210> 1990
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1990
tggagtrcga 10

<210> 1991
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 1991
tngagtrcga 10

<210> 1992
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 1992
ntgagtrcga 10

<210> 1993
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1993
atgagtrcga 10

<210> 1994
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1994
ctgagtrcga 10

<210> 1995
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1995
gtgagtrcga 10

<210> 1996
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1996
ttgagtrcga 10

<210> 1997
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 1997
angagtrgga 10

<210> 1998
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 1998
nagagtrgga 10

<210> 1999
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 1999
aagagtrgga 10

<210> 2000
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2000
cagagtrgga 10

<210> 2001
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2001
gagagtrgga 10

<210> 2002
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2002
tagagtrgga 10

<210> 2003
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2003
cngagtrgga 10

<210> 2004
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2004
ncgagtrgga 10

<210> 2005
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2005
acgagtrgga 10

<210> 2006
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2006
ccgagtrgga 10

<210> 2007
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2007
gcgagtrgga 10

<210> 2008
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2008
tcgagtrgga 10

<210> 2009
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2009
gngagtrgga 10

<210> 2010
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2010
nggagtrgga 10

<210> 2011
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2011
aggagtrgga 10

<210> 2012
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2012
cggagtrgga 10

<210> 2013
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2013
gggagtrgga 10

<210> 2014
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2014
tggagtrgga 10

<210> 2015
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2015
tngagtrgga 10

<210> 2016
<211> 10
<212> DNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2016
ntgagtrgga 10

<210> 2017
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2017
atgagtrgga 10

<210> 2018
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2018
ctgagtrgga 10

<210> 2019
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2019
gtgagtrgga 10

<210> 2020
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2020
ttgagtrgga 10

<210> 2021
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2021
angagtrtga 10

<210> 2022
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2022
nagagtrtga 10

<210> 2023
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2023
aagagtrtga 10

<210> 2024
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2024
cagagtrtga 10

<210> 2025
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2025
gagagtrtga 10

<210> 2026
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2026
tagagtrtga 10

<210> 2027
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)

<223> n is a, c, g, or t

<400> 2027
cngagtrtga 10

<210> 2028
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2028
ncgagtrtga 10

<210> 2029
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2029
acgagtrtga 10

<210> 2030
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2030
ccgagtrtga 10

<210> 2031
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2031
gcgagtrtga 10

<210> 2032
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2032
tcgagtrtga 10

<210> 2033
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2033
gngagtrtga 10

<210> 2034
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2034
nggagtrtga 10

<210> 2035
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2035
aggagtrtga 10

<210> 2036
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2036
cggagtrtga 10

<210> 2037
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2037
gggagtrtga 10

<210> 2038
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2038
tggagtrtga 10

<210> 2039
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2039
tngagtrtga 10

<210> 2040
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2040
ntgagtrtga 10

<210> 2041
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2041
atgagtrtga 10

<210> 2042
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2042
ctgagtrtga 10

<210> 2043
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2043
gtgagtrtga 10

<210> 2044
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2044
ttgagtrtga 10

<210> 2045
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2045
angagtragc 10

<210> 2046
<211> 10

<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2046
nagagtragc 10

<210> 2047
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2047
aagagtragc 10

<210> 2048
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2048
cagagtragc 10

<210> 2049
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2049
gagagtragc 10

<210> 2050
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2050
tagagtragc 10

<210> 2051
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2051
cngagtragc 10

<210> 2052
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2052
ncgagtragc 10

<210> 2053
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2053
acgagtragc 10

<210> 2054
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2054
ccgagtragc 10

<210> 2055
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2055
gcgagtragc 10

<210> 2056
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2056
tcgagtragc 10

<210> 2057
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2057
gngagtragc 10

<210> 2058
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2058
nggagtragc 10

<210> 2059
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2059
aggagtragc 10

<210> 2060
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2060
cggagtragc 10

<210> 2061
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2061
gggagtragc 10

<210> 2062
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2062
tggagtragc 10

<210> 2063
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2063
tngagtragc 10

<210> 2064
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2064
ntgagtragc 10

<210> 2065
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2065
atgagtragc 10

<210> 2066
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2066
ctgagtragc 10

<210> 2067
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2067
gtgagtragc 10

<210> 2068
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2068
ttgagtragc 10

<210> 2069
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2069
angagtrcgc 10

<210> 2070
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2070
nagagtrcgc 10

<210> 2071
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2071
aagagtrcgc 10

<210> 2072
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2072
cagagtrcgc 10

<210> 2073
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2073
gagagtrcgc 10

<210> 2074
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2074
tagagtrcgc 10

<210> 2075
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2075
cngagtrcgc 10

<210> 2076
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2076
ncgagtrcgc 10

<210> 2077
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2077
acgagtrcgc 10

<210> 2078
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2078
ccgagtrcgc 10

<210> 2079
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2079
gcgagtrcgc 10

<210> 2080
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2080
tcgagtrcgc 10

<210> 2081
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2081
gngagtrcgc 10

<210> 2082
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2082
nggagtrcgc 10

<210> 2083
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2083
aggagtrcgc 10

<210> 2084
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2084
cggagtrcgc 10

<210> 2085
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2085
gggagtrcgc 10

<210> 2086
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2086
tggagtrcgc 10

<210> 2087
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2087
tngagtrcgc 10

<210> 2088
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2088
ntgagtrcgc 10

<210> 2089
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2089
atgagtrcgc 10

<210> 2090
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2090
ctgagtrcgc 10

<210> 2091
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2091
gtgagtrcgc 10

<210> 2092
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2092
ttgagtrcgc 10

<210> 2093
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2093
angagtrggc 10

<210> 2094
<211> 10
<212> DNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2094
nagagtrggc 10

<210> 2095
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2095
aagagtrggc 10

<210> 2096
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2096
cagagtrggc 10

<210> 2097
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2097
gagagtrggc 10

<210> 2098
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2098
tagagtrggc 10

<210> 2099
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2099
cngagtrggc 10

<210> 2100
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2100
ncgagtrggc 10

<210> 2101
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2101
acgagtrggc 10

<210> 2102
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2102
ccgagtrggc 10

<210> 2103
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2103
gcgagtrggc 10

<210> 2104
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2104
tcgagtrggc 10

<210> 2105
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)

<223> n is a, c, g, or t

<400> 2105
gngagtrggc 10

<210> 2106
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2106
nggagtrggc 10

<210> 2107
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2107
aggagtrggc 10

<210> 2108
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2108
cggagtrggc 10

<210> 2109
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2109
gggagtrggc 10

<210> 2110
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2110
tggagtrggc 10

<210> 2111
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2111
tngagtrggc 10

<210> 2112
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2112
ntgagtrggc 10

<210> 2113
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2113
atgagtrggc 10

<210> 2114
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2114
ctgagtrggc 10

<210> 2115
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2115
gtgagtrggc 10

<210> 2116
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2116
ttgagtrggc 10

<210> 2117
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2117
angagtrtgc 10

<210> 2118
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2118
nagagtrtgc 10

<210> 2119
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2119
aagagtrtgc 10

<210> 2120
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2120
cagagtrtgc 10

<210> 2121
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2121
gagagtrtgc 10

<210> 2122
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2122
tagagtrtgc 10

<210> 2123
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2123
cngagtrtgc 10

<210> 2124
<211> 10

<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2124
ncgagtrtgc 10

<210> 2125
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2125
acgagtrtgc 10

<210> 2126
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2126
ccgagtrtgc 10

<210> 2127
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2127
gcgagtrtgc 10

<210> 2128
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2128
tcgagtrtgc 10

<210> 2129
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2129
gngagtrtgc 10

<210> 2130
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2130
nggagtrtgc 10

<210> 2131
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2131
aggagtrtgc 10

<210> 2132
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2132
cggagtrtgc 10

<210> 2133
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2133
gggagtrtgc 10

<210> 2134
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2134
tggagtrtgc 10

<210> 2135
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2135
tngagtrtgc 10

<210> 2136
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2136
ntgagtrtgc 10

<210> 2137
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2137
atgagtrtgc 10

<210> 2138
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2138
ctgagtrtgc 10

<210> 2139
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2139
gtgagtrtgc 10

<210> 2140
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2140
ttgagtrtgc 10

<210> 2141
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2141
angagtragg 10

<210> 2142
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2142
nagagtragg 10

<210> 2143
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2143
aagagtragg 10

<210> 2144
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2144
cagagtragg 10

<210> 2145
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2145
gagagtragg 10

<210> 2146
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2146
tagagtragg 10

<210> 2147
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2147
cngagtragg 10

<210> 2148
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2148
ncgagtragg 10

<210> 2149
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2149
acgagtragg 10

<210> 2150
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2150
ccgagtragg 10

<210> 2151
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2151
gcgagtragg 10

<210> 2152
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2152
tcgagtragg 10

<210> 2153
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2153
gngagtragg 10

<210> 2154
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2154
nggagtragg 10

<210> 2155
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2155
aggagtragg 10

<210> 2156
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2156
cggagtragg 10

<210> 2157
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2157
gggagtragg 10

<210> 2158
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2158
tggagtragg 10

<210> 2159
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2159
tngagtragg 10

<210> 2160
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2160
ntgagtragg 10

<210> 2161
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2161
atgagtragg 10

<210> 2162
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2162
ctgagtragg 10

<210> 2163
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2163
gtgagtragg 10

<210> 2164
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2164
ttgagtragg 10

<210> 2165
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2165
angagtrcgg 10

<210> 2166
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2166
nagagtrcgg 10

<210> 2167
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2167
aagagtrcgg 10

<210> 2168
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2168
cagagtrcgg 10

<210> 2169
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2169
gagagtrcgg 10

<210> 2170
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2170
tagagtrcgg 10

<210> 2171
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2171
cngagtrcgg 10

<210> 2172
<211> 10
<212> DNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2172
ncgagtrcgg 10

<210> 2173
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2173
acgagtrcgg 10

<210> 2174
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2174
ccgagtrcgg 10

<210> 2175
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2175
gcgagtrcgg 10

<210> 2176
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2176
tcgagtrcgg 10

<210> 2177
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2177
gngagtrcgg 10

<210> 2178
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2178
nggagtrcgg 10

<210> 2179
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2179
aggagtrcgg 10

<210> 2180
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2180
cggagtrcgg 10

<210> 2181
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2181
gggagtrcgg 10

<210> 2182
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2182
tggagtrcgg 10

<210> 2183
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)

<223> n is a, c, g, or t

<400> 2183
tngagtrcgg 10

<210> 2184
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2184
ntgagtrcgg 10

<210> 2185
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2185
atgagtrcgg 10

<210> 2186
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2186
ctgagtrcgg 10

<210> 2187
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2187
gtgagtrcgg 10

<210> 2188
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2188
ttgagtrcgg 10

<210> 2189
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2189
angagtrggg 10

<210> 2190
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2190
nagagtrggg 10

<210> 2191
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2191
aagagtrggg 10

<210> 2192
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2192
cagagtrggg 10

<210> 2193
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2193
gagagtrggg 10

<210> 2194
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2194
tagagtrggg 10

<210> 2195
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2195
cngagtrggg 10

<210> 2196
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2196
ncgagtrggg 10

<210> 2197
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2197
acgagtrggg 10

<210> 2198
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2198
ccgagtrggg 10

<210> 2199
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2199
gcgagtrggg 10

<210> 2200
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2200
tcgagtrggg 10

<210> 2201
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2201
gngagtrggg 10

<210> 2202
<211> 10

<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2202
nggagtrggg 10

<210> 2203
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2203
aggagtrggg 10

<210> 2204
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2204
cggagtrggg 10

<210> 2205
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2205
gggagtrggg 10

<210> 2206
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2206
tggagtrggg 10

<210> 2207
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2207
tngagtrggg 10

<210> 2208
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2208
ntgagtrggg 10

<210> 2209
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2209
atgagtrggg 10

<210> 2210
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2210
ctgagtrggg 10

<210> 2211
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2211
gtgagtrggg 10

<210> 2212
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2212
ttgagtrggg 10

<210> 2213
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2213
angagtrtgg 10

<210> 2214
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2214
nagagtrtgg 10

<210> 2215
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2215
aagagtrtgg 10

<210> 2216
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2216
cagagtrtgg 10

<210> 2217
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2217
gagagtrtgg 10

<210> 2218
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2218
tagagtrtgg 10

<210> 2219
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2219
cngagtrtgg 10

<210> 2220
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2220
ncgagtrtgg 10

<210> 2221
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2221
acgagtrtgg 10

<210> 2222
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2222
ccgagtrtgg 10

<210> 2223
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2223
gcgagtrtgg 10

<210> 2224
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2224
tcgagtrtgg 10

<210> 2225
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2225
gngagtrtgg 10

<210> 2226
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2226
nggagtrtgg 10

<210> 2227
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2227
aggagtrtgg 10

<210> 2228
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2228
cggagtrtgg 10

<210> 2229
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2229
gggagtrtgg 10

<210> 2230
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2230
tggagtrtgg 10

<210> 2231
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2231
tngagtrtgg 10

<210> 2232
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2232
ntgagtrtgg 10

<210> 2233
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2233
atgagtrtgg 10

<210> 2234
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2234
ctgagtrtgg 10

<210> 2235
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2235
gtgagtrtgg 10

<210> 2236
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2236
ttgagtrtgg 10

<210> 2237
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2237
angagtragt 10

<210> 2238
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2238
nagagtragt 10

<210> 2239
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2239
aagagtragt 10

<210> 2240
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2240
cagagtragt 10

<210> 2241
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2241
gagagtragt 10

<210> 2242
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2242
tagagtragt 10

<210> 2243
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2243
cngagtragt 10

<210> 2244
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2244
ncgagtragt 10

<210> 2245
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2245
acgagtragt 10

<210> 2246
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2246
ccgagtragt 10

<210> 2247
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2247
gcgagtragt 10

<210> 2248
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2248
tcgagtragt 10

<210> 2249
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2249
gngagtragt 10

<210> 2250
<211> 10
<212> DNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2250
nggagtragt 10

<210> 2251
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2251
aggagtragt 10

<210> 2252
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2252
cggagtragt 10

<210> 2253
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2253
gggagtragt 10

<210> 2254
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2254
tggagtragt 10

<210> 2255
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2255
tngagtragt 10

<210> 2256
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2256
ntgagtragt 10

<210> 2257
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2257
atgagtragt 10

<210> 2258
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2258
ctgagtragt 10

<210> 2259
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2259
gtgagtragt 10

<210> 2260
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2260
ttgagtragt 10

<210> 2261
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)

<223> n is a, c, g, or t

<400> 2261
angagtrcgt 10

<210> 2262
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2262
nagagtrcgt 10

<210> 2263
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2263
aagagtrcgt 10

<210> 2264
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2264
cagagtrcgt 10

<210> 2265
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2265
gagagtrcgt 10

<210> 2266
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2266
tagagtrcgt 10

<210> 2267
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2267
cngagtrcgt 10

<210> 2268
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2268
ncgagtrcgt 10

<210> 2269
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2269
acgagtrcgt 10

<210> 2270
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2270
ccgagtrcgt 10

<210> 2271
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2271
gcgagtrcgt 10

<210> 2272
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2272
tcgagtrcgt 10

<210> 2273
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2273
gngagtrcgt 10

<210> 2274
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2274
nggagtrcgt 10

<210> 2275
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2275
aggagtrcgt 10

<210> 2276
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2276
cggagtrcgt 10

<210> 2277
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2277
gggagtrcgt 10

<210> 2278
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2278
tggagtrcgt 10

<210> 2279
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2279
tngagtrcgt 10

<210> 2280
<211> 10

<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2280
ntgagtrcgt 10

<210> 2281
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2281
atgagtrcgt 10

<210> 2282
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2282
ctgagtrcgt 10

<210> 2283
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2283
gtgagtrcgt 10

<210> 2284
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2284
ttgagtrcgt 10

<210> 2285
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2285
angagtrggt 10

<210> 2286
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2286
nagagtrggt 10

<210> 2287
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2287
aagagtrggt 10

<210> 2288
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2288
cagagtrggt 10

<210> 2289
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2289
gagagtrggt 10

<210> 2290
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2290
tagagtrggt 10

<210> 2291
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2291
cngagtrggt 10

<210> 2292
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2292
ncgagtrggt 10

<210> 2293
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2293
acgagtrggt 10

<210> 2294
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2294
ccgagtrggt 10

<210> 2295
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2295
gcgagtrggt 10

<210> 2296
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2296
tcgagtrggt 10

<210> 2297
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2297
gngagtrggt 10

<210> 2298
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2298
nggagtrggt 10

<210> 2299
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2299
aggagtrggt 10

<210> 2300
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2300
cggagtrggt 10

<210> 2301
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2301
gggagtrggt 10

<210> 2302
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2302
tggagtrggt 10

<210> 2303
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2303
tngagtrggt 10

<210> 2304
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2304
ntgagtrggt 10

<210> 2305
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2305
atgagtrggt 10

<210> 2306
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2306
ctgagtrggt 10

<210> 2307
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2307
gtgagtrggt 10

<210> 2308
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2308
ttgagtrggt 10

<210> 2309
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2309
angagtrtgt 10

<210> 2310
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2310
nagagtrtgt 10

<210> 2311
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2311
aagagtrtgt 10

<210> 2312
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2312
cagagtrtgt 10

<210> 2313
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2313
gagagtrtgt 10

<210> 2314
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2314
tagagtrtgt 10

<210> 2315
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2315
cngagtrtgt 10

<210> 2316
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2316
ncgagtrtgt 10

<210> 2317
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2317
acgagtrtgt 10

<210> 2318
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2318
ccgagtrtgt 10

<210> 2319
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2319
gcgagtrtgt 10

<210> 2320
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2320
tcgagtrtgt 10

<210> 2321
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2321
gngagtrtgt 10

<210> 2322
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2322
nggagtrtgt 10

<210> 2323
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2323
aggagtrtgt 10

<210> 2324
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2324
cggagtrtgt 10

<210> 2325
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2325
gggagtrtgt 10

<210> 2326
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2326
tggagtrtgt 10

<210> 2327
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2327
tngagtrtgt 10

<210> 2328
<211> 10
<212> DNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2328
ntgagtrtgt 10

<210> 2329
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2329
atgagtrtgt 10

<210> 2330
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2330
ctgagtrtgt 10

<210> 2331
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2331
gtgagtrtgt 10

<210> 2332
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2332
ttgagtrtgt 10

<210> 2333
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2333
angagtrnga 10

<210> 2334
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2334
nagagtrnga 10

<210> 2335
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2335
aagagtrnga 10

<210> 2336
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2336
cagagtrnga 10

<210> 2337
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2337
gagagtrnga 10

<210> 2338
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2338
tagagtrnga 10

<210> 2339
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2339
cngagtrnga 10

<210> 2340
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2340
ncgagtrnga 10

<210> 2341
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2341
acgagtrnga 10

<210> 2342
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2342
ccgagtrnga 10

<210> 2343
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2343
gcgagtrnga 10

<210> 2344
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2344
tcgagtrnga 10

<210> 2345
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature

<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2345
gngagtrnga 10

<210> 2346
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2346
nggagtrnga 10

<210> 2347
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2347
aggagtrnga 10

<210> 2348
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2348
cggagtrnga 10

<210> 2349
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2349
gggagtrnga 10

<210> 2350
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2350
tggagtrnga 10

<210> 2351
<211> 10

<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2351
tngagtrnga 10

<210> 2352
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2352
ntgagtrnga 10

<210> 2353
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2353
atgagtrnga 10

<210> 2354
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2354
ctgagtrnga 10

<210> 2355
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2355
gtgagtrnga 10

<210> 2356
<211> 10
<212> DNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2356
ttgagtrnga 10

<210> 2357
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2357
angagtrngc 10

<210> 2358
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)

<223> n is a, c, g, or t

<400> 2358
nagagtrngc 10

<210> 2359
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2359
aagagtrngc 10

<210> 2360
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2360
cagagtrngc 10

<210> 2361
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2361
gagagtrngc 10

<210> 2362
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2362
tagagtrngc 10

<210> 2363
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2363
cngagtrngc 10

<210> 2364
<211> 10
<212> DNA

<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2364
ncgagtrngc 10

<210> 2365
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2365
acgagtrngc 10

<210> 2366
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2366
ccgagtrngc 10

<210> 2367
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2367
gcgagtrngc 10

<210> 2368
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2368
tcgagtrngc 10

<210> 2369
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)

<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2369
gngagtrngc 10

<210> 2370
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2370
nggagtrngc 10

<210> 2371
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2371
aggagtrngc 10

<210> 2372
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2372
cggagtrngc 10

<210> 2373
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2373
gggagtrngc 10

<210> 2374
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2374
tggagtrngc 10

<210> 2375
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2375
tngagtrngc 10

<210> 2376
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2376
ntgagtrngc 10

<210> 2377
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2377
atgagtrngc 10

<210> 2378
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2378
ctgagtrngc 10

<210> 2379
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2379
gtgagtrngc 10

<210> 2380
<211> 10

<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2380
ttgagtrngc 10

<210> 2381
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2381
angagtrngg 10

<210> 2382
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2382
nagagtrngg 10

<210> 2383
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2383
aagagtrngg 10

<210> 2384
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2384
cagagtrngg 10

<210> 2385
<211> 10
<212> DNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2385
gagagtrngg 10

<210> 2386
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2386
tagagtrngg 10

<210> 2387
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2387
cngagtrngg 10

<210> 2388
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2388
ncgagtrngg 10

<210> 2389
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2389
acgagtrngg 10

<210> 2390
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2390
ccgagtrngg 10

<210> 2391
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2391
gcgagtrngg 10

<210> 2392
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2392
tcgagtrngg 10

<210> 2393
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2393
gngagtrngg 10

<210> 2394
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2394
nggagtrngg 10

<210> 2395
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2395
aggagtrngg 10

<210> 2396
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2396
cggagtrngg 10

<210> 2397
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2397
gggagtrngg 10

<210> 2398
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)

<223> n is a, c, g, or t

<400> 2398
tggagtrngg 10

<210> 2399
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2399
tngagtrngg 10

<210> 2400
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2400
ntgagtrngg 10

<210> 2401
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2401
atgagtrngg 10

<210> 2402
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2402
ctgagtrngg 10

<210> 2403
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2403
gtgagtrngg 10

<210> 2404
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2404
ttgagtrngg 10

<210> 2405
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2405
angagtrngt 10

<210> 2406
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2406
nagagtrngt 10

<210> 2407
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2407
aagagtrngt 10

<210> 2408
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2408
cagagtrngt 10

<210> 2409
<211> 10

<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2409
gagagtrngt 10

<210> 2410
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2410
tagagtrngt 10

<210> 2411
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2411
cngagtrngt 10

<210> 2412
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2412
ncgagtrngt 10

<210> 2413
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2413
acgagtrngt 10

<210> 2414
<211> 10
<212> DNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2414
ccgagtrngt 10

<210> 2415
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2415
gcgagtrngt 10

<210> 2416
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2416
tcgagtrngt 10

<210> 2417
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2417
gngagtrngt 10

<210> 2418
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2418
nggagtrngt 10

<210> 2419
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2419
aggagtrngt 10

<210> 2420
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2420
cggagtrngt 10

<210> 2421
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2421
gggagtrngt 10

<210> 2422
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2422
tggagtrngt 10

<210> 2423
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2423
tngagtrngt 10

<210> 2424
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2424
ntgagtrngt 10

<210> 2425
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2425
atgagtrngt 10

<210> 2426
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2426
ctgagtrngt 10

<210> 2427
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)

<223> n is a, c, g, or t

<400> 2427
gtgagtrngt 10

<210> 2428
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2428
ttgagtrngt 10

<210> 2429
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2429
angagtangn 10

<210> 2430
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2430
nagagtangn 10

<210> 2431
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2431
aagagtangn 10

<210> 2432

<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2432
cagagtangn 10

<210> 2433
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2433
gagagtangn 10

<210> 2434
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2434
tagagtangn 10

<210> 2435
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2435
cngagtangn 10

<210> 2436
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2436
ncgagtangn 10

<210> 2437
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2437
acgagtangn 10

<210> 2438
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2438
ccgagtangn 10

<210> 2439
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2439
gcgagtangn 10

<210> 2440
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>

<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2440
tcgagtangn 10

<210> 2441
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2441
gngagtangn 10

<210> 2442
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature

<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2442
nggagtangn 10

<210> 2443
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2443
aggagtangn 10

<210> 2444
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)

<223> n is a, c, g, or t

<400> 2444
cggagtangn 10

<210> 2445
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2445
gggagtangn 10

<210> 2446
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2446
tggagtangn 10

<210> 2447
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2447
tngagtangn 10

<210> 2448
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2448
ntgagtangn 10

<210> 2449
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2449
atgagtangn 10

<210> 2450
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2450
ctgagtangn 10

<210> 2451
<211> 10

<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2451
gtgagtangn 10

<210> 2452
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2452
ttgagtangn 10

<210> 2453
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2453
angagtaagn 10

<210> 2454
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2454
nagagtaagn 10

<210> 2455
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2455
aagagtaagn 10

<210> 2456
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2456
cagagtaagn 10

<210> 2457
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2457
gagagtaagn 10

<210> 2458
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)

<223> n is a, c, g, or t

<400> 2458
tagagtaagn 10

<210> 2459
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2459
cngagtaagn 10

<210> 2460
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2460
ncgagtaagn 10

<210> 2461
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2461
acgagtaagn 10

<210> 2462
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2462
ccgagtaagn 10

<210> 2463
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2463
gcgagtaagn 10

<210> 2464
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2464
tcgagtaagn 10

<210> 2465
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2465
gngagtaagn 10

<210> 2466
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2466
nggagtaagn 10

<210> 2467
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2467
aggagtaagn 10

<210> 2468
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2468
cggagtaagn 10

<210> 2469
<211> 10

<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2469
gggagtaagn 10

<210> 2470
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2470
tggagtaagn 10

<210> 2471
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2471
tngagtaagn 10

<210> 2472
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2472
ntgagtaagn 10

<210> 2473
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2473
atgagtaagn 10

<210> 2474
<211> 10
<212> DNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2474
ctgagtaagn 10

<210> 2475
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2475
gtgagtaagn 10

<210> 2476
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2476
ttgagtaagn 10

<210> 2477
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2477
angagtacgn 10

<210> 2478
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2478
nagagtacgn 10

<210> 2479
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2479
aagagtacgn 10

<210> 2480
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2480
cagagtacgn 10

<210> 2481
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2481
gagagtacgn 10

<210> 2482
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2482
tagagtacgn 10

<210> 2483
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2483
cngagtacgn 10

<210> 2484
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2484
ncgagtacgn 10

<210> 2485
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2485
acgagtacgn 10

<210> 2486
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2486
ccgagtacgn 10

<210> 2487
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)

<223> n is a, c, g, or t

<400> 2487
gcgagtacgn 10

<210> 2488
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2488
tcgagtacgn 10

<210> 2489
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2489
gngagtacgn 10

<210> 2490
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2490
nggagtacgn 10

<210> 2491
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2491
aggagtacgn 10

<210> 2492
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2492
cggagtacgn 10

<210> 2493
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2493
gggagtacgn 10

<210> 2494
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2494
tggagtacgn 10

<210> 2495
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2495
tngagtacgn 10

<210> 2496
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2496
ntgagtacgn 10

<210> 2497
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2497
atgagtacgn 10

<210> 2498
<211> 10

<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2498
ctgagtacgn 10

<210> 2499
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2499
gtgagtacgn 10

<210> 2500
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2500
ttgagtacgn 10

<210> 2501
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2501
angagtaggn 10

<210> 2502
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2502
nagagtaggn 10

<210> 2503
<211> 10
<212> DNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2503
aagagtaggn 10

<210> 2504
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2504
cagagtaggn 10

<210> 2505
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2505
gagagtaggn 10

<210> 2506
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2506
tagagtaggn 10

<210> 2507
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2507
cngagtaggn 10

<210> 2508
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>

<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2508
ncgagtaggn 10

<210> 2509
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2509
acgagtaggn 10

<210> 2510
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2510
ccgagtaggn 10

<210> 2511
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2511
gcgagtaggn 10

<210> 2512
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2512
tcgagtaggn 10

<210> 2513
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2513
gngagtaggn 10

<210> 2514

<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2514
nggagtaggn 10

<210> 2515
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2515
aggagtaggn 10

<210> 2516
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)

<223> n is a, c, g, or t

<400> 2516
cggagtaggn 10

<210> 2517
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2517
gggagtaggn 10

<210> 2518
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2518
tggagtaggn 10

<210> 2519
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2519
tngagtaggn 10

<210> 2520
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2520
ntgagtaggn 10

<210> 2521
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2521
atgagtaggn 10

<210> 2522
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2522
ctgagtaggn 10

<210> 2523
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2523
gtgagtaggn 10

<210> 2524
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2524
ttgagtaggn 10

<210> 2525
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2525
angagtatgn 10

<210> 2526
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2526
nagagtatgn 10

<210> 2527
<211> 10

<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2527
aagagtatgn 10

<210> 2528
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2528
cagagtatgn 10

<210> 2529
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2529
gagagtatgn 10

<210> 2530
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2530
tagagtatgn 10

<210> 2531
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2531
cngagtatgn 10

<210> 2532
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature

<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2532
ncgagtatgn 10

<210> 2533
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2533
acgagtatgn 10

<210> 2534
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2534
ccgagtatgn 10

<210> 2535
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2535
gcgagtatgn 10

<210> 2536
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2536
tcgagtatgn 10

<210> 2537
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2537

gngagtatgn 10

<210> 2538
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2538
nggagtatgn 10

<210> 2539
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2539
aggagtatgn 10

<210> 2540
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2540
cggagtatgn 10

<210> 2541
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2541
gggagtatgn 10

<210> 2542
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2542
tggagtatgn 10

<210> 2543
<211> 10
<212> DNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2543
tngagtatgn 10

<210> 2544
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2544
ntgagtatgn 10

<210> 2545
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)

<223> n is a, c, g, or t

<400> 2545
atgagtatgn 10

<210> 2546
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2546
ctgagtatgn 10

<210> 2547
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2547
gtgagtatgn 10

<210> 2548
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 2548
ttgagtatgn 10

<210> 2549
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2549
angagtaaga 10

<210> 2550
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2550
nagagtaaga 10

<210> 2551
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2551
aagagtaaga 10

<210> 2552
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2552
cagagtaaga 10

<210> 2553
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2553
gagagtaaga 10

<210> 2554
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2554
tagagtaaga 10

<210> 2555
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)

<223> n is a, c, g, or t

<400> 2555
cngagtaaga 10

<210> 2556
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2556
ncgagtaaga 10

<210> 2557
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2557
acgagtaaga 10

<210> 2558
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2558
ccgagtaaga 10

<210> 2559
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2559
gcgagtaaga 10

<210> 2560
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2560
tcgagtaaga 10

<210> 2561
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2561
gngagtaaga 10

<210> 2562
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2562
nggagtaaga 10

<210> 2563
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2563
aggagtaaga 10

<210> 2564
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2564
cggagtaaga 10

<210> 2565
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2565
gggagtaaga 10

<210> 2566
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2566
tggagtaaga 10

<210> 2567
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2567
tngagtaaga 10

<210> 2568
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2568
ntgagtaaga 10

<210> 2569
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2569
atgagtaaga 10

<210> 2570
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2570
ctgagtaaga 10

<210> 2571
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2571
gtgagtaaga 10

<210> 2572
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2572
ttgagtaaga 10

<210> 2573
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2573
angagtacga 10

<210> 2574
<211> 10

<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2574
nagagtacga 10

<210> 2575
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2575
aagagtacga 10

<210> 2576
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2576
cagagtacga 10

<210> 2577
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2577
gagagtacga 10

<210> 2578
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2578
tagagtacga 10

<210> 2579
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2579
cngagtacga 10

<210> 2580
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2580
ncgagtacga 10

<210> 2581
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2581
acgagtacga 10

<210> 2582
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2582
ccgagtacga 10

<210> 2583
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2583
gcgagtacga 10

<210> 2584
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2584
tcgagtacga 10

<210> 2585
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2585
gngagtacga 10

<210> 2586
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2586
nggagtacga 10

<210> 2587
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2587
aggagtacga 10

<210> 2588
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2588
cggagtacga 10

<210> 2589
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2589
gggagtacga 10

<210> 2590
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2590
tggagtacga 10

<210> 2591
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2591
tngagtacga 10

<210> 2592
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2592
ntgagtacga 10

<210> 2593
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2593
atgagtacga 10

<210> 2594
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2594
ctgagtacga 10

<210> 2595
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2595
gtgagtacga 10

<210> 2596
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2596
ttgagtacga 10

<210> 2597
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2597
angagtagga 10

<210> 2598
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2598
nagagtagga 10

<210> 2599
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2599
aagagtagga 10

<210> 2600
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2600
cagagtagga 10

<210> 2601
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2601
gagagtagga 10

<210> 2602
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2602
tagagtagga 10

<210> 2603
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2603
cngagtagga 10

<210> 2604
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2604
ncgagtagga 10

<210> 2605
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2605
acgagtagga 10

<210> 2606
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2606
ccgagtagga 10

<210> 2607
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2607
gcgagtagga 10

<210> 2608
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2608
tcgagtagga 10

<210> 2609
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2609
gngagtagga 10

<210> 2610
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2610
nggagtagga 10

<210> 2611
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2611
aggagtagga 10

<210> 2612
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2612
cggagtagga 10

<210> 2613
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2613
gggagtagga 10

<210> 2614
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2614
tggagtagga 10

<210> 2615
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2615
tngagtagga 10

<210> 2616
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2616
ntgagtagga 10

<210> 2617
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2617
atgagtagga 10

<210> 2618
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2618
ctgagtagga 10

<210> 2619
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2619
gtgagtagga 10

<210> 2620
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2620
ttgagtagga 10

<210> 2621
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2621
angagtatga 10

<210> 2622
<211> 10
<212> DNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2622
nagagtatga 10

<210> 2623
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2623
aagagtatga 10

<210> 2624
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2624
cagagtatga 10

<210> 2625
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2625
gagagtatga 10

<210> 2626
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2626
tagagtatga 10

<210> 2627
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2627
cngagtatga 10

<210> 2628
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2628
ncgagtatga 10

<210> 2629
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2629
acgagtatga 10

<210> 2630
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2630
ccgagtatga 10

<210> 2631
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2631
gcgagtatga 10

<210> 2632
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2632
tcgagtatga 10

<210> 2633
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)

<223> n is a, c, g, or t

<400> 2633
gngagtatga 10

<210> 2634
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2634
nggagtatga 10

<210> 2635
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2635
aggagtatga 10

<210> 2636
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2636
cggagtatga 10

<210> 2637
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2637
gggagtatga 10

<210> 2638
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2638
tggagtatga 10

<210> 2639
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2639
tngagtatga 10

<210> 2640
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2640
ntgagtatga 10

<210> 2641
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2641
atgagtatga 10

<210> 2642
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2642
ctgagtatga 10

<210> 2643
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2643
gtgagtatga 10

<210> 2644
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2644
ttgagtatga 10

<210> 2645
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2645
angagtaagc 10

<210> 2646
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2646
nagagtaagc 10

<210> 2647
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2647
aagagtaagc 10

<210> 2648
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2648
cagagtaagc 10

<210> 2649
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2649
gagagtaagc 10

<210> 2650
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2650
tagagtaagc 10

<210> 2651
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2651
cngagtaagc 10

<210> 2652
<211> 10

<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2652
ncgagtaagc 10

<210> 2653
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2653
acgagtaagc 10

<210> 2654
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2654
ccgagtaagc 10

<210> 2655
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2655
gcgagtaagc 10

<210> 2656
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2656
tcgagtaagc 10

<210> 2657
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2657
gngagtaagc 10

<210> 2658
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2658
nggagtaagc 10

<210> 2659
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2659
aggagtaagc 10

<210> 2660
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2660
cggagtaagc 10

<210> 2661
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2661
gggagtaagc 10

<210> 2662
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2662
tggagtaagc 10

<210> 2663
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2663
tngagtaagc 10

<210> 2664
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2664
ntgagtaagc 10

<210> 2665
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2665
atgagtaagc 10

<210> 2666
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2666
ctgagtaagc 10

<210> 2667
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2667
gtgagtaagc 10

<210> 2668
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2668
ttgagtaagc 10

<210> 2669
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2669
angagtacgc 10

<210> 2670
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2670
nagagtacgc 10

<210> 2671
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2671
aagagtacgc 10

<210> 2672
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2672
cagagtacgc 10

<210> 2673
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2673
gagagtacgc 10

<210> 2674
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2674
tagagtacgc 10

<210> 2675
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2675
cngagtacgc 10

<210> 2676
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2676
ncgagtacgc 10

<210> 2677
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2677
acgagtacgc 10

<210> 2678
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2678
ccgagtacgc 10

<210> 2679
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2679
gcgagtacgc 10

<210> 2680
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2680
tcgagtacgc 10

<210> 2681
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2681
gngagtacgc 10

<210> 2682
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2682
nggagtacgc 10

<210> 2683
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2683
aggagtacgc 10

<210> 2684
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2684
cggagtacgc 10

<210> 2685
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2685
gggagtacgc 10

<210> 2686
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2686
tggagtacgc 10

<210> 2687
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2687
tngagtacgc 10

<210> 2688
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2688
ntgagtacgc 10

<210> 2689
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2689
atgagtacgc 10

<210> 2690
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2690
ctgagtacgc 10

<210> 2691
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2691
gtgagtacgc 10

<210> 2692
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2692
ttgagtacgc 10

<210> 2693
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2693
angagtaggc 10

<210> 2694
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2694
nagagtaggc 10

<210> 2695
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2695
aagagtaggc 10

<210> 2696
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2696
cagagtaggc 10

<210> 2697
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2697
gagagtaggc 10

<210> 2698
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2698
tagagtaggc 10

<210> 2699
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2699
cngagtaggc 10

<210> 2700
<211> 10
<212> DNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2700
ncgagtaggc 10

<210> 2701
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2701
acgagtaggc 10

<210> 2702
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2702
ccgagtaggc 10

<210> 2703
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2703
gcgagtaggc 10

<210> 2704
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2704
tcgagtaggc 10

<210> 2705
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2705
gngagtaggc 10

<210> 2706
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2706
nggagtaggc 10

<210> 2707
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2707
aggagtaggc 10

<210> 2708
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2708
cggagtaggc 10

<210> 2709
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2709
gggagtaggc 10

<210> 2710
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2710
tggagtaggc 10

<210> 2711
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)

<223> n is a, c, g, or t

<400> 2711
tngagtaggc 10

<210> 2712
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2712
ntgagtaggc 10

<210> 2713
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2713
atgagtaggc 10

<210> 2714
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2714
ctgagtaggc 10

<210> 2715
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2715
gtgagtaggc 10

<210> 2716
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2716
ttgagtaggc 10

<210> 2717
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2717
angagtatgc 10

<210> 2718
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2718
nagagtatgc 10

<210> 2719
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2719
aagagtatgc 10

<210> 2720
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2720
cagagtatgc 10

<210> 2721
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2721
gagagtatgc 10

<210> 2722
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2722
tagagtatgc 10

<210> 2723
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2723
cngagtatgc 10

<210> 2724
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2724
ncgagtatgc 10

<210> 2725
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2725
acgagtatgc 10

<210> 2726
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2726
ccgagtatgc 10

<210> 2727
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2727
gcgagtatgc 10

<210> 2728
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2728
tcgagtatgc 10

<210> 2729
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2729
gngagtatgc 10

<210> 2730
<211> 10

<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2730
nggagtatgc 10

<210> 2731
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2731
aggagtatgc 10

<210> 2732
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2732
cggagtatgc 10

<210> 2733
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2733
gggagtatgc 10

<210> 2734
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2734
tggagtatgc 10

<210> 2735
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2735
tngagtatgc 10

<210> 2736
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2736
ntgagtatgc 10

<210> 2737
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2737
atgagtatgc 10

<210> 2738
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2738
ctgagtatgc 10

<210> 2739
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2739
gtgagtatgc 10

<210> 2740
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2740
ttgagtatgc 10

<210> 2741
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2741
angagtaagg 10

<210> 2742
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2742
nagagtaagg 10

<210> 2743
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2743
aagagtaagg 10

<210> 2744
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2744
cagagtaagg 10

<210> 2745
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2745
gagagtaagg 10

<210> 2746
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2746
tagagtaagg 10

<210> 2747
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2747
cngagtaagg 10

<210> 2748
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2748
ncgagtaagg 10

<210> 2749
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2749
acgagtaagg 10

<210> 2750
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2750
ccgagtaagg 10

<210> 2751
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2751
gcgagtaagg 10

<210> 2752
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2752
tcgagtaagg 10

<210> 2753
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2753
gngagtaagg 10

<210> 2754
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2754
nggagtaagg 10

<210> 2755
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2755
aggagtaagg 10

<210> 2756
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2756
cggagtaagg 10

<210> 2757
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2757
gggagtaagg 10

<210> 2758
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2758
tggagtaagg 10

<210> 2759
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2759
tngagtaagg 10

<210> 2760
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2760
ntgagtaagg 10

<210> 2761
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2761
atgagtaagg 10

<210> 2762
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2762
ctgagtaagg 10

<210> 2763
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2763
gtgagtaagg 10

<210> 2764
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2764
ttgagtaagg 10

<210> 2765
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2765
angagtacgg 10

<210> 2766
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2766
nagagtacgg 10

<210> 2767
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2767
aagagtacgg 10

<210> 2768
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2768
cagagtacgg 10

<210> 2769
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2769
gagagtacgg 10

<210> 2770
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2770
tagagtacgg 10

<210> 2771
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2771
cngagtacgg 10

<210> 2772
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2772
ncgagtacgg 10

<210> 2773
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2773
acgagtacgg 10

<210> 2774
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2774
ccgagtacgg 10

<210> 2775
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2775
gcgagtacgg 10

<210> 2776
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2776
tcgagtacgg 10

<210> 2777
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2777
gngagtacgg 10

<210> 2778
<211> 10
<212> DNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2778
nggagtacgg 10

<210> 2779
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2779
aggagtacgg 10

<210> 2780
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2780
cggagtacgg 10

<210> 2781
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2781
gggagtacgg 10

<210> 2782
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2782
tggagtacgg 10

<210> 2783
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2783
tngagtacgg 10

<210> 2784
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2784
ntgagtacgg 10

<210> 2785
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2785
atgagtacgg 10

<210> 2786
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2786
ctgagtacgg 10

<210> 2787
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2787
gtgagtacgg 10

<210> 2788
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2788
ttgagtacgg 10

<210> 2789
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)

<223> n is a, c, g, or t

<400> 2789
angagtaggg 10

<210> 2790
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2790
nagagtaggg 10

<210> 2791
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2791
aagagtaggg 10

<210> 2792
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2792
cagagtaggg 10

<210> 2793
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2793
gagagtaggg 10

<210> 2794
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2794
tagagtaggg 10

<210> 2795
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2795
cngagtaggg 10

<210> 2796
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2796
ncgagtaggg 10

<210> 2797
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2797
acgagtaggg 10

<210> 2798
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2798
ccgagtaggg 10

<210> 2799
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2799
gcgagtaggg 10

<210> 2800
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2800
tcgagtaggg 10

<210> 2801
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2801
gngagtaggg 10

<210> 2802
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2802
nggagtaggg 10

<210> 2803
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2803
aggagtaggg 10

<210> 2804
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2804
cggagtaggg 10

<210> 2805
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2805
gggagtaggg 10

<210> 2806
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2806
tggagtaggg 10

<210> 2807
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2807
tngagtaggg 10

<210> 2808
<211> 10

<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2808
ntgagtaggg 10

<210> 2809
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2809
atgagtaggg 10

<210> 2810
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2810
ctgagtaggg 10

<210> 2811
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2811
gtgagtaggg 10

<210> 2812
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2812
ttgagtaggg 10

<210> 2813
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2813
angagtatgg 10

<210> 2814
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2814
nagagtatgg 10

<210> 2815
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2815
aagagtatgg 10

<210> 2816
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2816
cagagtatgg 10

<210> 2817
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2817
gagagtatgg 10

<210> 2818
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2818
tagagtatgg 10

<210> 2819
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2819
cngagtatgg 10

<210> 2820
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2820
ncgagtatgg 10

<210> 2821
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2821
acgagtatgg 10

<210> 2822
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2822
ccgagtatgg 10

<210> 2823
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2823
gcgagtatgg 10

<210> 2824
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2824
tcgagtatgg 10

<210> 2825
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2825
gngagtatgg 10

<210> 2826
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2826
nggagtatgg 10

<210> 2827
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2827
aggagtatgg 10

<210> 2828
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2828
cggagtatgg 10

<210> 2829
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2829
gggagtatgg 10

<210> 2830
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2830
tggagtatgg 10

<210> 2831
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2831
tngagtatgg 10

<210> 2832
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2832
ntgagtatgg 10

<210> 2833
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2833
atgagtatgg 10

<210> 2834
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2834
ctgagtatgg 10

<210> 2835
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2835
gtgagtatgg 10

<210> 2836
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2836
ttgagtatgg 10

<210> 2837
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2837
angagtaagt 10

<210> 2838
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2838
nagagtaagt 10

<210> 2839
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2839
aagagtaagt 10

<210> 2840
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2840
cagagtaagt 10

<210> 2841
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2841
gagagtaagt 10

<210> 2842
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2842
tagagtaagt 10

<210> 2843
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2843
cngagtaagt 10

<210> 2844
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2844
ncgagtaagt 10

<210> 2845
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2845
acgagtaagt 10

<210> 2846
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2846
ccgagtaagt 10

<210> 2847
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2847
gcgagtaagt 10

<210> 2848
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2848
tcgagtaagt 10

<210> 2849
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2849
gngagtaagt 10

<210> 2850
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2850
nggagtaagt 10

<210> 2851
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2851
aggagtaagt 10

<210> 2852
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2852
cggagtaagt 10

<210> 2853
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2853
gggagtaagt 10

<210> 2854
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2854
tggagtaagt 10

<210> 2855
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2855
tngagtaagt 10

<210> 2856
<211> 10
<212> DNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2856
ntgagtaagt 10

<210> 2857
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2857
atgagtaagt 10

<210> 2858
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2858
ctgagtaagt 10

<210> 2859
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2859
gtgagtaagt 10

<210> 2860
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2860
ttgagtaagt 10

<210> 2861
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2861
angagtacgt 10

<210> 2862
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2862
nagagtacgt 10

<210> 2863
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2863
aagagtacgt 10

<210> 2864
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2864
cagagtacgt 10

<210> 2865
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2865
gagagtacgt 10

<210> 2866
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2866
tagagtacgt 10

<210> 2867
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)

<223> n is a, c, g, or t

<400> 2867
cngagtacgt 10

<210> 2868
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2868
ncgagtacgt 10

<210> 2869
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2869
acgagtacgt 10

<210> 2870
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2870
ccgagtacgt 10

<210> 2871
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2871
gcgagtacgt 10

<210> 2872
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2872
tcgagtacgt 10

<210> 2873
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2873
gngagtacgt 10

<210> 2874
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2874
nggagtacgt 10

<210> 2875
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2875
aggagtacgt 10

<210> 2876
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2876
cggagtacgt 10

<210> 2877
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2877
gggagtacgt 10

<210> 2878
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2878
tggagtacgt 10

<210> 2879
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2879
tngagtacgt 10

<210> 2880
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2880
ntgagtacgt 10

<210> 2881
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2881
atgagtacgt 10

<210> 2882
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2882
ctgagtacgt 10

<210> 2883
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2883
gtgagtacgt 10

<210> 2884
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2884
ttgagtacgt 10

<210> 2885
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2885
angagtaggt 10

<210> 2886
<211> 10

<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2886
nagagtaggt 10

<210> 2887
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2887
aagagtaggt 10

<210> 2888
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2888
cagagtaggt 10

<210> 2889
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2889
gagagtaggt 10

<210> 2890
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2890
tagagtaggt 10

<210> 2891
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2891
cngagtaggt 10

<210> 2892
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2892
ncgagtaggt 10

<210> 2893
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2893
acgagtaggt 10

<210> 2894
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2894
ccgagtaggt 10

<210> 2895
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2895
gcgagtaggt 10

<210> 2896
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2896
tcgagtaggt 10

<210> 2897
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2897
gngagtaggt 10

<210> 2898
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2898
nggagtaggt 10

<210> 2899
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2899
aggagtaggt 10

<210> 2900
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2900
cggagtaggt 10

<210> 2901
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2901
gggagtaggt 10

<210> 2902
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2902
tggagtaggt 10

<210> 2903
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2903
tngagtaggt 10

<210> 2904
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2904
ntgagtaggt 10

<210> 2905
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2905
atgagtaggt 10

<210> 2906
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2906
ctgagtaggt 10

<210> 2907
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2907
gtgagtaggt 10

<210> 2908
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2908
ttgagtaggt 10

<210> 2909
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2909
angagtatgt 10

<210> 2910
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2910
nagagtatgt 10

<210> 2911
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2911
aagagtatgt 10

<210> 2912
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2912
cagagtatgt 10

<210> 2913
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2913
gagagtatgt 10

<210> 2914
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2914
tagagtatgt 10

<210> 2915
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2915
cngagtatgt 10

<210> 2916
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2916
ncgagtatgt 10

<210> 2917
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2917
acgagtatgt 10

<210> 2918
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2918
ccgagtatgt 10

<210> 2919
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2919
gcgagtatgt 10

<210> 2920
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2920
tcgagtatgt 10

<210> 2921
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2921
gngagtatgt 10

<210> 2922
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2922
nggagtatgt 10

<210> 2923
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2923
aggagtatgt 10

<210> 2924
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2924
cggagtatgt 10

<210> 2925
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2925
gggagtatgt 10

<210> 2926
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2926
tggagtatgt 10

<210> 2927
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 2927
tngagtatgt 10

<210> 2928
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 2928
ntgagtatgt 10

<210> 2929
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2929
atgagtatgt 10

<210> 2930
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2930
ctgagtatgt 10

<210> 2931
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2931
gtgagtatgt 10

<210> 2932
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 2932
ttgagtatgt 10

<210> 2933
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2933
angagtanga 10

<210> 2934

<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2934
nagagtanga 10

<210> 2935
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2935
aagagtanga 10

<210> 2936
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)

<223> n is a, c, g, or t

<400> 2936
cagagtanga 10

<210> 2937
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2937
gagagtanga 10

<210> 2938
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2938
tagagtanga 10

<210> 2939
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2939
cngagtanga 10

<210> 2940
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2940
ncgagtanga 10

<210> 2941
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2941
acgagtanga 10

<210> 2942
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2942
ccgagtanga 10

<210> 2943
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2943
gcgagtanga 10

<210> 2944
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2944
tcgagtanga 10

<210> 2945
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2945
gngagtanga 10

<210> 2946
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2946
nggagtanga 10

<210> 2947
<211> 10

<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2947
aggagtanga 10

<210> 2948
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2948
cggagtanga 10

<210> 2949
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2949
gggagtanga 10

<210> 2950
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2950
tggagtanga 10

<210> 2951
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2951
tngagtanga 10

<210> 2952
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature

<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2952
ntgagtanga 10

<210> 2953
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2953
atgagtanga 10

<210> 2954
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2954
ctgagtanga 10

<210> 2955
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2955
gtgagtanga 10

<210> 2956
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2956
ttgagtanga 10

<210> 2957
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2957

angagtangc 10

<210> 2958
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2958
nagagtangc 10

<210> 2959
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2959
aagagtangc 10

<210> 2960
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2960
cagagtangc 10

<210> 2961
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2961
gagagtangc 10

<210> 2962
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2962
tagagtangc 10

<210> 2963
<211> 10
<212> DNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2963
cngagtangc 10

<210> 2964
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2964
ncgagtangc 10

<210> 2965
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)

<223> n is a, c, g, or t

<400> 2965
acgagtangc 10

<210> 2966
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2966
ccgagtangc 10

<210> 2967
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2967
gcgagtangc 10

<210> 2968
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2968
tcgagtangc 10

<210> 2969
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2969
gngagtangc 10

<210> 2970
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2970
nggagtangc 10

<210> 2971
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2971
aggagtangc 10

<210> 2972
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2972
cggagtangc 10

<210> 2973
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2973
gggagtangc 10

<210> 2974
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2974
tggagtangc 10

<210> 2975
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2975
tngagtangc 10

<210> 2976
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2976
ntgagtangc 10

<210> 2977
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2977
atgagtangc 10

<210> 2978
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2978
ctgagtangc 10

<210> 2979
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2979
gtgagtangc 10

<210> 2980
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2980
ttgagtangc 10

<210> 2981
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature

<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2981
angagtangg 10

<210> 2982
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2982
nagagtangg 10

<210> 2983
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2983
aagagtangg 10

<210> 2984
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2984
cagagtangg 10

<210> 2985
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2985
gagagtangg 10

<210> 2986
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2986
tagagtangg 10

<210> 2987
<211> 10

<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2987
cngagtangg 10

<210> 2988
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2988
ncgagtangg 10

<210> 2989
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2989
acgagtangg 10

<210> 2990
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2990
ccgagtangg 10

<210> 2991
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2991
gcgagtangg 10

<210> 2992
<211> 10
<212> DNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2992
tcgagtangg 10

<210> 2993
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2993
gngagtangg 10

<210> 2994
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)

<223> n is a, c, g, or t

<400> 2994
nggagtangg 10

<210> 2995
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2995
aggagtangg 10

<210> 2996
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2996
cggagtangg 10

<210> 2997
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2997
gggagtangg 10

<210> 2998
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2998
tggagtangg 10

<210> 2999
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 2999
tngagtangg 10

<210> 3000
<211> 10
<212> DNA

<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3000
ntgagtangg 10

<210> 3001
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3001
atgagtangg 10

<210> 3002
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3002
ctgagtangg 10

<210> 3003
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3003
gtgagtangg 10

<210> 3004
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3004
ttgagtangg 10

<210> 3005
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)

<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3005
angagtangt 10

<210> 3006
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3006
nagagtangt 10

<210> 3007
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3007
aagagtangt 10

<210> 3008
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3008
cagagtangt 10

<210> 3009
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3009
gagagtangt 10

<210> 3010
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3010
tagagtangt 10

<210> 3011
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3011
cngagtangt 10

<210> 3012
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3012
ncgagtangt 10

<210> 3013
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3013
acgagtangt 10

<210> 3014
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3014
ccgagtangt 10

<210> 3015
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3015
gcgagtangt 10

<210> 3016
<211> 10

<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3016
tcgagtangt 10

<210> 3017
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3017
gngagtangt 10

<210> 3018
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3018
nggagtangt 10

<210> 3019
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3019
aggagtangt 10

<210> 3020
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3020
cggagtangt 10

<210> 3021
<211> 10
<212> DNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3021
gggagtangt 10

<210> 3022
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3022
tggagtangt 10

<210> 3023
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3023
tngagtangt 10

<210> 3024
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3024
ntgagtangt 10

<210> 3025
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3025
atgagtangt 10

<210> 3026
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3026
ctgagtangt 10

<210> 3027
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3027
gtgagtangt 10

<210> 3028
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3028
ttgagtangt 10

<210> 3029
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3029
angagtgngn 10

<210> 3030
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3030
nagagtgngn 10

<210> 3031
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3031
aagagtgngn 10

<210> 3032
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3032
cagagtgngn 10

<210> 3033
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3033
gagagtgngn 10

<210> 3034
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3034
tagagtgngn 10

<210> 3035
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature

<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3035
cngagtgngn 10

<210> 3036
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3036
ncgagtgngn 10

<210> 3037
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)

<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3037
acgagtgngn 10

<210> 3038
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3038
ccgagtgngn 10

<210> 3039
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3039
gcgagtgngn 10

<210> 3040
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3040
tcgagtgngn 10

<210> 3041
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3041
gngagtgngn 10

<210> 3042
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3042
nggagtgngn 10

<210> 3043
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3043

aggagtgngn 10

<210> 3044
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3044
cggagtgngn 10

<210> 3045
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3045
gggagtgngn 10

<210> 3046
<211> 10
<212> DNA

<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3046
tggagtgngn 10

<210> 3047
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3047
tngagtgngn 10

<210> 3048
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3048
ntgagtgngn 10

<210> 3049
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3049
atgagtgngn 10

<210> 3050
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3050
ctgagtgngn 10

<210> 3051
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3051
gtgagtgngn 10

<210> 3052
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature

<222> (8)..(8)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3052
ttgagtgngn 10

<210> 3053
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3053
angagtgagn 10

<210> 3054
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)

<223> n is a, c, g, or t

<400> 3054
nagagtgagn 10

<210> 3055
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3055
aagagtgagn 10

<210> 3056
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3056
cagagtgagn 10

<210> 3057
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3057
gagagtgagn 10

<210> 3058
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3058
tagagtgagn 10

<210> 3059
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3059
cngagtgagn 10

<210> 3060
<211> 10
<212> DNA

<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3060
ncgagtgagn 10

<210> 3061
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3061
acgagtgagn 10

<210> 3062
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3062
ccgagtgagn 10

<210> 3063
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3063
gcgagtgagn 10

<210> 3064
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3064
tcgagtgagn 10

<210> 3065
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)

<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3065
gngagtgagn 10

<210> 3066
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3066
nggagtgagn 10

<210> 3067
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3067
aggagtgagn 10

<210> 3068
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3068
cggagtgagn 10

<210> 3069
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3069
gggagtgagn 10

<210> 3070
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3070
tggagtgagn 10

<210> 3071
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3071
tngagtgagn 10

<210> 3072
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3072
ntgagtgagn 10

<210> 3073
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3073
atgagtgagn 10

<210> 3074
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3074
ctgagtgagn 10

<210> 3075
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3075
gtgagtgagn 10

<210> 3076
<211> 10

<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3076
ttgagtgagn 10

<210> 3077
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3077
angagtgcgn 10

<210> 3078
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3078
nagagtgcgn 10

<210> 3079
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3079
aagagtgcgn 10

<210> 3080
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3080
cagagtgcgn 10

<210> 3081
<211> 10
<212> DNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3081
gagagtgcgn 10

<210> 3082
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3082
tagagtgcgn 10

<210> 3083
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3083
cngagtgcgn 10

<210> 3084
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3084
ncgagtgcgn 10

<210> 3085
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3085
acgagtgcgn 10

<210> 3086
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3086
ccgagtgcgn 10

<210> 3087
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3087
gcgagtgcgn 10

<210> 3088
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3088
tcgagtgcgn 10

<210> 3089
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3089
gngagtgcgn 10

<210> 3090
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3090
nggagtgcgn 10

<210> 3091
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3091
aggagtgcgn 10

<210> 3092
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3092
cggagtgcgn 10

<210> 3093
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3093
gggagtgcgn 10

<210> 3094
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)

<223> n is a, c, g, or t

<400> 3094
tggagtgcgn 10

<210> 3095
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3095
tngagtgcgn 10

<210> 3096
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3096
ntgagtgcgn 10

<210> 3097
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3097
atgagtgcgn 10

<210> 3098
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3098
ctgagtgcgn 10

<210> 3099
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3099
gtgagtgcgn 10

<210> 3100
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3100
ttgagtgcgn 10

<210> 3101
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3101
angagtgggn 10

<210> 3102
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3102
nagagtgggn 10

<210> 3103
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3103
aagagtgggn 10

<210> 3104
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3104
cagagtgggn 10

<210> 3105
<211> 10

<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3105
gagagtgggn 10

<210> 3106
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3106
tagagtgggn 10

<210> 3107
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3107
cngagtgggn 10

<210> 3108
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3108
ncgagtgggn 10

<210> 3109
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3109
acgagtgggn 10

<210> 3110
<211> 10
<212> DNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3110
ccgagtgggn 10

<210> 3111
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3111
gcgagtgggn 10

<210> 3112
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3112
tcgagtgggn 10

<210> 3113
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3113
gngagtgggn 10

<210> 3114
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3114
nggagtgggn 10

<210> 3115
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3115
aggagtgggn 10

<210> 3116
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3116
cggagtgggn 10

<210> 3117
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3117
gggagtgggn 10

<210> 3118
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3118
tggagtgggn 10

<210> 3119
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3119
tngagtgggn 10

<210> 3120
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3120
ntgagtgggn 10

<210> 3121
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3121
atgagtgggn 10

<210> 3122
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3122
ctgagtgggn 10

<210> 3123
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)

<223> n is a, c, g, or t

<400> 3123
gtgagtgggn 10

<210> 3124
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3124
ttgagtgggn 10

<210> 3125
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3125
angagtgtgn 10

<210> 3126
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3126
nagagtgtgn 10

<210> 3127
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3127
aagagtgtgn 10

<210> 3128
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3128
cagagtgtgn 10

<210> 3129
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3129
gagagtgtgn 10

<210> 3130
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3130
tagagtgtgn 10

<210> 3131
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3131
cngagtgtgn 10

<210> 3132
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3132
ncgagtgtgn 10

<210> 3133
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3133
acgagtgtgn 10

<210> 3134
<211> 10

<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3134
ccgagtgtgn 10

<210> 3135
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3135
gcgagtgtgn 10

<210> 3136
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3136
tcgagtgtgn 10

<210> 3137
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3137
gngagtgtgn 10

<210> 3138
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3138
nggagtgtgn 10

<210> 3139
<211> 10
<212> DNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3139
aggagtgtgn 10

<210> 3140
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3140
cggagtgtgn 10

<210> 3141
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3141
gggagtgtgn 10

<210> 3142
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3142
tggagtgtgn 10

<210> 3143
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3143
tngagtgtgn 10

<210> 3144
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>

<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3144
ntgagtgtgn 10

<210> 3145
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3145
atgagtgtgn 10

<210> 3146
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3146
ctgagtgtgn 10

<210> 3147
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3147
gtgagtgtgn 10

<210> 3148
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (10)..(10)
<223> n is a, c, g, or t

<400> 3148
ttgagtgtgn 10

<210> 3149
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3149
angagtgaga 10

<210> 3150
<211> 10
<212> DNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3150
nagagtgaga 10

<210> 3151
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3151
aagagtgaga 10

<210> 3152
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3152
cagagtgaga 10

<210> 3153
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3153
gagagtgaga 10

<210> 3154
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3154
tagagtgaga 10

<210> 3155
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3155
cngagtgaga 10

<210> 3156
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3156
ncgagtgaga 10

<210> 3157
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3157
acgagtgaga 10

<210> 3158
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3158
ccgagtgaga 10

<210> 3159
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3159
gcgagtgaga 10

<210> 3160
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3160
tcgagtgaga 10

<210> 3161
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)

<223> n is a, c, g, or t

<400> 3161
gngagtgaga 10

<210> 3162
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3162
nggagtgaga 10

<210> 3163
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3163
aggagtgaga 10

<210> 3164
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3164
cggagtgaga 10

<210> 3165
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3165
gggagtgaga 10

<210> 3166
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3166
tggagtgaga 10

<210> 3167
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3167
tngagtgaga 10

<210> 3168
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3168
ntgagtgaga 10

<210> 3169
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3169
atgagtgaga 10

<210> 3170
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3170
ctgagtgaga 10

<210> 3171
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3171
gtgagtgaga 10

<210> 3172
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3172
ttgagtgaga 10

<210> 3173
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3173
angagtgcga 10

<210> 3174
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3174
nagagtgcga 10

<210> 3175
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3175
aagagtgcga 10

<210> 3176
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3176
cagagtgcga 10

<210> 3177
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3177
gagagtgcga 10

<210> 3178
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3178
tagagtgcga 10

<210> 3179
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3179
cngagtgcga 10

<210> 3180
<211> 10

<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3180
ncgagtgcga 10

<210> 3181
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3181
acgagtgcga 10

<210> 3182
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3182
ccgagtgcga 10

<210> 3183
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3183
gcgagtgcga 10

<210> 3184
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3184
tcgagtgcga 10

<210> 3185
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3185
gngagtgcga 10

<210> 3186
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3186
nggagtgcga 10

<210> 3187
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3187
aggagtgcga 10

<210> 3188
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3188
cggagtgcga 10

<210> 3189
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3189
gggagtgcga 10

<210> 3190
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3190
tggagtgcga 10

<210> 3191
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3191
tngagtgcga 10

<210> 3192
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3192
ntgagtgcga 10

<210> 3193
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3193
atgagtgcga 10

<210> 3194
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3194
ctgagtgcga 10

<210> 3195
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3195
gtgagtgcga 10

<210> 3196
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3196
ttgagtgcga 10

<210> 3197
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3197
angagtggga 10

<210> 3198
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3198
nagagtggga 10

<210> 3199
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3199
aagagtggga 10

<210> 3200
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3200
cagagtggga 10

<210> 3201
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3201
gagagtggga 10

<210> 3202
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3202
tagagtggga 10

<210> 3203
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3203
cngagtggga 10

<210> 3204
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3204
ncgagtggga 10

<210> 3205
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3205
acgagtggga 10

<210> 3206
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3206
ccgagtggga 10

<210> 3207
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3207
gcgagtggga 10

<210> 3208
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3208
tcgagtggga 10

<210> 3209
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3209
gngagtggga 10

<210> 3210
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3210
nggagtggga 10

<210> 3211
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3211
aggagtggga 10

<210> 3212
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3212
cggagtggga 10

<210> 3213
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3213
gggagtggga 10

<210> 3214
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3214
tggagtggga 10

<210> 3215
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3215
tngagtggga 10

<210> 3216
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3216
ntgagtggga 10

<210> 3217
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3217
atgagtggga 10

<210> 3218
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3218
ctgagtggga 10

<210> 3219
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3219
gtgagtggga 10

<210> 3220
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3220
ttgagtggga 10

<210> 3221
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3221
angagtgtga 10

<210> 3222
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3222
nagagtgtga 10

<210> 3223
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3223
aagagtgtga 10

<210> 3224
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3224
cagagtgtga 10

<210> 3225
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3225
gagagtgtga 10

<210> 3226
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3226
tagagtgtga 10

<210> 3227
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3227
cngagtgtga 10

<210> 3228
<211> 10
<212> DNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3228
ncgagtgtga 10

<210> 3229
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3229
acgagtgtga 10

<210> 3230
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3230
ccgagtgtga 10

<210> 3231
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3231
gcgagtgtga 10

<210> 3232
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3232
tcgagtgtga 10

<210> 3233
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3233
gngagtgtga 10

<210> 3234
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3234
nggagtgtga 10

<210> 3235
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3235
aggagtgtga 10

<210> 3236
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3236
cggagtgtga 10

<210> 3237
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3237
gggagtgtga 10

<210> 3238
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3238
tggagtgtga 10

<210> 3239
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)

<223> n is a, c, g, or t

<400> 3239
tngagtgtga 10

<210> 3240
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3240
ntgagtgtga 10

<210> 3241
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3241
atgagtgtga 10

<210> 3242
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3242
ctgagtgtga 10

<210> 3243
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3243
gtgagtgtga 10

<210> 3244
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3244
ttgagtgtga 10

<210> 3245
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3245
angagtgagc 10

<210> 3246
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3246
nagagtgagc 10

<210> 3247
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3247
aagagtgagc 10

<210> 3248
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3248
cagagtgagc 10

<210> 3249
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3249
gagagtgagc 10

<210> 3250
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3250
tagagtgagc 10

<210> 3251
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3251
cngagtgagc 10

<210> 3252
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3252
ncgagtgagc 10

<210> 3253
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3253
acgagtgagc 10

<210> 3254
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3254
ccgagtgagc 10

<210> 3255
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3255
gcgagtgagc 10

<210> 3256
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3256
tcgagtgagc 10

<210> 3257
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3257
gngagtgagc 10

<210> 3258
<211> 10

<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3258
nggagtgagc 10

<210> 3259
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3259
aggagtgagc 10

<210> 3260
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3260
cggagtgagc 10

<210> 3261
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3261
gggagtgagc 10

<210> 3262
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3262
tggagtgagc 10

<210> 3263
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3263
tngagtgagc 10

<210> 3264
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3264
ntgagtgagc 10

<210> 3265
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3265
atgagtgagc 10

<210> 3266
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3266
ctgagtgagc 10

<210> 3267
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3267
gtgagtgagc 10

<210> 3268
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3268
ttgagtgagc 10

<210> 3269
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3269
angagtgcgc 10

<210> 3270
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3270
nagagtgcgc 10

<210> 3271
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3271
aagagtgcgc 10

<210> 3272
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3272
cagagtgcgc 10

<210> 3273
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3273
gagagtgcgc 10

<210> 3274
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3274
tagagtgcgc 10

<210> 3275
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3275
cngagtgcgc 10

<210> 3276
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3276
ncgagtgcgc 10

<210> 3277
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3277
acgagtgcgc 10

<210> 3278
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3278
ccgagtgcgc 10

<210> 3279
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3279
gcgagtgcgc 10

<210> 3280
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3280
tcgagtgcgc 10

<210> 3281
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3281
gngagtgcgc 10

<210> 3282
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3282
nggagtgcgc 10

<210> 3283
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3283
aggagtgcgc 10

<210> 3284
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3284
cggagtgcgc 10

<210> 3285
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3285
gggagtgcgc 10

<210> 3286
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3286
tggagtgcgc 10

<210> 3287
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3287
tngagtgcgc 10

<210> 3288
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3288
ntgagtgcgc 10

<210> 3289
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3289
atgagtgcgc 10

<210> 3290
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3290
ctgagtgcgc 10

<210> 3291
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3291
gtgagtgcgc 10

<210> 3292
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3292
ttgagtgcgc 10

<210> 3293
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3293
angagtgggc 10

<210> 3294
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3294
nagagtgggc 10

<210> 3295
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3295
aagagtgggc 10

<210> 3296
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3296
cagagtgggc 10

<210> 3297
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3297
gagagtgggc 10

<210> 3298
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3298
tagagtgggc 10

<210> 3299
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3299
cngagtgggc 10

<210> 3300
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3300
ncgagtgggc 10

<210> 3301
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3301
acgagtgggc 10

<210> 3302
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3302
ccgagtgggc 10

<210> 3303
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3303
gcgagtgggc 10

<210> 3304
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3304
tcgagtgggc 10

<210> 3305
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3305
gngagtgggc 10

<210> 3306
<211> 10
<212> DNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3306
nggagtgggc 10

<210> 3307
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3307
aggagtgggc 10

<210> 3308
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3308
cggagtgggc 10

<210> 3309
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3309
gggagtgggc 10

<210> 3310
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3310
tggagtgggc 10

<210> 3311
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3311
tngagtgggc 10

<210> 3312
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3312
ntgagtgggc 10

<210> 3313
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3313
atgagtgggc 10

<210> 3314
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3314
ctgagtgggc 10

<210> 3315
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3315
gtgagtgggc 10

<210> 3316
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3316
ttgagtgggc 10

<210> 3317
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)

<223> n is a, c, g, or t

<400> 3317
angagtgtgc 10

<210> 3318
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3318
nagagtgtgc 10

<210> 3319
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3319
aagagtgtgc 10

<210> 3320
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3320
cagagtgtgc 10

<210> 3321
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3321
gagagtgtgc 10

<210> 3322
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3322
tagagtgtgc 10

<210> 3323
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3323
cngagtgtgc 10

<210> 3324
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3324
ncgagtgtgc 10

<210> 3325
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3325
acgagtgtgc 10

<210> 3326
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3326
ccgagtgtgc 10

<210> 3327
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3327
gcgagtgtgc 10

<210> 3328
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3328
tcgagtgtgc 10

<210> 3329
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3329
gngagtgtgc 10

<210> 3330
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3330
nggagtgtgc 10

<210> 3331
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3331
aggagtgtgc 10

<210> 3332
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3332
cggagtgtgc 10

<210> 3333
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3333
gggagtgtgc 10

<210> 3334
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3334
tggagtgtgc 10

<210> 3335
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3335
tngagtgtgc 10

<210> 3336
<211> 10

<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3336
ntgagtgtgc 10

<210> 3337
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3337
atgagtgtgc 10

<210> 3338
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3338
ctgagtgtgc 10

<210> 3339
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3339
gtgagtgtgc 10

<210> 3340
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3340
ttgagtgtgc 10

<210> 3341
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3341
angagtgagg 10

<210> 3342
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3342
nagagtgagg 10

<210> 3343
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3343
aagagtgagg 10

<210> 3344
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3344
cagagtgagg 10

<210> 3345
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3345
gagagtgagg 10

<210> 3346
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3346
tagagtgagg 10

<210> 3347
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3347
cngagtgagg 10

<210> 3348
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3348
ncgagtgagg 10

<210> 3349
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3349
acgagtgagg 10

<210> 3350
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3350
ccgagtgagg 10

<210> 3351
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3351
gcgagtgagg 10

<210> 3352
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3352
tcgagtgagg 10

<210> 3353
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3353
gngagtgagg 10

<210> 3354
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3354
nggagtgagg 10

<210> 3355
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3355
aggagtgagg 10

<210> 3356
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3356
cggagtgagg 10

<210> 3357
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3357
gggagtgagg 10

<210> 3358
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3358
tggagtgagg 10

<210> 3359
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3359
tngagtgagg 10

<210> 3360
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3360
ntgagtgagg 10

<210> 3361
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3361
atgagtgagg 10

<210> 3362
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3362
ctgagtgagg 10

<210> 3363
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3363
gtgagtgagg 10

<210> 3364
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3364
ttgagtgagg 10

<210> 3365
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3365
angagtgcgg 10

<210> 3366
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3366
nagagtgcgg 10

<210> 3367
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3367
aagagtgcgg 10

<210> 3368
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3368
cagagtgcgg 10

<210> 3369
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3369
gagagtgcgg 10

<210> 3370
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3370
tagagtgcgg 10

<210> 3371
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3371
cngagtgcgg 10

<210> 3372
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3372
ncgagtgcgg 10

<210> 3373
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3373
acgagtgcgg 10

<210> 3374
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3374
ccgagtgcgg 10

<210> 3375
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3375
gcgagtgcgg 10

<210> 3376
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3376
tcgagtgcgg 10

<210> 3377
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3377
gngagtgcgg 10

<210> 3378
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3378
nggagtgcgg 10

<210> 3379
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3379
aggagtgcgg 10

<210> 3380
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3380
cggagtgcgg 10

<210> 3381
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3381
gggagtgcgg 10

<210> 3382
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3382
tggagtgcgg 10

<210> 3383
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3383
tngagtgcgg 10

<210> 3384
<211> 10
<212> DNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3384
ntgagtgcgg 10

<210> 3385
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3385
atgagtgcgg 10

<210> 3386
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3386
ctgagtgcgg 10

<210> 3387
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3387
gtgagtgcgg 10

<210> 3388
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3388
ttgagtgcgg 10

<210> 3389
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3389
angagtgggg 10

<210> 3390
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3390
nagagtgggg 10

<210> 3391
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3391
aagagtgggg 10

<210> 3392
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3392
cagagtgggg 10

<210> 3393
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3393
gagagtgggg 10

<210> 3394
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3394
tagagtgggg 10

<210> 3395
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)

<223> n is a, c, g, or t

<400> 3395
cngagtgggg 10

<210> 3396
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3396
ncgagtgggg 10

<210> 3397
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3397
acgagtgggg 10

<210> 3398
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3398
ccgagtgggg 10

<210> 3399
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3399
gcgagtgggg 10

<210> 3400
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3400
tcgagtgggg 10

<210> 3401
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3401
gngagtgggg 10

<210> 3402
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3402
nggagtgggg 10

<210> 3403
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3403
aggagtgggg 10

<210> 3404
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3404
cggagtgggg 10

<210> 3405
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3405
gggagtgggg 10

<210> 3406
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3406
tggagtgggg 10

<210> 3407
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3407
tngagtgggg 10

<210> 3408
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3408
ntgagtgggg 10

<210> 3409
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3409
atgagtgggg 10

<210> 3410
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3410
ctgagtgggg 10

<210> 3411
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3411
gtgagtgggg 10

<210> 3412
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3412
ttgagtgggg 10

<210> 3413
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3413
angagtgtgg 10

<210> 3414
<211> 10

<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3414
nagagtgtgg 10

<210> 3415
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3415
aagagtgtgg 10

<210> 3416
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3416
cagagtgtgg 10

<210> 3417
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3417
gagagtgtgg 10

<210> 3418
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3418
tagagtgtgg 10

<210> 3419
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3419
cngagtgtgg 10

<210> 3420
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3420
ncgagtgtgg 10

<210> 3421
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3421
acgagtgtgg 10

<210> 3422
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3422
ccgagtgtgg 10

<210> 3423
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3423
gcgagtgtgg 10

<210> 3424
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3424
tcgagtgtgg 10

<210> 3425
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3425
gngagtgtgg 10

<210> 3426
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3426
nggagtgtgg 10

<210> 3427
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3427
aggagtgtgg 10

<210> 3428
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3428
cggagtgtgg 10

<210> 3429
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3429
gggagtgtgg 10

<210> 3430
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3430
tggagtgtgg 10

<210> 3431
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3431
tngagtgtgg 10

<210> 3432
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3432
ntgagtgtgg 10

<210> 3433
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3433
atgagtgtgg 10

<210> 3434
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3434
ctgagtgtgg 10

<210> 3435
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3435
gtgagtgtgg 10

<210> 3436
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3436
ttgagtgtgg 10

<210> 3437
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3437
angagtgagt 10

<210> 3438
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3438
nagagtgagt 10

<210> 3439
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3439
aagagtgagt 10

<210> 3440
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3440
cagagtgagt 10

<210> 3441
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3441
gagagtgagt 10

<210> 3442
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3442
tagagtgagt 10

<210> 3443
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3443
cngagtgagt 10

<210> 3444
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3444
ncgagtgagt 10

<210> 3445
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3445
acgagtgagt 10

<210> 3446
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3446
ccgagtgagt 10

<210> 3447
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3447
gcgagtgagt 10

<210> 3448
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3448
tcgagtgagt 10

<210> 3449
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3449
gngagtgagt 10

<210> 3450
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3450
nggagtgagt 10

<210> 3451
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3451
aggagtgagt 10

<210> 3452
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3452
cggagtgagt 10

<210> 3453
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3453
gggagtgagt 10

<210> 3454
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3454
tggagtgagt 10

<210> 3455
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3455
tngagtgagt 10

<210> 3456
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3456
ntgagtgagt 10

<210> 3457
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3457
atgagtgagt 10

<210> 3458
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3458
ctgagtgagt 10

<210> 3459
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3459
gtgagtgagt 10

<210> 3460
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3460
ttgagtgagt 10

<210> 3461
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3461
angagtgcgt 10

<210> 3462
<211> 10
<212> DNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3462
nagagtgcgt 10

<210> 3463
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3463
aagagtgcgt 10

<210> 3464
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3464
cagagtgcgt 10

<210> 3465
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3465
gagagtgcgt 10

<210> 3466
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3466
tagagtgcgt 10

<210> 3467
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3467
cngagtgcgt 10

<210> 3468
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3468
ncgagtgcgt 10

<210> 3469
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3469
acgagtgcgt 10

<210> 3470
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3470
ccgagtgcgt 10

<210> 3471
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3471
gcgagtgcgt 10

<210> 3472
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3472
tcgagtgcgt 10

<210> 3473
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)

<223> n is a, c, g, or t

<400> 3473
gngagtgcgt 10

<210> 3474
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3474
nggagtgcgt 10

<210> 3475
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3475
aggagtgcgt 10

<210> 3476
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3476
cggagtgcgt 10

<210> 3477
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3477
gggagtgcgt 10

<210> 3478
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3478
tggagtgcgt 10

<210> 3479
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3479
tngagtgcgt 10

<210> 3480
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3480
ntgagtgcgt 10

<210> 3481
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3481
atgagtgcgt 10

<210> 3482
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3482
ctgagtgcgt 10

<210> 3483
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3483
gtgagtgcgt 10

<210> 3484
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3484
ttgagtgcgt 10

<210> 3485
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3485
angagtgggt 10

<210> 3486
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3486
nagagtgggt 10

<210> 3487
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3487
aagagtgggt 10

<210> 3488
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3488
cagagtgggt 10

<210> 3489
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3489
gagagtgggt 10

<210> 3490
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3490
tagagtgggt 10

<210> 3491
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3491
cngagtgggt 10

<210> 3492
<211> 10

<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3492
ncgagtgggt 10

<210> 3493
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3493
acgagtgggt 10

<210> 3494
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3494
ccgagtgggt 10

<210> 3495
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3495
gcgagtgggt 10

<210> 3496
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3496
tcgagtgggt 10

<210> 3497
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3497
gngagtgggt 10

<210> 3498
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3498
nggagtgggt 10

<210> 3499
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3499
aggagtgggt 10

<210> 3500
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3500
cggagtgggt 10

<210> 3501
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3501
gggagtgggt 10

<210> 3502
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3502
tggagtgggt 10

<210> 3503
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3503
tngagtgggt 10

<210> 3504
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3504
ntgagtgggt 10

<210> 3505
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3505
atgagtgggt 10

<210> 3506
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3506
ctgagtgggt 10

<210> 3507
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3507
gtgagtgggt 10

<210> 3508
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3508
ttgagtgggt 10

<210> 3509
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3509
angagtgtgt 10

<210> 3510
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3510
nagagtgtgt 10

<210> 3511
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3511
aagagtgtgt 10

<210> 3512
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3512
cagagtgtgt 10

<210> 3513
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3513
gagagtgtgt 10

<210> 3514
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3514
tagagtgtgt 10

<210> 3515
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3515
cngagtgtgt 10

<210> 3516
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3516
ncgagtgtgt 10

<210> 3517
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3517
acgagtgtgt 10

<210> 3518
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3518
ccgagtgtgt 10

<210> 3519
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3519
gcgagtgtgt 10

<210> 3520
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3520
tcgagtgtgt 10

<210> 3521
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3521
gngagtgtgt 10

<210> 3522
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3522
nggagtgtgt 10

<210> 3523
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3523
aggagtgtgt 10

<210> 3524
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3524
cggagtgtgt 10

<210> 3525
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3525
gggagtgtgt 10

<210> 3526
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3526
tggagtgtgt 10

<210> 3527
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<400> 3527
tngagtgtgt 10

<210> 3528
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<400> 3528
ntgagtgtgt 10

<210> 3529
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3529
atgagtgtgt 10

<210> 3530
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3530
ctgagtgtgt 10

<210> 3531
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3531
gtgagtgtgt 10

<210> 3532
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3532
ttgagtgtgt 10

<210> 3533
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3533
angagtgnga 10

<210> 3534
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3534
nagagtgnga 10

<210> 3535
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3535
aagagtgnga 10

<210> 3536
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3536
cagagtgnga 10

<210> 3537
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3537
gagagtgnga 10

<210> 3538
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3538
tagagtgnga 10

<210> 3539
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3539
cngagtgnga 10

<210> 3540
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3540
ncgagtgnga 10

<210> 3541
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3541
acgagtgnga 10

<210> 3542
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3542
ccgagtgnga 10

<210> 3543
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)

<223> n is a, c, g, or t

<400> 3543
gcgagtgnga 10

<210> 3544
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3544
tcgagtgnga 10

<210> 3545
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3545
gngagtgnga 10

<210> 3546
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3546
nggagtgnga 10

<210> 3547
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3547
aggagtgnga 10

<210> 3548
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3548
cggagtgnga 10

<210> 3549
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3549
gggagtgnga 10

<210> 3550
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3550
tggagtgnga 10

<210> 3551
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3551
tngagtgnga 10

<210> 3552
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3552
ntgagtgnga 10

<210> 3553
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3553
atgagtgnga 10

<210> 3554
<211> 10

<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3554
ctgagtgnga 10

<210> 3555
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3555
gtgagtgnga 10

<210> 3556
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3556
ttgagtgnga 10

<210> 3557
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3557
angagtgngc 10

<210> 3558
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3558
nagagtgngc 10

<210> 3559
<211> 10
<212> DNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3559
aagagtgngc 10

<210> 3560
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3560
cagagtgngc 10

<210> 3561
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3561
gagagtgngc 10

<210> 3562
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3562
tagagtgngc 10

<210> 3563
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3563
cngagtgngc 10

<210> 3564
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>

<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3564
ncgagtgngc 10

<210> 3565
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3565
acgagtgngc 10

<210> 3566
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3566
ccgagtgngc 10

<210> 3567
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3567
gcgagtgngc 10

<210> 3568
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3568
tcgagtgngc 10

<210> 3569
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3569
gngagtgngc 10

<210> 3570

<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3570
nggagtgngc 10

<210> 3571
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3571
aggagtgngc 10

<210> 3572
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)

<223> n is a, c, g, or t

<400> 3572
cggagtgngc 10

<210> 3573
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3573
gggagtgngc 10

<210> 3574
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3574
tggagtgngc 10

<210> 3575
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3575
tngagtgngc 10

<210> 3576
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3576
ntgagtgngc 10

<210> 3577
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3577
atgagtgngc 10

<210> 3578
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3578
ctgagtgngc 10

<210> 3579
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3579
gtgagtgngc 10

<210> 3580
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3580
ttgagtgngc 10

<210> 3581
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3581
angagtgngg 10

<210> 3582
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3582
nagagtgngg 10

<210> 3583
<211> 10

<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3583
aagagtgngg 10

<210> 3584
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3584
cagagtgngg 10

<210> 3585
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3585
gagagtgngg 10

<210> 3586
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3586
tagagtgngg 10

<210> 3587
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3587
cngagtgngg 10

<210> 3588
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature

<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3588
ncgagtgngg 10

<210> 3589
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3589
acgagtgngg 10

<210> 3590
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3590
ccgagtgngg 10

<210> 3591
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3591
gcgagtgngg 10

<210> 3592
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3592
tcgagtgngg 10

<210> 3593
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3593

gngagtgngg 10

<210> 3594
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3594
nggagtgngg 10

<210> 3595
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3595
aggagtgngg 10

<210> 3596
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3596
cggagtgngg 10

<210> 3597
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3597
gggagtgngg 10

<210> 3598
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3598
tggagtgngg 10

<210> 3599
<211> 10
<212> DNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3599
tngagtgngg 10

<210> 3600
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3600
ntgagtgngg 10

<210> 3601
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)

<223> n is a, c, g, or t

<400> 3601
atgagtgngg 10

<210> 3602
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3602
ctgagtgngg 10

<210> 3603
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3603
gtgagtgngg 10

<210> 3604
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>

<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3604
ttgagtgngg 10

<210> 3605
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3605
angagtgngt 10

<210> 3606
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3606
nagagtgngt 10

<210> 3607
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3607
aagagtgngt 10

<210> 3608
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3608
cagagtgngt 10

<210> 3609
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3609
gagagtgngt 10

<210> 3610
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3610
tagagtgngt 10

<210> 3611
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3611
cngagtgngt 10

<210> 3612
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3612
ncgagtgngt 10

<210> 3613
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3613
acgagtgngt 10

<210> 3614
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3614
ccgagtgngt 10

<210> 3615
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3615
gcgagtgngt 10

<210> 3616
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3616
tcgagtgngt 10

<210> 3617
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature

<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3617
gngagtgngt 10

<210> 3618
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3618
nggagtgngt 10

<210> 3619
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3619
aggagtgngt 10

<210> 3620
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3620
cggagtgngt 10

<210> 3621
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3621
gggagtgngt 10

<210> 3622
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3622
tggagtgngt 10

<210> 3623
<211> 10

<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (2)..(2)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3623
tngagtgngt 10

<210> 3624
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3624
ntgagtgngt 10

<210> 3625
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3625
atgagtgngt 10

<210> 3626
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3626
ctgagtgngt 10

<210> 3627
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3627
gtgagtgngt 10

<210> 3628
<211> 10
<212> DNA
<213> Artificial Sequence

<220>

<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (8)..(8)
<223> n is a, c, g, or t

<400> 3628
ttgagtgngt 10

<210> 3629
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> forward primer ABCB_54-73

<400> 3629
gccggcggct cctgttttac 20

<210> 3630
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> forward primer ANXA_101-120

<400> 3630
agtcgctgta ccacgacatc 20

<210> 3631
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> forward primer ARL1_87-106-1a-KE

<400> 3631
gctgccggat gtctgatctc 20

<210> 3632
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> forward primer DECA_23-43-KE

<400> 3632
tgctgtacct tgcagtgttc c 21

<210> 3633
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> forward primer DHFR_5-24

<400> 3633
ccatgaatca cccaggccat 20

<210> 3634
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> forward primer FAIM_197-217-KE

<400> 3634
gtgaaaccta ccccagagcc t 21

<210> 3635
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> forward primer GXYL_57-77

<400> 3635
ggaagcaatt gccaagaagc a 21

<210> 3636
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> forward primer HTT_E49_For

<400> 3636
tgcccagtca tttgcacctt 20

<210> 3637
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> forward primer MADD_137-156-KE

<400> 3637
tgccacagga aagggtccta 20

<210> 3638
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> forward primer MEMO_37-56

<400> 3638
tggagctctg agtgagtcaa 20

<210> 3639
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> forward primer OXCT_55-75-KE

<400> 3639
ggcctgacag tggatgacgt a 21

<210> 3640
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> forward primer PAPD_46-65-KE

<400> 3640
cccggagcag tgatggtgat 20

<210> 3641
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> forward primer PDXD_23-42

<400> 3641
tgtgccgtgt accctgtaac 20

<210> 3642
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> forward primer PMS1_104-127-KE

<400> 3642
tctcctcatg agctttggta tcct 24

<210> 3643
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> forward primer PPIP_34-57-KE

<400> 3643
tcagttgacc tatctccctc atgg 24

<210> 3644
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> forward primer PPP1R26e3F1

<400> 3644
cgtgtgggaa cactggctg 19

<210> 3645
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> forward primer RPRF_50-69-KE

<400> 3645
gccaaccgta tgagcttcgg 20

<210> 3646
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> forward primer RARS_30-53-KE

<400> 3646
ttggacattt gcgttctacc atca 24

<210> 3647
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> forward primer TNS3_6-29-KE

<400> 3647
ccaggtgata aacttgtgat cgtg 24

<210> 3648
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> forward primer Wnk1_45-67

<400> 3648
gctggtgttt ttaagatggg acg 23

<210> 3649
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> forward primer SF3B_107-127-2a

<400> 3649
ggcatcagct ttgccattca t 21

<210> 3650
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> forward primer SF3B_134-153-9a

<400> 3650
ttggacagcc tctctcccat 20

<210> 3651
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> forward primer MEMO_37-56

<400> 3651
tggagctctg agtgagtcaa 20

<210> 3652
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> forward primer DHFR_5-24

<400> 3652
ccatgaatca cccaggccat 20

<210> 3653
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> forward primer GCFC2e2F1

<400> 3653
ggagaaaaag aactttcatc aacag 25

<210> 3654
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> forward primer FAM174Ae2F1

<400> 3654
caggatgatg aggatgatga caac 24

<210> 3655
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> forward primer SOS2e19F1

<400> 3655
ctgaaaaaga gtttacagat tatttgttc 29

<210> 3656
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> forward primer COPS7Be2F1

<400> 3656
cggagtgtat gtctttggag aactt 25

<210> 3657
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> forward primer LMBRD2e16R1

<400> 3657
ggaatcttct ctattgtgtc cataacg 27

<210> 3658
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> forward primer ASAP1e11F1

<400> 3658
taccccttct tttcactgcc at 22

<210> 3659
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> forward primer PPP1R26e3F1

<400> 3659
cgtgtgggaa cactggctg 19

<210> 3660
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> forward primer NT5C2e12F1

<400> 3660
aaaccactct tttttggaga aggc 24

<210> 3661
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> forward primer ELMO2e2F1

<400> 3661
aggtgtagaa agaggtacat ggagaa 26

<210> 3662
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> reverse primer ABCB_235-254

<400> 3662
aggagctgcg gtagccatca 20

<210> 3663
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> reverse primer ANXA_302-321

<400> 3663
gagccaccag tcactgttca 20

<210> 3664
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> reverse primer ARL1_392-411-1a-KE

<400> 3664
tgaggcctat gcaaaccagg 20

<210> 3665
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> reverse primer DECA_168-190-KE

<400> 3665
ccatgagaca aggtagcatc tgt 23

<210> 3666
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> reverse primer DHFR_209-228

<400> 3666
tgcctttctc ctcctggaca 20

<210> 3667
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> reverse primer FAIM_367-388-KE

<400> 3667
agcaacatcc caaacagcta cg 22

<210> 3668
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> reverse primer GXYL_246-268

<400> 3668
aggaacggat gttgtcatct tca 23

<210> 3669
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> reverse primer HTT_E51_Rev

<400> 3669
gggtatttgt ccttctttct 20

<210> 3670
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> reverse primer MADD_288-309-KE

<400> 3670
tctcctctgt ctcaccaagg tc 22

<210> 3671
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> reverse primer MEMO_218-239

<400> 3671
tccccctggg attcatcata gt 22

<210> 3672
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> reverse primer OXCT_236-256-KE

<400> 3672
aatgaaaaac acgcagcctg g 21

<210> 3673
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> reverse primer PAPD_183-205-KE

<400> 3673
aaggtgagta tatgccgtgc ttc 23

<210> 3674
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> reverse primer PDXD_179-199

<400> 3674
caagcaacag gggcagtctt c 21

<210> 3675
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> reverse primer PMS1_285-308-KE

<400> 3675
acatgagagc catcttgtga tctg 24

<210> 3676
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> reverse primer PPIP_149-172-KE

<400> 3676
ttcacctccc cattttagaa ccaa 24

<210> 3677
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> reverse primer PPP1R26e4R1

<400> 3677
gcgatgcttt atttctctac cg 22

<210> 3678
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> reverse primer RPRF_218-237-KE

<400> 3678
tcgtttacct gtgtctgccg 20

<210> 3679
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> reverse primer RARS_251-270-KE

<400> 3679
atgccccaat cgccaaggta 20

<210> 3680
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> reverse primer TNS3_96-116-KE

<400> 3680
cggctccttg tccttcaaca t 21

<210> 3681
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> reverse primer Wnk1_187-207

<400> 3681
ctgaggactc tgaggtgctg g 21

<210> 3682
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> reverse primer SF3B_256-275-2a

<400> 3682
gtactttgcc agtgttgggg 20

<210> 3683
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> reverse primer SF3B_304-324-9a

<400> 3683
actctcagag atgatcgggg t 21

<210> 3684
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> reverse primer MEMO_218-239

<400> 3684
tccccctggg attcatcata gt 22

<210> 3685
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> reverse primer DHFR_209-228

<400> 3685
tgcctttctc ctcctggaca 20

<210> 3686
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> reverse primer GCFC2e3R1

<400> 3686
gaataaaagc tgcatctggg atc 23

<210> 3687
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> reverse primer FAM174Ae3R1

<400> 3687
caacattgat atagtggctt cttattc 27

<210> 3688
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> reverse primer SOS2e20R1

<400> 3688
ctgaagaagc agatactggt ggag 24

<210> 3689
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> reverse primer COPS7Be3R1

<400> 3689
gtatgtccca taggcaaaca ggtt 24

<210> 3690
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> reverse primer LMBRD2e15F1

<400> 3690
aaaggcaaga agaaggtgaa aatc 24

<210> 3691
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> reverse primer ASAP1e12R1

<400> 3691
gctaactgca ctccgagact taat 24

<210> 3692
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> reverse primer PPP1R26e4R1

<400> 3692
gcgatgcttt atttctctac cg 22

<210> 3693
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> reverse primer NT5C2e13R1

<400> 3693
tagacgatac catgctgtag ggg 23

<210> 3694
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> reverse primer ELMO_232-252

<400> 3694
ttgataatgg atgccagggg c 21

<210> 3695
<211> 120
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene ABCC3

<400> 3695
ggcccatagg aaggacgcaa aggcctgtgt gtgcaggcca gaaaaaggct atccacacag 60

ggtggccagg acactttctc ctgtaaggaa gggatgcacc agccaggcct gaaagaatga 120

<210> 3696
<211> 66
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene ADCY3

<400> 3696
cggatcaaag attgaagaaa gattgtactc ctgtgtcgtg gctccaacac tgaggctgag 60

atggga 66

<210> 3697

<211> 63
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene AGPAT4

<400> 3697
gatactgcag ccatcagcag acaatcaatg caatcatctc agactgtgtc ctgcgtccca 60

gga 63

<210> 3698
<211> 133
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene ANKRA2

<400> 3698
aagtactgtc agctttgaag gagaaggctt catggaggag ctgtgacttg actccagagt 60

gaaaggataa ttaggattga tacaggacgg aggaaggaag gcatccaggc aatctcaata 120

aaagcatcca tga 133

<210> 3699
<211> 121
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene ANXA11

<400> 3699
agtatctcct gcatgccagc aagctatgga catctggaag aagccacatg ccttgccctc 60

aagttgctta gggtggaagg aaatgattag aaatgagcca agccgagcct gcactcttag 120

a 121

<210> 3700
<211> 141
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene APIP

<400> 3700
ctctgaaatt aaatccctac tgactggccc ttgaactgat tttttctaac atcagcaaaa 60

gtcaaggagt gtttccctaa aaaagaaagc atttactcag aaaccgtata ttgaagtcca 120

ggctgaaaaa tgcaaacatg a 141

<210> 3701
<211> 276
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene APPL2

<400> 3701
tcagggctgt acgctgtgga ccaaagatca tgctcgctga tgagagccac cctgctggtg 60

acctcagtgc tgccgaccca tttacatccc agccctgcca cattcctaca gtgggaggtt 120

gaacacattt cttaaccttg atgagcctca gtttcatcat cagtaaaatg aagttaatgg 180

aaccatggaa tctaccttgg agagttgcta gaagaattaa atgaagtcac atatgtttag 240

tgcccagcac agcgtccagc acataggtgg tacaga 276

<210> 3702
<211> 49
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene ARHGAP1

<400> 3702
ggccgtcaac ctttccacct tgaaactggt gtcaggagca ccctgcaga 49

<210> 3703
<211> 82
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene ASAP1

<400> 3703
gttgttgcag ctgcgcacct gctctgtgaa gcacagattg tcatgggggc agttctctca 60

aaaacatggc atattgtgat ga 82

<210> 3704
<211> 179
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene ASAP1

<400> 3704
agcaaacccc attgtcaggg gaaagcagaa caaagaaaag tatttagaaa tgtatttccg 60

ggatgcacag attcttttca ccctcacctt cccctaggtt gttgcagctg cgcacctgct 120

ctgtgaagca cagattgtca tgggggcagt tctctcaaaa acatggcata ttgtgatga 179

<210> 3705
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene ASAP1

<400> 3705
tctaggaga 9

<210> 3706
<211> 16
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene ASAP1

<400> 3706
atcgaagtct aggaga 16

<210> 3707
<211> 58
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene ASPH

<400> 3707

tcattctgat ctactgaaat tccccagttc agactccatt gaaagccctg ggatggca 58

<210> 3708
<211> 174
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene ATAD2B

<400> 3708
gtcatctgag caaatgtaat cactcatcta cccacaaaat ggctaaatga cttaattcaa 60

ctccctttgt tgatttgcct gttagtttgt ttatctggtg gtctatctat taaatgttta 120

ttgagtacct gcagtgccag atgctgtgct gggtgtttgg aatgcaaaaa atga 174

<210> 3709
<211> 99
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene ATXN1

<400> 3709
tttcataaag aggacagacg ctaaggcaat tgtgtggaac agagcagctt ctcggggtaa 60

ccatctcctg ctgatgtata aatatcgggg caaaactga 99

<210> 3710
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene BECN1

<400> 3710
gatcccattg atggatggaa actctagttt ttacttaga 39

<210> 3711
<211> 88
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene BHMT2

<400> 3711
gatgttttca tctggcccaa gaagaacttg ttcttaatgt taaaagacct ttttgctaaa 60

ctgggaagaa agtgctggaa taacaaga 88

<210> 3712
<211> 92
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene BICD1

<400> 3712
gtcaatttct gccttgtgga taattttctg aatctgtaat atttctgaag attcctccaa 60

gtatttacag aacatacaga agtattttat ga 92

<210> 3713
<211> 93
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene BTN3A1

<400> 3713
atcttgttct cagaggccat tcccagaccc acagcaagag ggattatggc tgcaggcctc 60

atgctccttt gttttggaag aaactgttga gga 93

<210> 3714
<211> 90
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene C11orf30

<400> 3714
gccttgttca aagctctggg catctagcaa tgagtaagat agtcaagatc tgtgctctgt 60

ccacgttctc ttggagctta cattttaaga 90

<210> 3715
<211> 164
<212> DNA

<213> Artificial Sequence

<220>
<223> iExon produced in gene C11orf73

<400> 3715
gtaattattg aacatctact tgctgcctac tttcaacatc tgcatgtgtg tgtgaatatt 60

aaatatcaca ccaagacatt gttcagagga gacagaatag tgagctgaga taaatgagaa 120

tctctctatg gaagattaga ctggagcatg aacttgaaat atga 164

<210> 3716
<211> 93
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene C14orf132

<400> 3716
aacaaagaca aatcccggat ttctccatca gtctgtgacc ctagagaaga cccagagctg 60

gctccaggga agggctgcgt ttggcctggg aga 93

<210> 3717
<211> 68
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene C8orf88

<400> 3717
tgttcccttt caactttcaa aacgaatatc catgcaacac tcagtgcata caaagtggag 60

ttagcaga 68

<210> 3718
<211> 47
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene CASC3

<400> 3718
gagaaagttt cctgtctttt ggataaacta ctagagatgc catcaga 47

<210> 3719
<211> 131
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene CASP7

<400> 3719
ggttgcagag agcactggtt gaagcctatc ctgaagctac cttggtagag gagttaattg 60

caccaggaga cctaatttca gaaaggtcac agattatatt ccaccctcca caaaagtaac 120

ctggaagatg a 131

<210> 3720
<211> 34
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene CCDC122

<400> 3720
taacatattt tattgaggta taattgtcat aaga 34

<210> 3721
<211> 34
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene CDH13

<400> 3721
gtttttggg aacaggtggt gtttggttac atga 34

<210> 3722
<211> 82
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene CECR7

<400> 3722
cgagaggaag aggagaagca tgcaggagtg tacatgaaac aagattggcc acgagatgac 60

aaatatctga atccgctgat ga 82

<210> 3723
<211> 97
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene CEP112

<400> 3723
aaccaacttc aagatggctg cagcagtgcc aggcattctg cccagatctg cactattcgg 60

aggcagaaaa gggctgccag tttctagggc ctaatga 97

<210> 3724
<211> 83
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene CMAHP

<400> 3724
aatgaacact ccatgagagc agggacctgc tttgccttgt tcaccacttt attcccagtg 60

gctagaacca cgtctgacac aga 83

<210> 3725
<211> 154
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene CNRIP1

<400> 3725
gtcttactct tgtcaccgag gctggagtgc agtggtgtga tcatagctca ctgcagcctc 60

aacctcctgg atccaagtga tcctcctgcc tcagcctccc aagttgctgg cactacaggt 120

gtggtatcac cacacccggt taactaaaaa aaat 154

<210> 3726
<211> 136
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene CNRIP1

<400> 3726
ttaaccgggt gtggtgatac cacacctgta gtgccagcaa cttgggaggc tgaggcagga 60

ggatcacttg gatccaggag gttgaggctg cagtgagcta tgatcacacc actgcactcc 120

agcctcggtg acaaga 136

<210> 3727
<211> 141
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene CPSF4

<400> 3727
aagagacagg atttcaccgt gacagccagg atggtctccg tgccagccag gatggtctcg 60

atctcctgac cttgtgatcc gcccacctcg gccttccaaa gtgctgggat taccagcgtg 120

atccactgcg cccggccatg a 141

<210> 3728
<211> 259
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene CRISPLD2

<400> 3728
attgggtctt atccccaaga tatctcatta tgtacatgca aatcagcgga gcatcgtcat 60

gacaccagga ggacaccccg tgacgccgat taccgcactc tcaacctcaa cccagcgtca 120

gagttttctg gcatctcttc tttgagcctg gccgcctgca gctggaaatg ctcatatatg 180

gtggtgtgac taacctgaga gagagagatc agggatcctg agaagttctg cattcttggt 240

ctgcttccca gtgggacga 259

<210> 3729
<211> 61
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene CRYBG3

<400> 3729
ggcctttctg tctggtgtgt gcagaatgat ctgggtcacc tctgaggccc atatttatag 60

a 61

<210> 3730
<211> 34
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene CSNK1G1

<400> 3730
gttattgggg tacagatggt gtttggttac atga 34

<210> 3731
<211> 227
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene DAGLB

<400> 3731
ttggatcatc atcgctgcca cagtggtttc cattatcatt gtctttgacc ctcttggggg 60

gaaaatggct ccatattcct ctgccggccc cagccacctg gatagtcatg attcaagcca 120

gttacttaat ggcctcaaga cagcagctac aagcgtgtgg gaaaccagaa tcaagctctt 180

gtgctgttgc attgggaaag acgaccatac tcgggttgct ttttcga 227

<210> 3732
<211> 178
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene DCAF17

<400> 3732
ttttgccaag gagtttgtcc acagagctct tcatgccctc atgctggaag tggaaatctg 60

gacatgttat cttatcatgt cattatcaca cctaggaaaa tgagcaacaa ttcttcagga 120

tcatttaatg tcaagtttat aacttcctgc tttaacttaa aaaaaaaatt aaattaga 178

<210> 3733
<211> 56
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene DCUN1D4

<400> 3733
gccgaagatg gtgttagtga ttgcgagctg ctggctggca cccttgcaga gcagga 56

<210> 3734
<211> 158
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene DDX42

<400> 3734
gtgcagtttg aacagggctt gacagtggct ggaccatcac taagtgagac tttaattcat 60

caagcataac tgaaaatgga ggcagtagat tatatcttgg tagccagcat gtgtagactt 120

gtcttatttg gagcccactt ggaattttca tttcaaga 158

<210> 3735
<211> 59
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene DENND1A

<400> 3735
ctgtggcata agaatgaaaa gaaaagaaac aaaagcagat ggcagagaaa acgaaagga 59

<210> 3736
<211> 131
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene DENND5A

<400> 3736

gccaaaatca tattatatga tcaacctcaa gtgcatggga agctgtgaaa gtgaacattg 60

aactgggtat aatgttaccc tgaacagtat gaaggtctat gagcaagaaa gaaggggtga 120

atgaattatg a 131

<210> 3737
<211> 46
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene DENND5A

<400> 3737
ataggacagc atttaaaaat ctcatgtgga agaatatacc actaga 46

<210> 3738
<211> 97
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene DGKA

<400> 3738
acctgggcct cccaagcatt atccagctca gttcctgcct ggcacatgga tggtgtgggg 60

caggcatgca gtagcagctg atcttttagg aggaaga 97

<210> 3739
<211> 122
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene DIAPH3

<400> 3739
gtaaattaga cccaaaataa ctcccaggga gcaatacaca gcctggaaaa catgaaacaa 60

ggagcggctg tttggtgtaa taaaggagga gcaccaggct gaattttcag aggcctaata 120

ga 122

<210> 3740
<211> 48
<212> DNA

<213> Artificial Sequence

<220>
<223> iExon produced in gene DIAPH3

<400> 3740
ggttttgttc ctaatgtcac atgtttccta agtaattcag cataaaga 48

<210> 3741
<211> 80
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene DLGAP4

<400> 3741
gagaggacta gaaggaacgg ttcccacctc tcggaggaca acggacccaa agcgatcgat 60

gtgatggcac cctcctcaga 80

<210> 3742
<211> 164
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene DNAJC13

<400> 3742
cccactgtgg agacctactg ctcaggaaaa aaagagcttt caaaatacta ctgctcgttg 60

gcaatgcacc tggtcaccca agagctccga tggagatgta caaggagatt aatgttttca 120

tgcctgctaa tacagcatcc attttgcagc ccatggatca agga 164

<210> 3743
<211> 82
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene DNMBP

<400> 3743
tttgaaaatc aaatattgaa tgcaaaagct aggaagctgt aaacaggaaa cgtaaacgag 60

aaagaacaag cagtgaatac ga 82

<210> 3744
<211> 82
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene DNMBP

<400> 3744
cattggccag gactactaga actgtgtcaa aacagctgct acactaacgg gcatctttgt 60

cttgttctca gtcttaaaaa ga 82

<210> 3745
<211> 55
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene DOCK1

<400> 3745
gaacgttggg gatgcagatg accagtatct agtgctgcgt gactttggat tacga 55

<210> 3746
<211> 71
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene DYRK1A

<400> 3746
gttcagggat gctggaaagg acactgaagt aggccttggc tgatgggcct ttcagaagtg 60

aacacttaag a 71

<210> 3747
<211> 85
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene EIF2B3

<400> 3747
ggaactgact tgttttccaa tggaggagga acatttgctg cctacactgg tttgaagcat 60

taaaagggga gaaaaagagc taaga 85

<210> 3748
<211> 92
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene ENOX1

<400> 3748
ttactctaga agtcgtacta cattttctga gagaagtagg aggtgagacg agagtaagta 60

acttctgctc tctgaatatt tcaattaggc ag 92

<210> 3749
<211> 63
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene ERC1

<400> 3749
acagaccctt ccagaaccag atgaccatca agacaaaagc atactcaagc agacaagaaa 60

gga 63

<210> 3750
<211> 72
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene ERCC1

<400> 3750
gtgactgaat gtctgaccac cgtgaagtca gtcaacaaaa cggacagtca gaccctcctg 60

accacatttg ga 72

<210> 3751
<211> 15
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene ERGIC3

<400> 3751
tacatgctgt ggaga 15

<210> 3752
<211> 98
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene ERLIN2

<400> 3752
ggccaaagga ataactggga aggtggatgc gaggccaacg aatcctacct tgaaactctg 60

ctcgcctgct ggctctgcca ctccagcatc tgaaagga 98

<210> 3753
<211> 108
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene EVC

<400> 3753
ttccatacaa ctatcccgct gattctttct tcaaagaagc aaaccctcct ttgcttttta 60

tattttcttc acacatggaa atgggggatg tggagggcct tgcacaga 108

<210> 3754
<211> 69
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene FAF1

<400> 3754
taatttttaa cagtgtaaag gggtcctgag accaaaaagt ttgagaactg ctgcaatcaa 60

ctataaaga 69

<210> 3755
<211> 95
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene FAIM

<400> 3755
gctggtctcg agttcctggc ttcaaatgat tctcctgtct cagcctctca aagtgcgggg 60

attacaggga tgagccacca tgcacactcc aagga 95

<210> 3756
<211> 62
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene FAM126A

<400> 3756
gtcaattttt ctgaccacct gaacagattg ttttctgtca attaagggca gctttgttac 60

ga 62

<210> 3757
<211> 34
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene FAM13A

<400> 3757
gttttgggga aacagatggt gtttgcttac atga 34

<210> 3758
<211> 58
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene FAM174A

<400> 3758
actgctgtgg aattcctgag aaagagcaac tgagggatag caacatggat ttcactga 58

<210> 3759
<211> 101
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene FAM198B

<400> 3759
cagcagcagc agcgtgtctt tccatgcgct tggcattctt tattttccca gcctgggagg 60

atatgagagt tccagggaaa tgctgtattg gacatgcaag a 101

<210> 3760
<211> 81
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene FBN2

<400> 3760
gattaattac cgttaatgtc ttggagacta taacgtacac tgcacgttgt aataacacaa 60

aaggacaagc aagatgtaag a 81

<210> 3761
<211> 34
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene FER

<400> 3761
gtttctgggg agcaggtggt gtttgcttac atga 34

<210> 3762
<211> 92
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene FHOD3

<400> 3762
gacaaaaagc aaagaagaag actgtggtct agaagccgaa ggaagatgag aaggaagagt 60

gtccgaggag tcagccacag ccagaaagga ga 92

<210> 3763
<211> 47
<212> DNA

<213> Artificial Sequence

<220>
<223> iExon produced in gene FOCAD

<400> 3763
cattgactcc gttatctaca caataaaatc tggatccaca gataaga 47

<210> 3764
<211> 34
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene GALC

<400> 3764
gtttttggag aataggtggt atttggttac atga 34

<210> 3765
<211> 103
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene GCFC2

<400> 3765
caagagagaa agagaggaat caagaatggg tccattgagg aattggcctg agcaactgga 60

aggacagagg tgccatttcc tgaaatgaaa aagtctgaca gga 103

<210> 3766
<211> 96
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene GGACT

<400> 3766
taagatgcta tgaggaaatc cgtgcacgag ggatgacagc gtggcaggct ggaacacgct 60

ttttagattt actttcgtgg actggatctg ttaaga 96

<210> 3767
<211> 58
<212> DNA

<213> Artificial Sequence

<220>
<223> iExon produced in gene GLCE

<400> 3767
ggcagaggtg gagaggggtt agattatttc atctgcccta cagttggcat aataaaga 58

<210> 3768
<211> 116
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene GOLGA4

<400> 3768
gtccagggat tgaaggctgg ggagtagagc catcctgggt caggctgctg gtaggagcgg 60

tgggacctga aagacgtggc ggcgtggccg gcgtccagcg cccgaggctg tcacga 116

<210> 3769
<211> 47
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene GOLGB1

<400> 3769
aggtgcctga tgctgttaat tcctgagcct tttgaagatt ctgcaga 47

<210> 3770
<211> 64
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene GXYLT1

<400> 3770
ggattgtttg tattcctgcc aatgatttgt gagacagtct gttccccaca tcctcgtcaa 60

caga 64

<210> 3771
<211> 76
<212> DNA

<213> Artificial Sequence

<220>
<223> iExon produced in gene HAT1

<400> 3771
ttcgttttcc tgaagatctt gaaaatgaca ttagaacttt ctttcctgag tatacccatc 60

aactctttgg ggatga 76

<210> 3772
<211> 100
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene HLTF

<400> 3772
tcttgctctg tcgcccaggc tggagtgcaa tggcgcgatc tcagctcact gcaacctcca 60

cctcccaggt tcaagtgatc ctgctgcctc agcctcttga 100

<210> 3773
<211> 16
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene HMGA2

<400> 3773
cttgttggga ataaga 16

<210> 3774
<211> 290
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene HNMT

<400> 3774
ataccagaat tgctgttaac aaataaaata ctggccagat gtgttggttc acgcctgtaa 60

tcctagcact tcgggaggct gaggcgggag gattacttga gcctaggagt ttgagaccag 120

cctgggcaac atagcaagat cccatctcta caaaaaagtg aaaaagttag ctgaacaagg 180

cggcatgcac atgctactcc agacgctgaa gtgggaagat cacttaagtc cgagagatcg 240

aggcttcagt gagatatggc tgagacactg ctctcagcct ggatgacaga 290

<210> 3775
<211> 143
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene HPS1

<400> 3775
tttggagaat gcctgttcat tgccatcaat ggtgaccaca ccgagagcga gggggacctg 60

cggcggaagc tgtatgtgct caagtacctg tttgaagtgc actttgggct ggtgactgtg 120

gacggtcatc ttatccgaaa gga 143

<210> 3776
<211> 34
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene HSD17B12

<400> 3776
gttattgggg aacaggtggt gtttggttac atga 34

<210> 3777
<211> 78
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene HSD17B4

<400> 3777
ctttctgaca tcttaacgag gcaatacaga gagacgaatt ttcatcagtt tgttcaggga 60

gacacatata acaaaaga 78

<210> 3778
<211> 115
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene HTT

<400> 3778
aggcaagccc tggtgctgtg ggagccccaa ggaagagcct ctggcctggt ggccacgtag 60

cccaggagag atttctacag gagcccacag cgctgaagga gagagaggca gcaga 115

<210> 3779
<211> 51
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene IFT57

<400> 3779
atccatacat acttaatgct gaaatgtgaa gggctgagaa aaaagaaaag a 51

<210> 3780
<211> 231
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene INPP5K

<400> 3780
cacatacatc aggaggtctg cctgatccca tggtgaaccc cgggaatccg aaatcagatt 60

gagataagat cctttaggga agtgacttag cctggtctct tgcctgctct ttcacgggga 120

acaacgctaa tcgcccactt agtctaagtc acgatgcttg gatttgctgc taatcgtcgg 180

atttgagagt gggaacaaga aatccggact tttgctctcc atcctcttag a 231

<210> 3781
<211> 95
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene IVD

<400> 3781
ctctgaatgg cctgtctcct ggacaaagaa gctttcacgg actactctgc agggaggtga 60

cattggacca gagctgactc cacctggggg aaaga 95

<210> 3782
<211> 181
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene KIAA1524

<400> 3782
gtcaggaatt atggttaaag gtggattttc actgatggta ataagatatt actttatacc 60

ccttccctcc tcatgaatta agtccatcta atctttactg aggacctgct gagtggtaga 120

cactatgatt tgtttctgtt tccacagatg tcacaattgt cagtaattgt ggacctttag 180

a 181

<210> 3783
<211> 219
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene KIAA1715

<400> 3783
ttctcaggtt ttcttgacac caagaaagag agggaatcaa gaagatcggt tgtaagagag 60

caattcaaca tgaaaatact gaagaagaga tgggagagag agagagataa ttgttttctt 120

cagagttttc cactttctat cagtaactct gatcacatgg atatctattg tggggctagt 180

tgatgcatcc cttcagatgt gttggaaaga ggaccaaga 219

<210> 3784
<211> 52
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene LUC7L3

<400> 3784
tgtaggaaag caagttggtg ctagatgact ccttttagga ctttaagaaa ga 52

<210> 3785
<211> 82
<212> DNA

<213> Artificial Sequence

<220>
<223> iExon produced in gene LYRM1

<400> 3785
gtgaagtagt atttgaagct tttcatcagt tggctcattc tttactcaag aataaacctc 60

aagaaacgtc atcagggtca ga 82

<210> 3786
<211> 54
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene MADD

<400> 3786
aattgtggaa caagcaccag gaagtgaaaa agcaaaaagc tttggaaaaa caga 54

<210> 3787
<211> 79
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene MB21D2

<400> 3787
gcatgtttat gtgggaatgt ctctccatgt ttacaaactt cagaaggccc ctttgggaaa 60

gaaaacctct cagagaaga 79

<210> 3788
<211> 99
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene MCM10

<400> 3788
tcttgctctg ttgccaggct agagtgcagt ggcgcagtct tggctcgcta cagcctctgc 60

ctcctgggtt caagcgatcc tcctgcctca gcctcacga 99

<210> 3789

<211> 92
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene MED13L

<400> 3789
gtcattttta acatggattc ttagatgctg acaaatattg ccaaattcca ttccaaaaga 60

ggttacactt atttcctttc atcagtgaat ga 92

<210> 3790
<211> 96
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene MED13L

<400> 3790
ctcctctgag tgttcctcca aatctgtctt ttggagtaga cctagaaatc atctgttact 60

aaggtgtact atgcatgtgg aaccattgat ttaaga 96

<210> 3791
<211> 175
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene MEDAG

<400> 3791
gagaggccag gaacagaatg cccagtaaca agaagtgctc attagaacat ctgaagccca 60

cgtgttcttt ggcttgatta taaccagaaa gccagatagt tctttaggaa tgtaattcac 120

agctgtatca agtacacctc ctgcaccgat cactcaggag gaatctaaaa aaaga 175

<210> 3792
<211> 53
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene MEMO1

<400> 3792

aaagcgtgct ctggaatgga ttcacaaatg agctaccctc cttccctcaa aga 53

<210> 3793
<211> 135
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene MMS19

<400> 3793
cattaattta cagaaataca cgtattctcc ttgttttggt ggaagctgca gctgccaatc 60

atctctcaaa ccctgtgggt agctgctaag ctgtatttca gaggaatgtc acaatcatac 120

cactggggag aaaga 135

<210> 3794
<211> 75
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene MRPL45

<400> 3794
gtctgggtgg tggctcatac ccgtaatcca gcacttttgg aggccgaagt gggaggattg 60

tttctgggca gcaga 75

<210> 3795
<211> 122
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene MRPS28

<400> 3795
atgggacctg caaaggataa actggtcatt ggacggatct ttcatattgt ggagaatgat 60

ctgtacatag attttggtgg aaagtttcat tgtgtatgta gaagaccaga agtggatgga 120

ga 122

<210> 3796
<211> 42
<212> DNA

<213> Artificial Sequence

<220>
<223> iExon produced in gene MTERF3

<400> 3796
ggacgtgtct ccgtgctaaa gacctagaga ttacaacgat ga 42

<210> 3797
<211> 89
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene MYCBP2

<400> 3797
gcatctagca tagaactccc tattctgcat tatgactact ggaccactta tctctctgcc 60

ctacttgata agttccatga ggacaaaga 89

<210> 3798
<211> 156
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene MYCBP2

<400> 3798
gtgaccaact gagtgccata ttgaattcca ttcagtcacg acccaatctc ccagctcctt 60

ccatctttga tcaagctgca aaacctccct cttccctagt acacagccca tttgtgttcg 120

gacagcccct ttccttccag cagcctcagc ttcaga 156

<210> 3799
<211> 118
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene MYOF

<400> 3799
ggtgagaagt ttctgaaggt gcttgaacgc tcttcttcca cacgagggca ccaagttgaa 60

gcgggaagaa cactgagcca tcagttagaa ggctcaggat atggtccagt tctaacga 118

<210> 3800
<211> 74
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene NREP

<400> 3800
tgttccaggg cgccattaac gattggagtt ggcacaaaat ttgaaactag aagtggacta 60

tttgctcctt gaga 74

<210> 3801
<211> 84
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene NSUN4

<400> 3801
gggctcagga gtccagcggt cctaagtata ccttgcagcc atcttcctaa aagttctgac 60

catgactgag gacactgaga agga 84

<210> 3802
<211> 49
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene NT5C2

<400> 3802
agttttggtc ttaactgaaa cagtcaaaca aacccactaa ttgaaaaga 49

<210> 3803
<211> 47
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene OSMR

<400> 3803
cttcctgaga gtttcttggc ctatacccag ctgaagtgca gggaaga 47

<210> 3804
<211> 75
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene OXCT1

<400> 3804
attttgaaag aagtctgtct ctcaaatatt taaagaatca aaatgatgtc gtattaaagc 60

ttgacaagct aatga 75

<210> 3805
<211> 63
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene PAPD4

<400> 3805
agctctacct ctgttttgaa atgtcattag tttggatatg ttaccaggat gcagcaaaga 60

aga 63

<210> 3806
<211> 103
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene PCM1

<400> 3806
ttatggacca gcatttccat cttttactgg cctgaaataa tataataaaa tctttaagcc 60

accataagat atctaaggaa aataactgta tgtggtttaa aga 103

<210> 3807
<211> 141
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene PDS5B

<400> 3807

gcattagaaa cattcatatt atgaaaatac tacctttta ttctcacttg gtgtactgat 60

gtgcattacg gtggagagca gtaggctgca gattttgtgc tgcatagcct gagcagcacc 120

gtgttatagt ttgacataag a 141

<210> 3808
<211> 190
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene PIK3R1

<400> 3808
tgctctacaa gtatagaaag aagccttcct cttcccaccg tccccagaca ccacataatg 60

gaaaaagcaa gaattttctg cataagcaag gccttaaaaa aaaaaaagcc agcctctgat 120

gggacttctt tcctgccaga aatcccactg gtccactgtc gcaattttta caaaaggcca 180

cgatgaaaga 190

<210> 3809
<211> 66
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene PIKFYVE

<400> 3809
tggaaagaac ctcatttgag ctatgcttgg tcacagacct agagaaagtt cacggggaag 60

taaaga 66

<210> 3810
<211> 202
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene PITPNB

<400> 3810
gcgaaaatgg gcagtgttta caggcatgaa tgctggtgga aagagcagag taagggcaga 60

ttgcacaaga accgtggagg ccctggttcc catcacctcc acctcagcac agacttcaga 120

gaggagagga ggcactggat gcatgacagc agcacttgag ataggtgctc caggtggaag 180

gcactgcaca tgcaaaggct ga 202

<210> 3811
<211> 47
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene PITPNB

<400> 3811
tgagcttgga gtgaagtcta gtacgtctgt gcagcaaaga gaccaga 47

<210> 3812
<211> 49
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene PLSCR1

<400> 3812
gaccacataa acccattttg aattattcaa ccattgctga acttcttga 49

<210> 3813
<211> 92
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene PMS1

<400> 3813
ggattccccc agcagacgtt tttcatctaa gaaatggctt gagtgcttcc ttttatcggg 60

tgctgtgata gattctcaaa atatgaaaat ga 92

<210> 3814
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene PPIP5K2

<400> 3814

aacccaacac agatcttaat accatgaaaa gga 33

<210> 3815
<211> 181
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene PRSS23

<400> 3815
agcaatctct ttgtatttat acaattatga caacagtagt aagagaagaa ggttcagagg 60

atacaaggta acacacctac ataaacgacc tactgggtac aaatattgta aatcaacata 120

ggcctagaaa aggtggtcag atgctgaatt ttgactaaat acctccgatg gcacataatg 180

a 181

<210> 3816
<211> 48
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene PRUNE2

<400> 3816
aactagctgc ctttacaatg atccagaaat gtcttctatg gagaagga 48

<210> 3817
<211> 67
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene PSMA4

<400> 3817
agagacgcaa catccacaag cttcttgatg aagtcttttt ttctgaaaaa atttataaac 60

tcaatga 67

<210> 3818
<211> 96
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene PXK

<400> 3818
ctgtaaagtt tgactgagaa atgttgcatc agccctgaag tttattgaga aaatcttacg 60

ctgatgcaaa ctttttggac tgttagtgtc ttatga 96

<210> 3819
<211> 60
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene RAF1

<400> 3819
aataacaacc tgagtgcttc tcccagggcg tggtccagac gattttgttt gaggggaaga 60

<210> 3820
<211> 138
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene RARS2

<400> 3820
aattggagaa attagtactt gtggcataga ttgttgtgcg gtcagctctt actgttcttg 60

agcagcattt taagagaaga aatgacagga cttgatgaaa aagtataaga aatatacagt 120

ataaaaaaag ctatatga 138

<210> 3821
<211> 116
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene RFWD2

<400> 3821
gactaagatt tgaatttatt atgtatatga agatcttaaa atttaagcca ttagctaaag 60

aaactattgg aggagatctt ttattgtatt ctgtcagctg tttaactcag taatga 116

<210> 3822

<211> 77
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene RNFT1

<400> 3822
gaatttctct tggaattggg ctgctaacaa cttttatgta tgcaaacaaa agcattgtaa 60

atcaggtttt tctaaga 77

<210> 3823
<211> 59
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene RPA1

<400> 3823
acgtcagcta tcagtttaag cattacttct atgcctagtt tgctgagact ttataatga 59

<210> 3824
<211> 41
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene RPS6KB2

<400> 3824
gacgcatgtc cccttgccga gttgagggca gctggcctag a 41

<210> 3825
<211> 102
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene SAMD4A

<400> 3825
atgtgatggg aagtctctgg aagagttgag aaggagaatg aaggcgcttc attgaccctt 60

gaaaatgacc actctgaatg cggcacagag agtaatgaaa ga 102

<210> 3826

<211> 118
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene SAR1A

<400> 3826
tgcatctaag tggcattctg attcacatta ttgataagac tgatttccta gagttgttct 60

tcactggatg acagcagtcg tatgtctagg gaatgtgaat gaaccgctgc ctggagga 118

<210> 3827
<211> 60
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene SCO1

<400> 3827
agaaaggatt tgaacttggc cttcatgtat caactaagtt aatcgagcct tgaattgaga 60

<210> 3828
<211> 112
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene SEC24A

<400> 3828
agaccgggtc tctcgttgtc acccaggtta gagtgcagtt ccatgatcat agctcactgc 60

agccttgaac tcttgggctc aagcagtcct cctgcctcag cctccagaca ga 112

<210> 3829
<211> 65
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene SERGEF

<400> 3829
gtgtcttcaa aaacaaacat atttaaaaga ttttacttct catctccagg aagaaccagc 60

tagga 65

<210> 3830
<211> 53
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene SH3YL1

<400> 3830
gtaacagaaa tgaatataag ctctatcctg gactttccag ctatcatgag aga 53

<210> 3831
<211> 100
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene SKA2

<400> 3831
aaaaatccag ttacactctt aaaggaattg tcagtgataa agtctcgata tcaaactttg 60

tatgcccgct ttaaaccagt tgctgttgag cagaaagaga 100

<210> 3832
<211> 76
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene SMYD3

<400> 3832
ctatatcaga aaagcaggaa accagagaaa atatacctat ttgaaagtgg catgtcagct 60

gggatgagag agaaga 76

<210> 3833
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene SNAP23

<400> 3833
tattggaata tgacagggaa gatgaattca ctatga 36

<210> 3834
<211> 90
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene SNHG16

<400> 3834
aggcctttct ttgtttggca tctgcagaga cggtgaaaag cagagctcca ggttgaagga 60

tcagagtaat agatggagcc cttaacatga 90

<210> 3835
<211> 144
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene SNX7

<400> 3835
agtttgcaaa ggaaggaaag gagcagagac ttgaatgagc agaaaatcat ttcagggcct 60

gttctctatg tccttgctat ccctgtcttc tgtagctatt ctgaaaccat caacaaagga 120

gcacaccatt ccatcagcaa aaga 144

<210> 3836
<211> 64
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene SPATA5

<400> 3836
aacctttata taaatggaat catactgtat acaacctttt ggaattagct tttttcacat 60

atga 64

<210> 3837
<211> 114
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene SPIDR

<400> 3837
gtattcagta gaagcagatg aacagccaga tgaagagatg gatagagcaa gacatggaca 60

ttataaagga attcaataga agcacatgaa cggccagatg aagagatgga taga 114

<210> 3838
<211> 129
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene SPRYD7

<400> 3838
gtgtggttgt acgtgcctgt agtcccagct acttgagagg ctgagctgag aggatctctt 60

gagccgggga ggtcaagtct cctgtgagca gtgatcatcg tgccgctgca ctccagcctt 120

ggcaccaga 129

<210> 3839
<211> 70
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene SRGAP1

<400> 3839
tcacagatac cacgtgttaa tatctaaagt agaaaaagga ataaagcaaa ggaggacaaa 60

aagaaaagga 70

<210> 3840
<211> 79
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene STAT1

<400> 3840
gtttgttatc tgcagatcaa ggatgtgagt caatgtaatc tgcaacccgt tcttggaagg 60

aatcacattt cccacagga 79

<210> 3841

<211> 99
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene STXBP6

<400> 3841
gtggtccctg agttaagaac atgcaatggc actctctcaa ggagaggaag gagccaaaga 60

agaaagaggt ccaaagcaga aaagagcaga cagctaaga 99

<210> 3842
<211> 99
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene SUPT20H

<400> 3842
ttgaagacga taattctaac ttcctgtcag ttgaagacga taattctaac ttcctgtcag 60

ttgaagacga taattctaac ttcacactta attaaaaga 99

<210> 3843
<211> 156
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene TAF2

<400> 3843
gaagatgatc accttgccaa ggaagcatca tgtaatatat cagctcatca gcagggagtg 60

aagaggaagt ctgatacacc actggggtcc ccactagaac ctggtcaaat actggagaag 120

aatgaggata gcagtaaagt caaactcaaa atcaga 156

<210> 3844
<211> 83
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene TAF2

<400> 3844

ttttgagatc caccaaatat gtcattgttg ccagtcttct ttcccaagat gtatggatag 60

tttttaatgt ctcataaata tga 83

<210> 3845
<211> 162
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene TBC1D15

<400> 3845
tttgacagac ctgaaatcaa tcaagcaaaa caaagagggt atgggctggt cctatttggt 60

attctgtcta aaggatgacg tcgttctccc tgctctacac tttcatcaag gagatagcaa 120

actactgatt gaatctcttg aaaaatatgt ggtattgtgt ga 162

<210> 3846
<211> 34
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene TCF12

<400> 3846
gtttttgggg aacaggtggt atttggtgac atga 34

<210> 3847
<211> 87
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene TJP2

<400> 3847
ggattggtgt ctctatcatc cagctggcca ttaaacaacc aaagcttcat catcctagat 60

aacctgtgag ctctcagagg agacaga 87

<210> 3848
<211> 149
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene TMEM189-UBE2V1

<400> 3848
gagtaaaagt ccctcgcaat ttccgactgt tggaagaact cgaagaaggc cagaaaggag 60

taggagatgg cacagttagc tggggtctag aagatgacga agacatgaca cttacaagat 120

ggacagggat gataattggg cctccaaga 149

<210> 3849
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene TMEM214

<400> 3849
ccatcctaga tctgagattt gcaacctgga agttcaaga 39

<210> 3850
<211> 134
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene TNS3

<400> 3850
gcaggcccac ccatgaaaca tacacgacac cacagagacc tccctgaagg tccctcaact 60

gcatggacat gtagttcttc cagccaagca gagggatccc ggccaggtcc ccactgatcc 120

agtttgcaaa aaga 134

<210> 3851
<211> 34
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene TOE1

<400> 3851
gtttatgggg aacaggtggt gtttggttaa atga 34

<210> 3852

<211> 76
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene TRAF3

<400> 3852
caccaataca ttattatgaa gtcagtacag agagattggc atcttagtat tttctgagga 60

agagaacagc caaaga 76

<210> 3853
<211> 35
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene TSPAN2

<400> 3853
gttttgtggg gaacaggtgg tgtttggtta catga 35

<210> 3854
<211> 58
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene TUBE1

<400> 3854
agtggttggt gatggtggaa gtatttccaa gggaaaaata tgttctttaa aagcacga 58

<210> 3855
<211> 51
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene TYW5

<400> 3855
tgacagcatg aactgtcaga agctttgagt tcaagcatct tgggagcaag a 51

<210> 3856
<211> 149
<212> DNA

<213> Artificial Sequence

<220>
<223> iExon produced in gene UBE2V1

<400> 3856
gagtaaaagt ccctcgcaat ttccgactgt tggaagaact cgaagaaggc cagaaaggag 60

taggagatgg cacagttagc tggggtctag aagatgacga agacatgaca cttacaagat 120

ggacagggat gataattggg cctccaaga 149

<210> 3857
<211> 80
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene URGCP

<400> 3857
gctttggggc agtggtcatt tccgggacca ggccttttca ttgccagctg actacccagc 60

actttgagct catgaataga 80

<210> 3858
<211> 111
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene XRN2

<400> 3858
gtggtttgaa ttgagaaggg aagtatagca aaagcttgag aaagccttac cgtctggagt 60

ttggactgta tcctataggc aatgagtagt catgaaaatg atttgagagg a 111

<210> 3859
<211> 54
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene XRN2

<400> 3859
ccatcaacaa ctcttagctg aaagagggat aaggcccaag caaggataga gaga 54

<210> 3860
<211> 40
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene ZNF232

<400> 3860
gtgagagact ttgcctgttt catcactcat aaaattagga 40

<210> 3861
<211> 188
<212> DNA
<213> Artificial Sequence

<220>
<223> iExon produced in gene ZNF680

<400> 3861
gcagaactgg ccgtgaactg tggctcaggg agctggaact gagtcatcga actgcttcag 60

aaaccacagt aaaggacaag gtctgcaggc ctgcctgcgt ggctataaat ggctgtcttc 120

ctccaggcct ctggaagggc acggtctctc ccagactgtg gctgggagga gtttgggatg 180

attagaga 188

<210> 3862
<211> 10
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(2)
<223> n is a, c, g, or u

<400> 3862
nngaguragu 10

<210> 3863
<211> 4
<212> DNA

<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(2)
<223> n is a, c, g, or t

<400> 3863
nnga 4

<210> 3864
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<220>
<221> misc_feature
<222> (1)..(2)
<223> n is a, c, g, or t

<400> 3864
nngagtragt 10

<210> 3865
<211> 8
<212> DNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3865
gagtragt 8

<210> 3866
<211> 8
<212> RNA
<213> Artificial Sequence

<220>
<223> intronic recognition element for splicing modifier (REMS)

<400> 3866
gaguragu 8