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EP 1707627A1

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(54)名稱

拮抗 CD40 之抗體多肽

ANTIBODY POLYPEPTIDES THAT ANTAGONIZE CD40

(57)摘要

本發明提供特異性結合人類 CD40 之新穎抗原決定基的抗體多肽。該等抗體多肽不展現 CD40 促效劑活性。該等抗體多肽適用於治療涉及 CD40 活化之疾病，諸如自體免疫疾病。該等抗體多肽可為包含單一 V_L 或 V_H 域之域抗體(domain antibody, dAb)。該等抗體多肽之半衰期可藉由將該等抗體多肽修飾成亦可結合人類血清白蛋白(human serum albumin, HSA)之雙特異性試劑而增加。

Antibody polypeptides that specifically bind a novel epitope of human CD40 are provided. The antibody polypeptides do not exhibit CD40 agonist activity. The antibody polypeptides are useful in the treatment of diseases involving CD40 activation, such as autoimmune diseases. The antibody polypeptides may be domain antibodies (dAbs) comprising a single V_L or V_H domain. The half-life of the antibody polypeptides may be increased by modifying the antibody polypeptides to be dual specific reagents that can also bind human serum albumin (HSA).

指定代表圖：

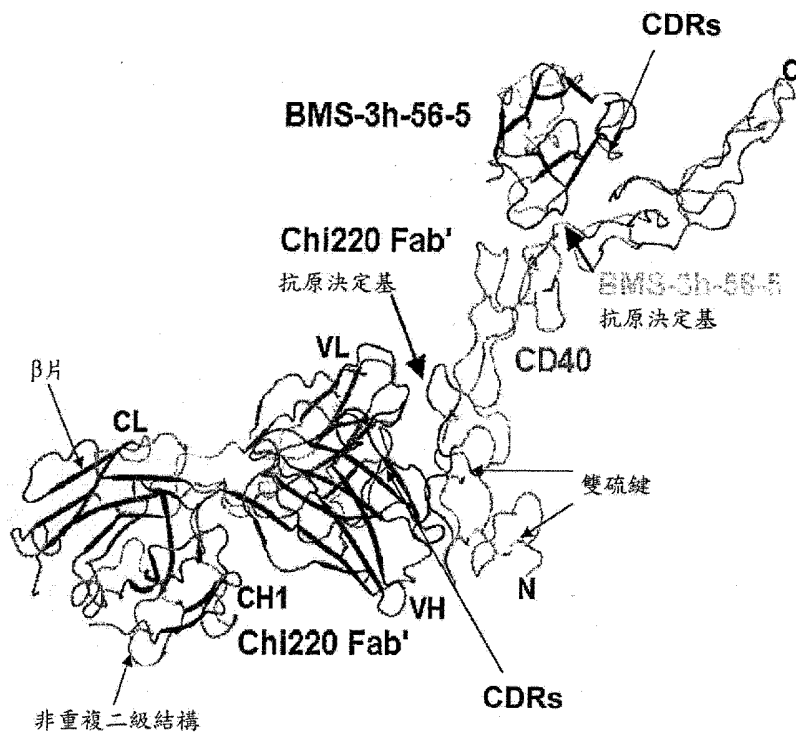


圖 1

發明專利說明書

(本說明書格式、順序，請勿任意更動)

【發明名稱】

拮抗CD40之抗體多肽

ANTIBODY POLYPEPTIDES THAT ANTAGONIZE CD40

【技術領域】

本發明提供靶向CD40且不展現CD40促效劑活性之抗體及其片段、包含前述者之組合物及使用前述者治療涉及CD40活性之疾病的方法。

序列表

本申請案含有ASCII格式之序列表且其據此以全文引用的方式併入本文中。2012年4月17日創建之該ASCII複本被命名為200896WO.txt且大小為1,188,530位元組。

【先前技術】

CD40為屬於存在於抗原呈現細胞(antigen presenting cell, APC)(包括樹突狀細胞、B細胞及巨噬細胞)上之腫瘤壞死因子(tumor necrosis factor, TNF)受體超家族之協同刺激分子。APC在CD40結合 T_H 細胞上之其配位體CD154 (CD40L)時活化。CD40介導之APC活化涉及多種免疫反應，包括細胞激素產生、協同刺激分子(諸如CD86)之上調及抗原呈現及B細胞增殖增強。CD40亦可由內皮細胞、平滑肌細胞、纖維母細胞及上皮細胞表現。

CD40活化亦涉及多種與例如自體免疫性、移植排斥反應或過敏反應相關之不當T細胞反應。控制不合乎需要之T細胞反應的一個策略為以拮抗性抗體靶向CD40。舉例而言，先前稱為Chiron 1212之單株抗體HCD122(魯卡木單抗(Lucatumumab))有關治療某些CD40介導之

發炎性疾病目前處於臨床試驗階段。參見網際網路之超文字傳送協定：clinicaltrialsfeeds.org/clinical-trials/show/NCT01275209 (2011年1月11日最後更新)上之「Study of HCD122 (Lucatumumab) and Bendamustine Combination Therapy in CD40⁺ Rituximab-Refractory Follicular Lymphoma」, Clinical Trials Feeds。然而，單株抗體可顯示促效劑活性。舉例而言，抗CD40抗體Chi220之適用性受限於其弱刺激潛能。參見Adams等人，「Development of a chimeric anti-CD40 monoclonal antibody that synergizes with LEA29Y to prolong islet allograft survival」, *J. Immunol.* 174: 542-50 (2005)。

【發明內容】

在臨床環境中仍需要不具有部分促效劑活性之抗CD40抗體拮抗劑。本發明提供特異性結合人類CD40之新穎抗原決定基之新穎抗體多肽。如由競爭分析及由自抗體多肽與CD40共結晶得到之結構所示，CD40抗原決定基不與Chi220抗原決定基重疊。該等抗體多肽有利的是不展現CD40促效劑活性。該等抗體多肽適用於治療涉及CD40活化之疾病，包括自體免疫疾病、移植排斥反應及過敏反應。該等抗體多肽包含可變域。在一個實施例中，抗體多肽呈含有單一可變域之域抗體(dAb)形式。在另一個實施例中，dAb為包含可結合例如人類血清白蛋白(HSA)之第二可變域之雙特異性試劑。

本發明提供一種包含第一可變域之抗體多肽，其中該抗體多肽特異性結合人類CD40之抗原決定基，其中該抗原決定基包含SEQ ID NO: 1之胺基酸序列，其中該抗體多肽與域抗體(dAb) BMS3h-56-269 (SEQ ID NO: 417)競爭結合，且其中該抗原決定基包含至少一個選自由Trp109、Leu121、His122、Ser124、Ser156、Ala157、Phe158、Glu159及His162組成之群的CD40胺基酸殘基。

進一步提供一種抗體多肽，其中第一可變域包含選自由BMS3h-

37、BMS3h-38、BMS3h-56及BMS3h-198組成之系群的抗體多肽之一之胺基酸序列，且其中第一可變域之表觀結合常數為1 pM至100 nM。進一步提供一種抗體多肽，其中第一可變域之表觀結合常數為1 pM至10 nM。

亦提供一種抗體多肽，其中第一可變域之胺基酸序列包含(a)與BMS3h-56-269 (SEQ ID NO: 417)之CDR1區有至多兩個胺基酸不同的CDR1區、(b)與BMS3h-56-269 (SEQ ID NO: 417)之CDR2區有至多兩個胺基酸不同的CDR2區、(c)與BMS3h-56-269 (SEQ ID NO: 417)之CDR3區有至多兩個胺基酸不同的CDR3區、(d)與BMS3h-56-269 (SEQ ID NO: 417)之FR1區有至多兩個胺基酸不同的FR1區、(e)與BMS3h-56-269 (SEQ ID NO: 417)之FR2區有至多兩個胺基酸不同的FR2區、(f)與BMS3h-56-269 (SEQ ID NO: 417)之FR3區有至多兩個胺基酸不同的FR3區及(g)與BMS3h-56-269 (SEQ ID NO: 417)之FR4區有至多兩個胺基酸不同的FR4區。

亦提供一種抗體多肽，其中第一可變域之胺基酸序列包含(a)與BMS3h-56-269 (SEQ ID NO: 417)之CDR1區有至多兩個胺基酸不同的CDR1區、(b)與BMS3h-56-269 (SEQ ID NO: 417)之CDR2區有至多兩個胺基酸不同的CDR2區、(c)與BMS3h-56-269 (SEQ ID NO: 417)之CDR3區有至多兩個胺基酸不同的CDR3區。

進一步提供一種抗體多肽，其中第一可變域之胺基酸序列與BMS3h-56-258 (SEQ ID NO: 10)或BMS3h-56-269 (SEQ ID NO: 417)之胺基酸序列有至多10個胺基酸不同。

進一步提供一種抗體多肽，其中第一可變域之胺基酸序列與BMS3h-56-258 (SEQ ID NO: 10)或BMS3h-56-269 (SEQ ID NO: 417)之胺基酸序列有至多5個胺基酸不同。

進一步提供一種抗體多肽，其中第一可變域之胺基酸序列與

BMS3h-56-258 (SEQ ID NO: 10)或BMS3h-56-269 (SEQ ID NO: 417)之胺基酸序列有兩個胺基酸不同。

進一步提供一種抗體多肽，其中第一可變域之胺基酸序列與BMS3h-56-258 (SEQ ID NO: 10)或BMS3h-56-269 (SEQ ID NO: 417)之胺基酸序列有一個胺基酸不同。

進一步提供一種抗體多肽，其中該抗體多肽係選自BMS3h-56之系群，且其中第一可變域之胺基酸序列進一步包含：(a)具有序列X₁-Tyr-Glu-Y₁-Trp (SEQ ID NO: 1274)之CDR1區，其中X₁為Asp或Gly，且Y₁為Met或Leu；(b)具有序列Ala-Ile-Asn-Pro-X₂-Gly-Y₂-Z₂-Thr-Tyr-Tyr-Ala-Asp-Ser-Val-A₂-Gly(SEQ ID NO: 1275)之CDR2區，其中X₂為Gln、Tyr、Pro、Trp或Ala，Y₂為Thr、Ser、Asn、Gly、Met或Gln，Z₂為Arg、Leu、Tyr、His或Phe，且A₂為Lys或Met；及(c)具有序列X₃-Pro-Y₃-Z₃-Phe-A₃-B₃ (SEQ ID NO: 1276)之CDR3區，其中X₃為Leu或Pro，Y₃為Phe、Gln、Thr或Met，Z₃為Tyr、Pro、Leu、Thr、Ile、Phe或Met，A₃為Gln、His、Asp、Ser、Lys、Glu或Gly，且B₃為Glu、Asp或Tyr。

進一步提供一種抗體多肽，其中第一可變域之胺基酸序列包含：

(a)具有序列Glu-Val-Gln-Leu-Leu-Glu-Ser-Gly-Gly-Gly--Leu-Val-Gln-Pro-Gly-Gly-Ser-X₁-Arg-Leu-Ser-Cys-Ala-Ala-Ser-Gly-Phe-Thr-Phe-Y₁ (SEQ ID NO: 1277)之FR1區，其中X₁為Leu或Arg，且Y₁為Arg或Ala；

(b)具有序列Trp-Val-Arg-X₂-Ala-Pro-Gly-Y₂-Z₂-Leu-Glu-Arg-Val-Ser (SEQ ID NO: 1278)之FR2區，其中X₂為Gln或Arg，Y₂為Lys或Arg，且Z₂為Gly或Val；

(c)具有序列Arg-Phe-Thr-Ile-Ser-Arg-Asp-Asn-Ser-Lys-Asn-X₃-Lys-Tyr-Leu-Gln-Met-Asn-Ser-Leu-Arg-Ala-Y₃-Asp-Thr-Z₃-Val-Tyr-A₃-Cys-B₃-Lys (SEQ ID NO: 1279)之FR3區，其中X₃為Thr或Met，Y₃為Glu或Asp，Z₃為Ala或Ser，A₃為Tyr或His，且B₃為Ala或Thr；及

(d)具有序列 X₄-Gly-Y₄-Gly-Thr-Leu-Val-Thr-Val-Ser-Z₄ (SEQ ID NO: 1280)之FR4區，其中 X₄為 Trp或 Arg，Y₄為 Gln或 Pro，且 Z₄為 Ser或 Asn。

進一步提供一種抗體多肽，其中第一可變域包含 BMS3h-56-258 (SEQ ID NO: 10)或 BMS3h-56-269 (SEQ ID NO: 417)之胺基酸序列。

進一步提供一種抗體多肽，其中該抗體多肽係選自 BMS3h-37 之系群，其中第一可變域包含序列 Glu-Val-Gln-Leu-Leu-Glu-Ser-Gly-Gly-Gly-Leu-Val-X₁-Pro-Gly-Gly-Ser-Leu-Arg-Leu-Ser-Cys-Ala-Ala-Ser-Gly-Phe-Thr-Phe-Glu-Trp-Tyr-Glu-Met-Gln-Trp-Val-Arg-Arg-Ala-Pro-Gly-Lys-Gly-Leu-Glu-Trp-Val-Ser-Ala-Ile-Ser-Gly-Asp-Gly-Tyr-Arg-Thr-Tyr-Tyr-Ala-Asp-Ser-Val-Lys-Gly-Arg-Phe-Thr-Ile-Ser-Arg-Asp-Asn-Ser-Lys-Asn-Thr-Leu-Tyr-Leu-Gln-Met-Asn-Ser-Leu-Arg-Ala-Glu-Asp-Thr-Ala-Val-Tyr-Tyr-Cys-Ala-Lys-Y₁-Leu-Z₁-A₁-Phe-Asp-Tyr-B₁-Gly-Arg-Gly-Thr-Leu-Val-Thr-Val-Ser-Ser (SEQ ID NO: 1281)；且其中 X₁為 Gln或 Arg；Y₁為 Glu或 Gly；Z₁為 Ala、Leu或 Glu；A₁為 Phe或 Tyr；且 B₁為 Trp或 Arg。

亦提供一種抗體多肽，其中該抗體多肽係選自 BMS3h-38 之系群，其中第一可變域包含序列 Glu-Val-Gln-Leu-Leu-Ala-Ser-Gly-Gly-Gly-Leu-Val-Gln-Pro-Gly-Gly-Ser-Leu-Arg-Leu-Ser-Cys-Ala-Ala-Ser-Gly-Phe-X₁-Phe-Glu-Glu-Glu-Glu-Met-Ile-Trp-Val-Arg-Gln-Ala-Pro-Gly-Lys-Gly-Leu-Glu-Trp-Val-Ser-Y₁-Ile-Ser-Z₁-A₁-Gly-B₁-C₁-Thr-Tyr-Tyr-Ala-Asp-Ser-Val-Lys-Gly-Arg-Phe-Thr-Ile-Ser-Arg-Asp-Asn-Ser-Lys-Asn-Thr-Leu-Tyr-Leu-Gln-Met-Asn-Ser-Leu-Arg-Ala-Glu-Asp-Thr-Ala-Val-Tyr-Tyr-Cys-Gly-Lys-Glu-Pro-Phe-D₁-Tyr-Asp-Tyr-Trp-Gly-Gln-Gly-Thr-Leu-Val-Thr-Val-Ser-Ser (SEQ ID NO: 1282)；且其中 X₁為 Thr或 Pro；Y₁為 Ala或 Ser；Z₁為 Arg或 Gly；A₁為 Arg、Ser、Asn、

Gln、Gly、His或Leu；B₁為Tyr、Phe、Trp或Gly；

C₁為Ser或Gly；且D₁為Arg、Met或Pro。

亦提供一種抗體多肽，其中該抗體多肽係選自BMS3h-198之系群，其中第一可變域包含序列Glu-Val-Gln-Leu-Leu-Glu-Ser-Gly-Gly-Gly-Leu-Val-Gln-Pro-Gly-Gly-Ser-Leu-Arg-Leu-Ser-Cys-Ala-Ala-Ser-Gly-Phe-Thr-Phe-Ala-Gly-Trp-Glu-X₁-Trp-Trp-Y₁-Arg-Gln-Ala-Pro-Gly-Lys-Gly-Leu-Glu-Arg-Val-Ser-Ala-Ile-Ser-Gly-Ser-Gly-Gly-Ser-Thr-Tyr-Tyr-Ala-Asp-Ser-Val-Lys-Gly-Arg-Phe-Thr-Ile-Ser-Arg-Asp-Z₁-A₁-Lys-Asn-Thr-Leu-Tyr-Leu-Gln-Met-Asn-Ser-Leu-Arg-Ala-Glu-Asp-Thr-Ala-Val-Tyr-B₁-Cys-Ala-C₁-D₁-Pro-Tyr-Ser-E₁-Asp-Tyr-F₁-G₁-H₁-Gly-Thr-Leu-Val-Thr-Val-Ser-Ser (SEQ ID NO: 1283)；且其中X₁為Met或Leu；Y₁為Val或Phe；Z₁為Asp或Asn；A₁為Ser或Thr；B₁為Tyr或His；C₁為Lys或Arg；D₁為Asp或Glu；E₁為Tyr或Phe；F₁為Trp或Arg；G₁為Gly或Arg；且H₁為Gln或His。

進一步提供一種抗體多肽，其中該抗體多肽為域抗體(dAb)。

進一步提供一種抗體多肽，其中可變域融合至Fc域。

進一步提供一種抗體多肽，其中該抗體多肽進一步包含特異性結合第二抗原之第二可變域，其中該第二抗原為除人類CD40以外之抗原。

亦提供一種抗體多肽，其中第二抗原為分化簇(cluster of differentiation, CD)分子或主要組織相容性複合體(Major Histocompatibility Complex, MHC) II類分子。

亦提供一種抗體多肽，其中第二抗原為血清白蛋白(SA)。

本發明提供一種編碼本文所揭示之抗體多肽的核酸。

本發明亦提供一種包含本文所揭示之核酸的載體。

本發明亦提供一種包含本文所揭示之載體的宿主細胞。

本發明提供一種包含治療有效量之本文所揭示之抗體多肽及醫藥學上可接受之載劑的醫藥組合物。本發明亦提供一種進一步包含免疫抑制/免疫調節劑及/或消炎劑之醫藥組合物。

本發明提供一種治療需要該治療之患者的免疫疾病之方法，其包含向該患者投與治療有效量之本文所揭示之醫藥組合物。本發明亦提供一種方法，其中該醫藥組合物與免疫抑制/免疫調節劑及/或消炎劑組合投與。

本發明提供一種治療免疫疾病之方法，其中該免疫疾病為自體免疫疾病或移植相關疾病。本發明進一步提供一種治療免疫疾病之方法，其中該免疫疾病係選自由以下組成之群：艾迪森氏病(Addison's disease)、過敏症、僵直性脊椎炎、哮喘、動脈粥樣硬化、自體免疫性耳病、自體免疫性眼病、自體免疫肝炎、自體免疫腮腺炎、結腸炎、冠心病、克羅恩氏病(Crohn's disease)、糖尿病(包括1型及/或2型糖尿病)、附睪炎、絲球體腎炎、葛瑞夫茲氏病(Graves' disease)、格-巴二氏徵候群(Guillain-Barre syndrome)、橋本氏病(Hashimoto's disease)、溶血性貧血、特發性血小板減少性紫癜、發炎性腸病、對重組藥品之免疫反應、全身性紅斑狼瘡、男性不育症、多發性硬化症、重症肌無力、天疱瘡、牛皮癬、風濕熱、類風濕性關節炎、類肉瘤病、硬皮病、休格連氏症候群(Sjogren's syndrome)、脊椎關節病、甲狀腺炎、移植排斥反應、血管炎、AIDS、異位性過敏症、支氣管哮喘、濕疹、麻風病、精神分裂症、遺傳性抑鬱症、組織及器官之移植、慢性疲勞症候群、阿茲海默氏病(Alzheimer's disease)、帕金森氏病(Parkinson's disease)、心肌梗塞、中風、自閉症、癲癇症、阿瑟氏現象(Arthus's phenomenon)、全身性過敏反應、酒精成癮及藥物成癮。

本發明亦提供一種使用特異性結合包含SEQ ID NO: 1之胺基酸序

列的人類CD40之抗原決定基的第一可變域靶向CD40之方法，其中抗體多肽與域抗體(dAb) BMS3h-56-269 (SEQ ID NO: 417)競爭結合。

本發明提供抗體多肽或其醫藥學上可接受之鹽的醫學用途，該抗體多肽包含特異性結合包含SEQ ID NO: 1之胺基酸序列的人類CD40之抗原決定基的第一可變域，其中該抗體多肽與域抗體(dAb) BMS3h-56-201 (SEQ ID NO: 9)競爭結合。

本發明提供抗體多肽或其醫藥學上可接受之鹽的用途，該抗體多肽包含特異性結合包含SEQ ID NO: 1之胺基酸序列的人類CD40之抗原決定基的第一可變域，其中該抗體多肽與域抗體(dAb) BMS3h-56-201 (SEQ ID NO: 9)競爭結合，該用途係用於製備用以治療免疫疾病之藥劑。在一些實施例中，醫藥組合物與免疫抑制/免疫調節劑及/或消炎劑組合投與。在其他實施例中，免疫疾病為自體免疫疾病或移植相關疾病。在其他實施例中，該免疫疾病係選自由以下組成之群：艾迪森氏病、過敏症、僵直性脊椎炎、哮喘、動脈粥樣硬化、自體免疫性耳病、自體免疫性眼病、自體免疫性肝炎、自體免疫性腮腺炎、結腸炎、冠心病、克羅恩氏病、糖尿病(包括1型及/或2型糖尿病)、附睪炎、絲球體腎炎、葛瑞夫茲氏病、格-巴二氏徵候群、橋本氏病、溶血性貧血、特發性血小板減少性紫癜、發炎性腸病、對重組藥品之免疫反應、全身性紅斑狼瘡、男性不育症、多發性硬化症、重症肌無力、天疱瘡、牛皮癬、風濕熱、類風濕性關節炎、類肉瘤病、硬皮病、休格連氏症候群、脊椎關節病、甲狀腺炎、移植排斥反應、血管炎、AIDS、異位性過敏症、支氣管哮喘、濕疹、麻風病、精神分裂症、遺傳性抑鬱症、組織及器官之移植、慢性疲勞症候群、阿茲海默氏病、帕金森氏病、心肌梗塞、中風、自閉症、癲癇症、阿瑟氏現象、全身性過敏反應、酒精成癮及藥物成癮。

本發明提供一種抗體多肽或其醫藥學上可接受之鹽，該抗體多肽

包含特異性結合包含SEQ ID NO: 1之胺基酸序列的人類CD40之抗原決定基的第一可變域，其中該抗體多肽與域抗體(dAb) BMS3h-56-201 (SEQ ID NO: 9)競爭結合，該抗體多肽或其醫藥學上可接受之鹽係用於製備用以治療免疫疾病之藥劑。該藥劑可例如與免疫抑制/免疫調節劑及/或消炎劑組合投與。免疫疾病可為例如自體免疫疾病或移植相關疾病。免疫疾病亦可選自由以下組成之群：艾迪森氏病、過敏症、僵直性脊椎炎、哮喘、動脈粥樣硬化、自體免疫性耳病、自體免疫性眼病、自體免疫肝炎、自體免疫腮腺炎、結腸炎、冠心病、克羅恩氏病、糖尿病(包括1型及/或2型糖尿病)、附睪炎、絲球體腎炎、葛瑞夫茲氏病、格-巴二氏徵候群、橋本氏病、溶血性貧血、特發性血小板減少性紫癍、發炎性腸病、對重組藥品之免疫反應、全身性紅斑狼瘡、男性不育症、多發性硬化症、重症肌無力、天庖瘡、牛皮癬、風濕熱、類風濕性關節炎、類肉瘤病、硬皮病、休格連氏症候群、脊椎關節病、甲狀腺炎、移植排斥反應、血管炎、AIDS、異位性過敏症、支氣管哮喘、濕疹、麻風病、精神分裂症、遺傳性抑鬱症、組織及器官之移植、慢性疲勞症候群、阿茲海默氏病、帕金森氏病、心肌梗塞、中風、自閉症、癲癇症、阿瑟氏現象、全身性過敏反應、酒精成癮及藥物成癮。

【圖式簡單說明】

圖1展示人類CD40(SEQ ID NO: 1)之兩種不同共晶體結構之結合模式，一者具有dAb BMS3h-56-5 (SEQ ID NO: 321)及一者具有Chi220抗體之Fab'。BMS3h-56-5及Chi 220 Fab'分子顯示為包含 β -股(在dAb中以箭頭表示)及非重複二級結構(在dAb中以環表示)之草圖。亦顯示互補決定區(CDR)，CD40亦顯示為包含人類CD40之BMS3h-56-5抗原決定基殘基之草圖。亦顯示Chi220抗原決定基殘基。亦顯示雙硫鍵。標記CD40之N端(N)及C端(C)。

圖2展示接觸人類CD40 (SEQ ID NO: 1)之BMS3h-56-5 (SEQ ID NO: 321)之空間填充模型，其以草圖顯示。顯示接觸CD40之dAb BMS3h-56-5之表面殘基。標記BMS3h-56-5 CDR3區及FR-2殘基Leu45、Arg47、Arg56及Phe99。在此圖中使用Kabat編號(Kabat等人, *Sequences of Immunological Interest*, 第5版, 美國健康與人類服務部(U.S. Dept. Health & Human Services), Washington, D.C. (1991)), 且與順序編號之不同之處在於使用插入殘基來保持 β -股之殘基編號相同。因此，對於BMS3h-56-5，順序殘基53變為殘基52A，順序殘基84、85及86分別變為82A、82B、82C，且Kabat殘基編號100缺失(其將介於順序殘基103與104之間)；CD40亦以包含非重複二級結構及BMS3h-56-5抗原決定基之草圖表示。在人類與長尾獼猴(*Macaca fascicularis*) (食蟹獼猴(cynomolgus monkey))之間不同的CD40殘基Ala115、Phe99、Ser126、His162、Leu121及Trp109以棒圖示法顯示。作為BMS3h-56-5抗原決定基之一部分的在人類與食蟹獼猴之間不同的CD40殘基為Trp109、Leu121及His162。CD40殘基Trp109及Leu121處於BMS3h-56-5 CDR3與FR-2之間間隙中。Trp109之突變大大降低或消除BMS3h-56-5活性。

圖3展示來自人類及靈長類動物物種之血液樣品上聚乙二醇化抗人類CD40 dAb BMS3h38-2C-P40Br之結合。圖3A顯示BMS3h38-2C-P40Br結合至人類及獼猴B細胞；圖3B顯示BMS3h38-2C-P40Br結合至人類、恆河猴及黑猩猩B細胞。

圖4、圖5、圖6及圖7顯示分別來自譜系BMS3h-56、BMS3h-37、BMS3h-38及BMS3h-198之代表性域抗體多肽之ClustalW2比對。

【實施方式】

專利或申請案檔案含有至少一個彩製圖式。在申請且支付必要的費用後，專利局將提供具有彩色圖式之本專利或專利申請公開案之複

本。

本發明提供特異性結合至人類CD40之抗體多肽。該等抗體多肽不展現CD40促效劑活性，且該等抗體多肽適用於治療涉及CD40活化之疾病，諸如自體免疫疾病。該等抗體多肽可使用利用細胞結合分析之初步篩檢，隨後進行一或多輪易錯或簡併寡核苷酸定向親和力成熟來選擇。結果，提供一類特異性結合單一CD40抗原決定基之抗體多肽。

「譜系」為如以下實例中所揭示由常見前驅體藉由易錯或簡併寡核苷酸定向親和力成熟而製備且預期結合相同CD40抗原決定基之一組相關抗體多肽。使用抗體多肽之命名表示各種譜系。舉例而言，命名「BMS3h-56」係指針對人類CD40所產生之譜系56之抗體多肽。

「譜系BMS3h-56」抗體多肽包括BMS3h-56-1直至BMS3h-56-33及BMS3h-56-202直至BMS3h-56-288。

因此，在一個態樣中，抗體多肽包含特異性結合人類CD40之可變域，其中該抗體多肽與表3中所列之任一域抗體(dAb)競爭結合。舉例而言，dAb可能屬於選自由以下組成之群的譜系：例如BMS3h-37、BMS3h-38、BMS3h-41、BMS3h-43、BMS3h-56、BMS3h-131、BMS3h-198及BMS3h-202，諸如dAb BMS3h-56-5、BMS3h-56-201或BMS3h-56-258。在另一個態樣中，抗體多肽特異性結合與表3中所列之任一dAb相同之人類CD40抗原決定基。舉例而言，抗體多肽可包含特異性結合與例如dAb BMS3h-56-5、BMS3h-56-201或BMS3h-56-258相同之人類CD40抗原決定基的可變域。如下文所揭示，人類CD40抗原決定基可包含例如SEQ ID NO: 1之胺基酸殘基Trp109。

抗體多肽可為含有單一可變域之域抗體。抗體多肽亦可包含其他結構域，諸如Fc域。舉例而言，抗體多肽可包含特異性結合人類血清白蛋白(HSA)之第二可變域。舉例而言，該等雙特異性抗體多肽可具

有增加之半衰期。

在序列表中，SEQ ID NO: 1為人類CD40之胺基酸序列；SEQ ID NO: 2為長尾獼猴CD40之胺基酸序列。域抗體BMS3h-56-5之胺基酸序列為SEQ ID NO: 321。

如本文所用，「特異性結合」係指抗體多肽結合抗原之解離常數(K_d)如例如藉由表面電漿子共振所量測，為約1 μ M或1 μ M以下。適當分析系統包括BIAcore™表面電漿子共振系統及BIAcore™動力學評估軟體(例如2.1版)。特異性結合相互作用之親和力或 K_d 可為約500 nM或500 nM以下或約300 nM或300 nM以下。

術語「約」將為一般熟習此項技術者所瞭解且在使用其之情形下將有一定程度之變化。一般而言，約涵蓋加上/減去提及值之10%的數值範圍。

根據此實施方式，以下縮寫及定義適用。須注意，除非本文另外明確規定，否則如本文所用，單數形式「一(a)」、「一(an)」及「該」包括複數個指示物。因此，舉例而言，提及「抗體」包括複數個該等抗體，且提及「劑量」包括提及一或多個為熟習此項技術者所知之劑量及其等同量等。

1. CD40及CD40活性

提供結合人類CD40之抗體多肽。CD40亦稱為B細胞表面抗原CD40、Bp50、CD40L受體、CDw40、CDW40、MGC9013、p50、TNFRSF5及腫瘤壞死因子受體超家族成員5。人類CD40之相關結構資訊可例如以UniProt寄存編號P25942、Q9BYU0及Q53GN5找到。「人類CD40」係指包含以下胺基酸序列之CD40：

MVRLPLQCVL WGCLLTAVHP EPPTACREKQ YLINSQCCSL CQPGQKLVSD
 CTEFTETECL PCGESEFLDT WNRETHCHQH KYCDPNLGLR VQQKGTSETD
 TICTCEEGWH CTSEACESCV LHRSCSPGFG VKQIATGVSD TICEPCPVGF
 FSNVSSAFEK CHPWTSCETK DLVVQQAGTN KTDVVCGPQD RLRALVVIPI
 IFGILFAILL VLVFIKKVAK KPTNKAPHPK QEPQEINFPD DLPGSNTAAP
 VQETLHGCQP VTQEDGKESR ISVQERQ (SEQ ID NO: 1) 。

亦已在小家鼠(*Mus musculus*)、野豬(*Sus scrofa*)、歐洲牛(*Bos taurus*)、雞(*Gallus gallus*)、家犬(*Canis familiaris*)、長尾獼猴(食蟹獼猴)、綿羊(*Ovis aries*)、家馬(*Equus caballus*)及褐家鼠(*Rattus norvegicus*)中對CD40測序。

本發明抗體多肽與CD40之結合拮抗CD40活性。「CD40活性」包括(但不限於)T細胞活化(例如誘導T細胞增殖或細胞激素分泌)、巨噬細胞活化(例如誘生巨噬細胞中之活性氧物質及氧化氮)及B細胞活化(例如B細胞增殖、抗體同型轉換或分化成漿細胞)。CD40活性可藉由與其他分子相互作用來介導。「CD40活性」包括CD40與以下分子之間的功能相互作用，該等分子以其Uniprot寄存編號於括號內標識：

CALR	(P27797) ;
ERP44	(Q9BS26) ;
FBL	(P22087) ;
POLR2H	(P52434) ;
RFC5	(P40937) ;
SGK1	(O00141) ;
SLC30A7	(Q8NEW0) ;
SLC39A7	(Q92504) ;
TRAF2	(Q5T1L5) ;
TRAF3	(Q13114) ;
TRAF6	(Q9Y4K3) ;
TXN	(Q5T937) ;

UGGT1 (Q9NYU2)；及
USP15 (Q9Y4E8)。

舉例而言，CD40「活性」包括與TRAF2之相互作用。CD40/TRAF2相互作用活化NF- κ B及JNK。參見Davies等人，*Mol. Cell Biol.* 25: 9806-19 (2005)。因此，此CD40活性可利用CD40依賴性細胞NF- κ B及JNK活化相對於參照組來測定。

如本文所用，術語「活化(activate)」、「活化(activates)」及「活化(activated)」係指既定可量測CD40活性相對於參照組增加至少10%，例如至少10%、25%、50%、75%或甚至100%或100%以上。若活性相對於不存在拮抗劑之情況降低至少10%，且在一個例示性實施例中降低至少約20%、30%、40%、50%、60%、70%、80%、90%、95%、97%或甚至100%（亦即無可偵測活性），則CD40活性被「拮抗」。舉例而言，抗體多肽可拮抗一些或所有CD40活性，而不活化CD40。在一個實施例中，抗體多肽不活化B細胞增殖。在另一個實施例中，抗體多肽不活化T細胞之細胞激素分泌，其中細胞激素為至少一種選自由以下組成之群的細胞激素：IL-2、IL-6、IL-10、IL-13、TNF- α 、IFN- γ 。

2. CD40抗原決定基

使用人類CD40 (SEQ ID NO: 1)與dAb BMS3h-56-5 (SEQ ID NO: 321)之間的複合物之X射線結晶學來揭示由本發明之抗體多肽所識別之抗原決定基。針對電子密度資料擬合CD40及BMS3h-56-5之結構模型以產生七種模型或型式之CD40/BMS3h-56-5複合物，其來自三種呈一種晶形之結晶學獨立複合物及四種呈第二晶形之結晶學獨立複合物。該等型式之主鏈原子之真實空間相關係數(real space correlation coefficient)為約0.92且側鏈原子之真實空間相關係數為0.80。在七種型式中CD40分子具有一定量之可撓性，但所有型式中均保留

CD40/BMS3h-56-5 相互作用之總體性質。該等型式在 CD40 殘基 Trp109 與 BMS3h-56-5 Trp103(Kabat 編號，參見下文)之間的相互作用不同。BMS3h-56-Trp103 與一種型式之 CD40 Trp109 形成邊對面相互作用，而與其他型式形成置換堆疊(亦即面對面)相互作用。

七種型式之形狀互補性統計值 Sc 在 0.70 至 0.77 之範圍內，此顯示與典型抗體抗原複合物相比形狀互補性之程度較高。舉例而言，此等值可與四種蛋白酶/蛋白質抑制劑複合物之 0.71 至 0.76 之範圍、五種寡聚界面之 0.70 至 0.74 之範圍及六種抗體/抗原複合物之 0.64 至 0.68 之範圍比較。參見 Lawrence 等人，「Shape Complementarity at Protein/Protein Interfaces」，*J. Mol. Biol.* 234: 946-950 (1993)。

圖 1 中顯示人類 CD40/BMS3H-56-5 複合物模型。一個 BMS3h-56-5 dAb 結合於一個 CD40 分子。BMS3h-56-5 抗原決定基不與 Chi220 Fab' 片段抗原決定基重疊。所有型式之複合物界定一組接觸 BMS3h-56-5 之 CD40 殘基：Trp109、Leu121、His122、Ser124、Ser156、Ala157、Phe158、Glu159 及 His162 (參考 SEQ ID NO: 1)。一些型式之複合物中接觸 BMS3h-56-5 之 CD40 殘基為 Pro85、Asn86、Leu87、Gly88、Glu106、Glu107、Gly108、His110、Thr112、Cys119、Val120、Gln133、Ile134、Ala135、Thr136、Ser155 及 Lys160。在所有型式中 Val154 為內埋 CD40 殘基。在一些型式中內埋之其他 CD40 殘基為 Ser118、Arg123、Thr141、Phe151、Asp153、Cys161 及 Pro163。

如本文所用，術語「接觸」係指原子間距離，其最大值決定於如 Sheriff 等人，*J. Mol. Biol.* 197: 273-296 (1987) 及 Sheriff, *Immunomethods* 3: 191-196 (1993) 所定義之原子型距離依賴性。

如本文所用，術語「內埋」係指一殘基具有至少一個具有由程式 MS (Connolly, *J. Appl. Crystallogr.* 16: 548-558 (1983)) 所定義之面積、 $1.7\text{\AA}$ 之探針球及如 Sheriff, *Immunomethods* 3: 191-196 (1993) 所定

義之原子型依賴性凡得瓦爾半徑(Van der Waals radii)的原子。

圖2顯示包括接觸殘基及內埋殘基之BMS3h-56-5 (SEQ ID NO: 321)之表面。CD40 (SEQ ID NO: 1)表示為帶狀圖，橙色表示非重複二級結構且洋紅色表示抗原決定基殘基。在各種非人類靈長類動物序列中所顯示之CD40殘基Trp109、Ala115、Leu121、Ser126及His162不同。CD40殘基Ala115及Ser126位於BMS3h-56-5結合位點之對側。Trp109及Leu121在位於BMS3h-56-5之CDR3與FR-2（殘基Leu45及Arg47)之間の間隙中結合。His162與BMS3h-56-5之CDR2中之殘基，尤其Lys 56相互作用。總之，CD40抗原決定基包含一或多個表1中所列之殘基，參考SEQ ID NO: 1中所用之編號。

表1

接觸BMS3h-56-5之CD40殘基：
Trp109、Leu121、His122、Ser124、Ser156、 Ala157、Phe158、Glu159、His162

BMS3h-56-5，如表3中所列之其他dAb，係使用人類CD40作為抗原藉由下文更詳細描述之篩檢及親和力成熟方法來製備。預期由常見前驅dAb藉由親和力成熟產生之dAb將結合相同人類CD40抗原決定基。舉例而言，下文所述之競爭研究指示由常見前驅dAb藉由親和力成熟產生之dAb彼此競爭結合於人類CD40。然而，相同競爭研究顯示dAb不與至少Chi220或G28-5抗體競爭。

3. 抗體多肽

抗體多肽包含可變域。在一個實施例中，抗體多肽呈含有單一可變域之dAb形式。抗體多肽可為包含藉由雙硫鍵互連之兩個重(H)鏈及兩個輕(L)鏈之全長抗CD40免疫球蛋白分子。在此實施例中，各鏈之胺基末端部分包括主要經由其中所含之互補決定區(CDR)負責抗原識別的約100至110個胺基酸之可變域(V_L或V_H)。各重鏈之羧基末端「半

部」界定主要負責效應功能之恆定區(Fc)。

抗體多肽亦可為包含含特異性結合CD40之可變域的全長抗CD40免疫球蛋白分子之一部分的「片段」。因此，術語「抗體多肽」包括例如抗原結合重鏈、輕鏈、重鏈-輕鏈二聚體、Fab片段、F(ab')₂片段、Fv片段、單鏈Fv (scFv)及dAb。因此，術語「抗體多肽」包括藉由重組工程改造及表現而產生之多肽，以及藉由天然重組及融合瘤細胞純系分泌所產生之單株抗體。

輕鏈係分類為 κ 或 λ ，且如此項技術中所知其特徵在於特定恆定區C_L。重鏈係分類為 γ 、 μ 、 α 、 δ 或 ϵ ，且將抗體之同型分別定義為IgG、IgM、IgA、IgD或IgE。對於IgG、IgD及IgA，重鏈恆定區包含三個結構域(CH1、CH2及CH3)；且對於IgM及IgE，包含四個結構域(CH1、CH2、CH3及CH4)。抗CD40抗體可具有選自任一免疫球蛋白類別(IgA、IgD、IgG、IgM及IgE)之重鏈恆定區。

各輕鏈可變域(V_L)及重鏈可變域(V_H)由三個CDR及四個構架區(FR)構成，自胺基末端至羧基末端按以下順序排列：FR1、CDR1、FR2、CDR2、FR3、CDR3、FR4。輕鏈之三個CDR被稱為「LCDR1、LCDR2及LCDR3」，且重鏈之三個CDR被稱為「HCDR1、HCDR2及HCDR3」。

如本文所用，術語「Fc域」係指包含CH2及CH3恆定域之恆定區抗體序列，如Kabat等人，*Sequences of Immunological Interest*，第5版，美國健康與人類服務部(U.S. Dept. Health & Human Services), Washington, D.C. (1991)所界定。Fc區可源自例如IgG1或IgG4 Fc區。可變域可融合至Fc域。在此情況下，可變域(V_L或V_H域，包括dAb)之羧基末端可連接或融合至Fc CH2域之胺基末端。或者，可變域之羧基末端可連接或融合至CH1域之胺基末端，CH1域之胺基末端本身融合至Fc CH2域。蛋白質可包含CH1與CH2域之間的鉸鏈區整體或部分。

CDR含有大部分與抗原形成特異性相互作用之殘基。如圖2中所示，例如CDR2及CDR3加上FR4殘基Trp103形成CD40與dAb BMS3h-56-5之間的大部分接觸。舉例而言，抗體多肽之可變域包含具有與表3中所列之dAb之一的CDR1、CDR2及CDR3區相同之胺基酸序列或各與CDR1、CDR2及CDR3區有一或兩個胺基酸不同之CDR1、CDR2及CDR3區。舉例而言，抗體多肽可包含具有與例如BMS3h-56-5、BMS3h-56-258或BMS3h-56-201之CDR1、CDR2及CDR3區相同之胺基酸序列的CDR1、CDR2及CDR3區。

「域抗體」(dAb)包含能夠特異性及單價結合抗原(諸如CD40)之單一可變(V_L 或 V_H)域。舉例而言，dAb可具有駱駝科動物dAb所特有之 V_{HH} 結構。如本文所用，「 V_H 域」意謂包括 V_{HH} 結構。在另一個實施例中，本發明之 V_H 域(包括作為本文之實施例呈現的所有特徵及特徵之組合)不為 V_{HH} 域。dAb可在溶液中形成均二聚體或雜二聚體。咸信二價抗CD40抗體由於能夠交聯結合細胞表面上之CD40分子而展現促效劑活性。儘管不受任何特定理論限制，但咸信單價dAb不活化CD40，因為該等dAb不與CD40交聯。

如本文所用，術語「可變域」係指由Kabat等人，*Sequences of Immunological Interest*，第5版，美國健康與人類服務部，Washington, D.C. (1991)所定義之免疫球蛋白可變域。可變域內CDR胺基酸殘基之編號及定位係根據熟知Kabat編號約定確定。舉例而言，在表2中比較BMS3h-56-5 (SEQ ID NO: 321)之Kabat編號與依序編號之相同序列。在Kabat編號中，BMS3h-56-5具有插入殘基52A、82A、82B、82C，且殘基100。在兩種編號系統中，給予作為表現構築體之一部分的N端之Ser及Thr負編號。

表2


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-2-1
  ||
BMS3h-56-5  ST

                                CDR1
Kabat          10          20          30          40          50
      -      |      -      |      -      |      -      |
順序          10          20          30          40          50
      -      |      -      |      -      |      -      |
BMS3h-56-5  EVQLLES GGGLVQPGGSLRLS CAASGFTFRDYEMWVVRQAPGKGLERVSA

                                CDR2
Kabat          60          70          80          90          --
      A -      |      -      |      -      |      ABC -      |
順序          60          70          80          90          100
      -      |      -      |      -      |      -      |
BMS3h-56-5  INPQGTRTRYADSV MGRFTISRDN SKNTLYLQMNSLRAEDTAVYYCAKLP

                                CDR3
Kabat          101          110          116
      |      -      |      -      |
順序          110          119
      -      |      -      |
BMS3h-56-5  FTFDDWGQGLVTVSSAAA

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術語「人類」在應用於抗體多肽時意謂抗體多肽具有源自人類免疫球蛋白之序列，例如FR及/或CH域。當序列係：(a)自人類個體或自人類個體之細胞或細胞株分離而得；(b)自經選殖之人類抗體基因序列或人類抗體可變域序列之文庫分離而得；或(c)藉由自一或多個以上多肽突變及選擇而多樣化時，該序列係「源自」人類免疫球蛋白編碼序列。如本文所用，「經分離」之化合物意謂該化合物已與在自然界中與該化合物天然締合之至少一種組分分離。

可將抗體多肽投與人類患者，同時基本上避免通常藉由投與來自其他物種(例如小鼠)之抗體而引起的抗抗體免疫反應。舉例而言，鼠類抗體可根據此項技術中熟知之程序藉由將鼠類CDR移植於人類可變域FR上而「人類化」。然而，如本文所揭示之人類抗體可在不需要鼠類抗體序列之基因操控之情況下產生。

可變域可包含一或多個具有與由人類生殖系抗體基因區段編碼之相應構架區相同之胺基酸序列的構架區(FR)。舉例而言，域抗體可包含 V_H 生殖系基因區段 DP47、DP45 或 DP38、V_K 生殖系基因區段

DPK9、J_H區段JH4b或J_K區段J_K1。

可改變抗體多肽序列，同時保留特異性結合CD40之能力。特定言之，抗體多肽(例如dAb)可包含保留特異性結合與dAb BMS3h-56-5相同之CD40抗原決定基的功能之變異型可變域。參見表1。亦即，變異型可變域可結合包含SEQ ID NO: 1之Trp109、Leu121、His122、Ser124、Ser156、Ala157、Phe158、Glu159及His162中之至少一者的人類CD40抗原決定基。在一個實施例中，變異型可變域抗原決定基可包含Trp109、Leu121、His122、Ser124、Ser156、Ala157、Phe158、Glu159及His162。或者，變異型可變域可特異性結合包含CD40殘基Trp109之CD40抗原決定基。在另一個實施例中，變異型可變域可與BMS3h-56-5競爭特異性結合於CD40。如以下實例中所揭示，易錯親和力成熟提供一種製造及鑑別具有特異性結合相同CD40抗原決定基之變異型序列的抗體多肽之例示性方法。

舉例而言，變異型可變域與表3中所列之可變域之一可有至多10個或其間之任何整數個氨基酸不同，其中該變異型可變域特異性結合CD40。或者，變異型可變域相對於本發明序列表中所列之序列可具有至少90%序列一致性(例如至少92%、95%或98%序列一致性)。在兩個序列之間不同的非一致氨基酸殘基或氨基酸可表示氨基酸取代、添加或缺失。當兩個序列藉由諸如BLAST之任何適當氨基酸序列比對演算法比對時，在兩個序列之間不同之殘基以非一致位置呈現。

其限制條件為可對個別FR區進行氨基酸取代，以便一或多個FR相對於由人類生殖系抗體基因區段編碼之相應FR之氨基酸序列包含至多兩個氨基酸差異。其限制條件進一步為變異型可變域在一或多個CDR中可含有一或兩個氨基酸取代。特異性結合CD40之代表性可變域列於表3中。

來自譜系BMS3h-56、BMS3h-37、BMS3h-38及BMS3h-198之抗體

多肽之代表性可變域之間的ClustalW2比對分別示於圖4、圖5、圖6及圖7中。通常，相關蛋白質序列之比對中胺基酸之保守程度與胺基酸位置對蛋白質功能之相對重要性成比例。亦即，所有相關序列中共有之胺基酸可能起重要作用且不能輕易被取代。另一方面，序列之間不同的位置可能經其他胺基酸取代或以其他方式修飾，同時維持蛋白質之活性。示於圖4、圖5、圖6及圖7中之比對以及例如由圖1及圖2確定之結構關係可引導特異性結合包含SEQ ID NO: 1之胺基酸序列的人類CD40之抗原決定基的變異型抗體多肽之建構，其中該抗體多肽與dAb BMS3h-56-201 (SEQ ID NO: 9)競爭結合。該等變異型抗體多肽包括(但不限於)具有對應於關於表3中所列之任一可變域的取代、插入或缺失之胺基酸修飾的變異型抗體多肽。變異型抗體多肽亦包括具有對應於表3中所列序列之間保守之胺基酸修飾的胺基酸修飾之變異型抗體多肽。

關於重鏈及輕鏈基因之 V_L 或 V_H 域之邊界的資訊可用於設計PCR引子以擴增來自編碼已知結合CD40之抗體多肽的經選殖之重鏈或輕鏈編碼序列之可變域。使用此項技術中熟知之技術，可將擴增之可變域插入適當表現載體(例如pHEN-1) (Hoogenboom等人，(1991) *Nucleic Acids Res.* 19:4133-4137)中且使其單獨地或以與另一多肽序列之融合物形式表現。基於所揭示之胺基酸及聚核苷酸序列，可產生融合蛋白且僅使用普通技術於任何適當哺乳動物宿主細胞株(諸如CHO、293、COS、NSO及其類似細胞株)中來純化，隨後使用一種方法或方法之組合來純化，該等方法包括蛋白質A親和層析法、離子交換法、逆相技術或其類似方法。

在一個態樣中，抗體多肽為包含特異性結合包含SEQ ID NO: 1之胺基酸序列的人類CD40之第一可變域的「雙特異性」抗體多肽。雙特異性抗體多肽包含特異性結合除人類CD40以外之第二抗原之第二

可變域。

在另一個實施例中，第二抗原可為例如免疫效應細胞之細胞表面分子或可溶性分子(諸如細胞激素)。雙特異性抗體多肽之結合可用於拮抗CD40且拮抗第二抗原之生物活性。免疫效應細胞之細胞表面分子包括分化簇(CD)分子。代表性CD標記列於網際網路之超文字傳送協定 en.wikipedia.org/wiki/List_of_human_clusters_of_differentiation 上(2012年2月22日進行最後修改)。免疫效應細胞之細胞表面分子亦包括主要組織相容性複合體(MHC) II類分子。針對此等細胞表面分子之抗體在此項技術中為已知的且可作為可變域來源用於構築雙特異性抗體多肽。

在一個實施例中，雙特異性配位體之抗體多肽可藉由「胺基酸連接子」或「連接子」連接。舉例而言，dAb可融合至胺基酸連接子之N端，且另一dAb可融合至連接子之C端。儘管胺基酸連接子可為任何長度且由胺基酸之任何組合組成，但連接子長度可能相對較短(例如五個或五個以下胺基酸)以降低所連接結構域之間的相互作用。亦可調節連接子之胺基酸組成以減少具有龐大側鏈之胺基酸或可能引入二級結構中之胺基酸的數目。適當胺基酸連接子包括(但不限於)長度為至多3、4、5、6、7、10、15、20或25個胺基酸之胺基酸連接子。代表性胺基酸連接子序列包括(GGGGS)_n (SEQ ID NO: 4)，其中n可為1與5之間的任何整數。其他適當連接子序列可選自由以下組成之群：AST (SEQ ID NO: 5)、TVAAPS (SEQ ID NO: 6)、TVA (SEQ ID NO: 7) 及ASTSGPS (SEQ ID NO: 8)。

第二抗原之結合可增加抗體多肽之活體內半衰期。舉例而言，雙特異性抗體多肽之第二可變域可特異性結合血清白蛋白(SA)，例如人類血清白蛋白(HSA)。經形式設計而可結合HSA之抗體多肽相對於相同的未經形式設計之抗體多肽可具有增加之活體內t- α (「 α 半衰期」)

或 $t\text{-}\beta$ (「 β 半衰期」)半衰期。 $t\text{-}\alpha$ 及 $t\text{-}\beta$ 半衰期量度物質分佈於身體內且自身體內消除有多快。舉例而言，鍵聯至HSA可藉由抗體多肽與能夠特異性結合HSA之第二可變域之融合來實現。抗人類血清白蛋白抗體在此項技術中為熟知的。參見例如在網際網路之超文字傳送協定www.abcam.com/index.html上可獲知之Abcam®：人類血清白蛋白抗體 ab10241、ab2406及ab8940，或在網際網路之超文字傳送協定www.genwaybio.com上可獲知之GenWay ALB抗體。特異性結合HSA之可變域可獲自任一此等抗體，且接著使用此項技術中熟知之重組技術融合至本發明之抗體多肽。

或者，抗體多肽連接至HSA可藉由使用熟練技術者熟知之技術使抗體多肽序列直接耦合至HSA編碼序列來實現。HSA編碼序列可藉由PCR使用源自例如可以GenBank寄存編號NM000477獲得之cDNA序列之引子來獲得。

在一個實施例中，經HSA連接之域抗體組合物之 $t\alpha$ 半衰期增加10%或10%以上。在另一個實施例中，經HSA連接之域抗體組合物之 $t\alpha$ 半衰期在0.25小時至6小時之範圍內。在另一個實施例中，經HSA連接之域抗體組合物之 $t\beta$ 半衰期增加10%或10%以上。在另一個實施例中，經HSA連接之域抗體組合物之 $t\beta$ 半衰期在12小時至48小時之範圍內。

在另一個實施例中，可藉由聚乙二醇化對抗體多肽進行形式設計以增加其活體內半衰期。在一個實施例中，將PEG共價連接。在另一個實施例中，將PEG連接至抗體多肽之半胱胺酸或離胺酸殘基。在又一個實施例中，經PEG連接之抗體多肽之流體動力學尺寸為至少24 kD。在又一個實施例中，總PEG尺寸為20 kD至60 kD且包括20 kD及60 kD。在又一個實施例中，經PEG連接之域抗體之流體動力學尺寸為至少200 kD。

聚乙二醇化可使用若干PEG連接部分達成，該等PEG連接部分包括(但不限於) N-羥基丁二醯亞胺活性酯、丙酸丁二醯亞胺酯、順丁烯二醯亞胺、乙烯砜或硫醇。PEG聚合物可連接至抗體多肽之預定位置，或可任意地連接至域抗體分子。聚乙二醇化亦可經由連接至域抗體之肽連接子介導。亦即，PEG部分可連接至融合至抗體多肽之肽連接子，其中該連接子提供用於PEG連接之位點(例如游離半胱胺酸或離胺酸)。聚乙二醇化抗體之方法在此項技術中熟知，例如如Chapman等人，「PEGylated antibodies and antibody fragments for improved therapy: a review」，*Adv. Drug Deliv. Rev.* 54(4):531-45 (2002)中所揭示。

抗體多肽亦可經設計以形成二聚體、三聚體、四聚體或其他多聚體。抗體多肽(例如dAb)可藉由此項技術中已知之若干方法(包括(但不限於)以融合蛋白形式表現單體、兩個或兩個以上單體經由單體之間的肽連接子鍵聯)、或藉由在轉譯之後彼此直接或藉由雙硫鍵經由連接子以化學方式接合單體、或藉由鍵聯至二價、三價或多價連接部分(例如多臂PEG)來連接以形成多聚體。在一個實施例中，多聚體可結合單一CD40分子。

4. 醫藥組合物及治療方法

醫藥組合物包含治療有效量之一或多種抗體多肽及視情況選用之醫藥學上可接受之載劑。醫藥學上可接受之載劑包括例如水、生理食鹽水、磷酸鹽緩衝鹽水、右旋糖、甘油、乙醇及其類似物以及其組合。醫藥學上可接受之載劑可進一步包含極少量之可增加融合蛋白之儲存期限或效用之助劑物質，諸如濕潤劑或乳化劑、防腐劑或緩衝劑。組合物可經調配以在投與之後提供活性成分之快速、持續或延遲釋放。適當醫藥組合物及其製備方法在此項技術中為熟知的。參見例如Remington, *The Science and Practice of Pharmacy*, A. Gennaro等人

編，第21版，Mack Publishing Co. (2005)。

醫藥組合物進一步可包含免疫抑制/免疫調節劑及/或消炎劑。治療需要該治療之患者的免疫疾病之方法可包含向患者投與治療有效量之醫藥組合物。拮抗CD40介導之T細胞活化可抑制例如自體免疫性、移植排斥反應或過敏反應期間發生之不當T細胞反應。抑制CD40介導之T細胞活化可減緩此等疾病之進展及/或嚴重程度。

如本文所用，「患者」意謂動物，例如哺乳動物，包括人類。患者可經診斷患有免疫疾病。「治療(Treatment)」或「治療(treat)」或「治療(treating)」係指涉及減輕症狀、病症、病狀或疾病之進展或嚴重程度之方法。「免疫疾病」係指與個體中顯現免疫反應，包括細胞及/或體液免疫反應相關之任何疾病。免疫疾病之實例包括(但不限於)發炎、過敏症、自體免疫疾病或移植相關疾病。自體免疫疾病可選自由全身性紅斑狼瘡、多發性硬化症、類風濕性關節炎、糖尿病、牛皮癬、硬皮病、動脈粥樣硬化、發炎性腸病及潰瘍性結腸炎組成之群。

可藉由投與醫藥組合物治療之疾病可選自由以下組成之群：艾迪森氏病、過敏症、僵直性脊椎炎、哮喘、動脈粥樣硬化、自體免疫性耳病、自體免疫性眼病、自體免疫肝炎、自體免疫腮腺炎、結腸炎、冠心病、克羅恩氏病、糖尿病(包括1型及/或2型糖尿病)、附睪炎、絲球體腎炎、葛瑞夫茲氏病、格-巴二氏徵候群、橋本氏病、溶血性貧血、特發性血小板減少性紫癜、發炎性腸病、對重組藥品之免疫反應(例如血友病患者中之因子VII)、全身性紅斑狼瘡、男性不育症、多發性硬化症、重症肌無力、天疱瘡、牛皮癬、風濕熱、類風濕性關節炎、類肉瘤病、硬皮病、休格連氏症候群、脊椎關節病、甲狀腺炎、移植排斥反應及血管炎。自體免疫介導之病狀包括(但不限於)受影響之組織為主要目標，且在一些情況下為次要目標之病狀。該等病狀包括(但不限於)AIDS、異位性過敏症、支氣管哮喘、濕疹、麻風病、精

神分裂症、遺傳性抑鬱症、組織及器官之移植、慢性疲勞症候群、阿茲海默氏病、帕金森氏病、心肌梗塞、中風、自閉症、癲癇症、阿瑟氏現象、全身性過敏反應、酒精成癮及藥物成癮。

醫藥組合物可單獨或以與免疫抑制/免疫調節劑及/或消炎劑之組合療法投與(亦即同時或依序)。不同免疫疾病可能需要使用適用於治療免疫疾病之特定助劑化合物，此可根據患者對患者之基準來確定。舉例而言，醫藥組合物可與一或多種例如細胞激素(例如IL-10及IL-13)或其他免疫刺激劑(例如趨化因子、腫瘤相關抗原及肽)之適當佐劑組合投與。適當佐劑在此項技術中為已知的。

可使用任何適當方法或途徑來投與抗體多肽或醫藥組合物。投藥途徑包括例如經口、靜脈內、腹膜內、皮下或肌肉內投與。投與之抗體多肽之治療有效劑量視許多因素而定，包括例如所治療之免疫疾病之類型及嚴重程度、組合療法之用途、抗體多肽或醫藥組合物之投藥途徑及患者之體重。抗體多肽之治療有效量之非限制性範圍相對於患者之體重為0.1 mg/kg至20 mg/kg，且在一個態樣中，為1 mg/kg至10 mg/kg。在疾病病況之活體外及/或活體內模型中，抗體多肽之劑量可由為CD40拮抗作用所需之抗體多肽之量進一步引導。代表性模型描述於下文及實例中。

5. 活體外及活體內模型

可在若干可獲得之活體外或活體內模型系統中之一者中測試本發明之抗體多肽拮抗CD40之能力。適當動物及細胞模型系統描述於下文。其他細胞分析系統描述於實例中。

5.1. 發炎性腸病(IBD)模型：

IBD為不明病因之多因性免疫病症。類似IBD之若干黏膜發炎小鼠模型提供了有關控制正常與病理性黏膜免疫功能之機制的理解。IBD模型包括使用De Winter等人，*Am. J. Physiol.* 276: G1317-1321

(1999)之黏膜免疫及發炎系統。在一個態樣中，將CD4(+) T淋巴細胞之子集(亦即CD4(+) CD45RB^{high}細胞)注射至免疫缺陷小鼠中會引起腸發炎。發病機理部分係歸因於促炎性細胞因子之分泌。結腸炎之誘發可藉由共轉移另一CD4 (+)亞群(亦即CD4(+) CD45RB^{low} T細胞)來預防。就獲取活化標記及返回宿主腸而言，此群體之行為類似於CD4(+) CD45RB^{high}群體。然而，活化時其淋巴介質概況不同，且CD4(+) CD45RB^{low} T細胞分泌及/或誘導之消炎細胞激素會預防結腸炎。De Winter等人提供有關過繼性轉移模型及促進及預防結腸炎發病機理之因素的描述。

5.2. 自發性關節炎模型：

Kouskoff等人，*Cell* 87: 811-822 (1996)提供由全身性自體免疫性引起之器官特異性疾病之模型。類風濕性關節炎(Rheumatoid arthritis, RA)為慢性關節病，其特徵為白血球侵襲及滑膜細胞活化，隨後為軟骨及骨破壞。Kouskoff等人揭示藉由T細胞受體(T cell receptor, TCR)轉殖基因系與NOD系雜交產生之自發性小鼠RA模型。所有子代均顯現極易令人想起人類RA之關節病。鼠類病症之觸發為由轉殖基因TCR機會性識別NOD源性主要組織相容性複合體(MHC) II類分子；關節炎之進展涉及CD4+ T細胞、B細胞及可能存在之骨髓細胞。

5.3. 膠原蛋白誘發之關節炎(Collagen Induced Arthritis, CIA)模型：

Brand等人，*Methods Mol. Med.* 102: 295-312 (2004)提供膠原蛋白誘發之關節炎之小鼠模型。膠原蛋白誘發之關節炎(CIA)為可在齧齒動物(大鼠及小鼠)及非人類靈長類動物之易感染系中藉由用II型膠原蛋白(CII)(亦即關節軟骨之主要成分蛋白質)免疫接種而引發的自體免疫疾病。在免疫接種後，動物顯現與RA共有若干臨床及組織特徵之

自體免疫多發性關節炎。在齧齒動物中容易感染CIA與主要組織相容性複合體(MHC) II類分子有關，且對CII之免疫反應之特徵在於刺激膠原蛋白特異性T細胞及產生高效價之對免疫原(異源CII)與自身抗原(小鼠CII)具特異性之抗體。在組織學上，鼠類CIA之特徵在於與關節炎之臨床發作一致之嚴重滑膜炎。由於CIA與RA之間具有病理相似性，故此實驗資料適用於評估CIA。

5.4. 抗原誘發之T細胞增殖活體內模型：

使用T細胞受體(TCR)-轉殖基因T細胞之過繼性轉移為抗原誘發之T細胞增殖提供活體內模型。Pape等人，*Immunol. Rev.* 156: 67-78 (1997)揭示均一地表現具有已知肽/MHC特異性之可識別TCR的TCR-轉殖基因T細胞之過繼性轉移。可使用該模型來監測抗原特異性T細胞之活體內行為。未處理T細胞最初在次級淋巴組織之T細胞區內活化以按B7依賴性方式增殖。若此時期內存在佐劑或發炎性細胞激素，則T細胞積聚數目增多，遷移至富B細胞之小囊中且獲得產生IFN- γ 之能力且有助於B細胞產生IgG2a。若發炎得以有效拮抗，則大部分最初活化之抗原特異性T細胞會消失而不進入小囊中，且倖存者為IL-2及IFN- γ 之不良產生者。

實例

表3列出適用於本發明抗體多肽之代表性抗人類CD40可變域胺基酸序列。表4揭示編碼表3中所列之可變域序列之代表性核酸。如此項技術中所熟知，多個密碼子可編碼同一胺基酸。因此，編碼蛋白質序列之核酸包括具有密碼簡併性之核酸。表3中所示之抗體多肽特異性結合CD40且使用以下實例中所述之反覆初始/初步篩檢及親和力成熟方法來製造。

表3

抗人類CD40可變域胺基酸序列

BMS3h-56-201

EVQLLES GGG L V Q P G G S L R L S C A A S G F T F R D Y E M W W R Q A P G K G L E R V S A I N P Q G T R T Y Y A D S V K G R F T I S R D N S K N T L
Y L Q M N S L R A E D T A V Y Y C A K L P F Y F Q E W G Q G T L V T V S S (SEQ ID NO: 9)

BMS3h-56-258

EVQLLES GGG L V Q P G G S L R L S C A A S G F T F R D Y E M W W R Q A P G K G L E R V S A I N P Q G T R T Y Y A D S V K G R F T I S R D N S K N T L
Y L Q M N S L R A E D T A V Y Y C A K L P F Y F H E W G Q G T L V T V S S (SEQ ID NO: 10)

BMS3h-37

EVQLLES GGG L V Q P G G S L R L S C A A S G F T F E W Y E M Q W R Q A P G K G L E W V S A I S G D G Y R T Y Y A D S V K G R F T I S R D N S K N T L
Y L Q M N S L R A E D T A V Y Y C A K E L G Y F D Y W G Q G T L V T V S S (SEQ ID NO: 11)

BMS3h-38

EVQLLES GGG L V Q P G G S L R L S C A A S G F T F E E E E M I W R Q A P G K G L E W V S A I S G S G G S T Y Y A D S V K G R F T I S R D N S K N T L
Y L Q M N S L R A E D T A V Y Y C A K E P F R F D Y W G Q G T L V T V S S (SEQ ID NO: 12)

BMS3h-41

EVQLLES GGG L V Q P G G S L R L S C A A S G F T F T E Y E M I W R Q A P G K G L E W V S S I S G N G A N T Y Y A D S V K G R F T I S R D N S K N T L
Y L Q M N S L R A E D T A V Y Y C A K E P L R F D Y W G Q G T L V T V S S (SEQ ID NO: 13)

BMS3h-43

EVQLLES GGG L V Q P G G S L R L S C T A S G F T F N M Y E M S W R Q A P G K G L E W V S G I S R R G F T T Y Y A D S V K G R F T I S R D N S K N T L
Y L Q M N S L R A E D T A V Y Y C A K E P I T Y A M R Y A R F D Y W G Q G T L V T V S S (SEQ ID NO: 14)

BMS3h-56

EVQLLES GGG L V Q P G G S L R L S C A A S G F T F R D Y E M W W R Q A P G K G L E R V S A I N P Q G T R T Y Y A D S V K G R F T I S R D N S K N T L
Y L Q M N S L R A E D T A V Y Y C A K L P F I F D Y W G Q G T L V T V S S (SEQ ID NO: 15)

BMS3h-106

EVQLLES GGG L V Q P G G S L R L S C A A S G F T F S T Y H M Q W R Q A P G K G L E W V S M I D A D G L G T Y Y A D S V K G R F T I S R D N S K N T L
Y L Q M N S L R A E D T A V Y Y C A K P G P Q F G Q F D Y W G Q G T L V T V S S (SEQ ID NO: 16)

BMS3h-107

EVQLLESGGGLVQPGGSLRLSCAASGFTFSGYDMQWVRQAPGKGLEWVSTISASGVFTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKYPNRFALNNFDYWGQGLTVTVSS (SEQ ID NO: 17)

BMS3h-131

DIQMTQSPSSLSASVGRVTITCRANSSILWALAWYQQKPGKAPKLLIESSSGLQSGVPSRFSGSGSGTDFTLTIS SLQ
PEDFATYYCVQNA GWPGTFGQGTKVEIKR (SEQ ID NO: 18)

BMS3h-193

DIQMTQSPSSLSASVGRVTITCRASQTIERRLNWYQQKPGKAPKLLIYLASRLQSGVPSRFSGSGSGTDFTLTIS SLQ
PEDFATYYCHQYASPLTFGQGTKVEIKR (SEQ ID NO: 19)

BMS3h-198

EVQLLESGGGLVQPGGSLRLSCAASGFTFAGYEMWVRQAPGKGLERVS AISGSGGSTYYADSVKGRFTISRDDSKNTL
YLQMNSLRAEDTAVYYCAKDPYSFDYWGQGLTVTVSS (SEQ ID NO: 20)

BMS3h-202

EVQLLESGGGLVQPGGSLRLSCAASGFTFPTAEMWVRQAPGKGLEWVSSISASGGSTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKEPVSYVATFDYWGQGLTVTVSS (SEQ ID NO: 21)

BMS3h-217

DIQMTQSPSSLSASVGRVTITCRASHFIGTLLSWYQQKPGKAPKLLITYGSLQSGVPSRFSGSGSGTDFTLTIS SLQ
PEDFATYYCGQGLWPATFGQGTKVEIKR (SEQ ID NO: 22)

BMS3h-1

EVQLLESGGGLVQPGGSLRLSCAASGFTFPKNEMTWVRQAPGKGLEWVSAIESDQATYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKNRIPDLVFDYWGQGLTVTVSS (SEQ ID NO: 23)

BMS3h-2

EVQLLESGGGLVQPGGSLRLSCAASGFTFDAGAMTWVRQAPGKGLEWVSSIDKEGLSTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKGRIPLVFDYWGQGLTVTVSS (SEQ ID NO: 24)

BMS3h-3

EVQLLESGGGLVQPGGSLRLSCAASGFTFGDAAMTWVRQAPGKGLEWVSAIQPMGDGTYADSVKGRFTVSRDN SKNTL
YLQMNSLRAEDTAVYYCAKGRIPTLQFDYWGQGLTVTVSS (SEQ ID NO: 25)

BMS3h-4

EVQLLESGGGLVQPGGSLRLSCAASGFTFEDSPMTWVRQAPGKGLEWVSAITSNGYETYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKGRIPTLHFDYWGQGLTVTVSS (SEQ ID NO: 26)

BMS3h-5

EVQLLESGGGLVQPGGSLRLSCAASGFTFDEHMSWVRQAPGKGLEWVSRIGPDGFHTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKGRIPTLHFDYWGQGLTVTVSS (SEQ ID NO: 27)

BMS3h-6

EVQLLESGGGLVQPGGSLRLSCAASGFTFGEYHMSWVRQAPGKGLEWVSRITPLGTLTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKGRIPLTFDYWGQGLTVTVSS (SEQ ID NO: 28)

BMS3h-7

EVQLLESGGGLVQPGGSLRLSCAASGFTFGTNAMSWVRQAPGKGLEWVSRIISPGDYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKGRVPDLLFDYWGQGT LVTVSS (SEQ ID NO: 29)

BMS3h-8

EVQLLESGGGLVQPGGSLRLSCAASGFTFPSEEMSWVRQAPGKGLEWVSRIADGANTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDAAVYYCAKGRVPDLLFDYWGQGT LVTVSS (SEQ ID NO: 30)

BMS3h-9

EVQLLESGGGLVQPGGSLRLSCAASGFTFAEDDMTWVRQAPGKGLEWVSRIAVDGDRTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKGVPSLHFDYWGQGT LVTVSS (SEQ ID NO: 31)

BMS3h-10

EVQLLESGGGLVQPGGSLRLSCAASGFTFRTMDMSWVRQAPGKGLEWVSRIITGDMNTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKGVTPDLTFDYWGQGT LVTVSS (SEQ ID NO: 32)

BMS3h-11

EVQLLESGGGLVQPGGSLRLSCAASGFTFERDDMTWVRQAPGKGLEWVSRIAGGVHTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKGVTPDLTFDYWGQGT LVTVSS (SEQ ID NO: 33)

BMS3h-12

EVQLLESGGGLVQPGGSLRLSCAASGFTFDDDSMTWVRQAPGKGLEWVSRISSDGASTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKGVTPDLTFDYWGQGT LVTVSS (SEQ ID NO: 34)

BMS3h-13

EVQLLESGGGLVQPGGSLRLSCAASGFTFEEDMTWVRQAPGKGLEWVSRIIDSVGEGTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKGVTPDLTFDYWGQGT LVTVSS (SEQ ID NO: 35)

BMS3h-14

EVQLLESGGGLVQPGGSLRLSCAASGFTFSDSAMS WVRQAPGKGLEWVSRIIDNPQHTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKGVPTLEFDYWGQGT LVTVSS (SEQ ID NO: 36)

BMS3h-15

EVQLLESGGGLVQPGGSLRLSCAASGFTFGQHSMTWVRQAPGKGLEWVSRIIDGGGYNTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKGEVPR LHFYWGQGT LVTVSS (SEQ ID NO: 37)

BMS3h-16

EVQLLESGGGLVQPGGSLRLSCAASGFTFGQEPMTWVRQAPGKGLEWVSRIAYNGGDTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKGITPNLTFDYWGQGT LVTVSS (SEQ ID NO: 38)

BMS3h-17

EVQLLESGGGLVQPGGSLRLSCAASGFTFENYPMSWVRQAPGKGLEWVSRIINATGSITYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKGVIPHLMFYWGQGT LVTVSS (SEQ ID NO: 39)

BMS3h-18

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYDMSWVRQAPGKGLEWVSRIITGTGNSTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAQGVVPYLAFDYWGQGT LVTVSS (SEQ ID NO: 40)

BMS3h-19

EVQLLESGGGLVQPGGSLRLSCAASGFTFEADAMTWVRQAPGKGLEWVSRIINVDGDRYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKGVPTLEFDYWGQGT LVTVSS (SEQ ID NO: 41)

BMS3h-21

EVQLLES GGGGLVQPGGSLRLSCAASGFTFD RADMTWVRQAPGKGLEWVSRI SGEGKCTYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAKGMV PNLVFDYWGQGT LVTVSS (SEQ ID NO: 42)

BMS3h-22

EVQLLES GGGGLVQPGGSLRLSCAASGFTFHW EPMSWVRQAPGKGLEWVSRI NSSGWDTYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAKGMV PNLVFDYWGQGT LVTVSS (SEQ ID NO: 43)

BMS3h-24

EVQLLES GGGGLVQPGGSLRLSCAASGFTFADE PMTWVRQAPGKGLEWVSRI PPEGAPTYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAKGITP NLTFDYWGQGT LVTVSS (SEQ ID NO: 44)

BMS3h-26

EVQLLES GGGGLVQPGGSLRLSCAASGFTFHN HDMSWVRQAPGKGLEWVSRI SRGGLQTYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAKGIVP DLHFDYWGQGT LVTVSS (SEQ ID NO: 45)

BMS3h-27

EVQLLES GGGGLVQPGGSLRLSCAASGFTFNE YPMSWVRQAPGKGLEWVSRI NGDGANTYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAKGI PAMQFDYWGQGT LVTVSS (SEQ ID NO: 46)

BMS3h-28

EVQLLES GGGGLVQPGGSLRLSCAASGFTFGD VPMWVRQAPGKGLEWVSRI DPYGSNTYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAKGIMP SLTFDYWGQGT LVTVSS (SEQ ID NO: 47)

BMS3h-29

EVQLLES GGGGLVQPGGSLRLSCAASGFTFAD YDMSWVRQAPGKGLEWVSRI SALGATTYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAKGQLP ALEFDYWGQGT LVTVSS (SEQ ID NO: 48)

BMS3h-30

EVQLLES GGGGLVQPGGSLRLSCAASGFTFKR YYMTWVRQAPGKDEWVSGIVPSGN RTYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAKGRI PDLHFDYWGQGT LVTVSS (SEQ ID NO: 49)

BMS3h-31

EVQLLES GGGGLVQPGGSLRLSCAASGFTFAD YDMTWVRQAPGKGLEWVSRI SPTGGQTYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAKGVIP YLSFSPFDYWGQGT LVTVSS (SEQ ID NO: 50)

BMS3h-32

EVQLLES GGGGLVQPGGSLRLSCAASGFTFSKY WMGWARQAPGKGLEWVSRI SHGAGTYADSVKGRFTISRDN SKNTL
YLQMNSLR VEDTAVYYCAKGAPK FMTTYTFDYWGQGT LVTVSS (SEQ ID NO: 51)

BMS3h-33

EVQLLES GGGGLVQPGGSLRLSCAASGFTFLS YPMHWVRQAPGKGLEWVSRI SRSVTTYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAKGHSW TFDYWGQGT LVTVSS (SEQ ID NO: 52)

BMS3h-34

EVQLLES GGGGLVQPGGSLRLSCAASGFTFAN SNMTWVRQAPGKGLEWVSRI NPDGGSTYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAEGRI PTLHFDYWGQGT LVTVSS (SEQ ID NO: 53)

BMS3h-35

EVQLLES GGG L V Q P G G S L R L S C A A S G F T F G P R R M G W V R Q A P G K G L E W S S I D D I G R R T Y Y A D S V K G R F T I S R D N S K N T L
Y L Q M N S L R A E D T A V Y Y C A E G A Q G V L L F D Y W G Q G T L V T V S S (SEQ ID NO: 54)

BMS3h-36

EVQLLES GGG L V Q P G G S L R L S C A A S G F T F E D Y R M V W V R Q A P G K G L E W S S I S T S G E L T Y Y A D S V K G R F T I S R D N S K N T L
Y L Q M N S L R A E D T A V Y Y C A E T A G Q F F D Y W G Q G T L V T V S S (SEQ ID NO: 55)

BMS3h-39

EVQLLES GGG L V Q P G G S L R L S C A A S G F T F P E Y E M V W V R Q A P G K G L E W S S A I S R E G R A T Y Y A D S V K G R F T I S R D N S K N T L
Y L Q M N N L R A E D T A V Y Y C A K E P V R F D Y W G Q G T L V T V S S (SEQ ID NO: 56)

BMS3h-40

EVQLLES GGG L V Q P G G S L R L S C A A S G F T F S T Y E M L W V R Q A P G K G L E W S S I S S S G N Y T Y Y A D S V K G R F T I S R D N S K N T L
Y L Q M N S L R A E D T A V Y Y C A K E P L M F D Y W G Q G T L V T V S S (SEQ ID NO: 57)

BMS3h-42

EVQLLES GGG L V Q P G G S L R L S C A A S G F T F D T E E M S W V R Q A P G K G L E W S S A I S P N G A F T Y A D S V K G R F T I S R D N S K N T L
Y L Q M N S L R A E D T A V Y Y C A K E P I L F D Y W G Q G T L V T V S S (SEQ ID NO: 58)

BMS3h-44

EVQLLES GGG L V Q P G G S L R L S C A A S G F T F G H Y D M V W V R Q A P G R G L E W S T I N G A G L N T Y Y A D S V K G R F T I S R D N S K N T L
Y L Q M N S L R A E D T A V Y Y C A Q S A S R I F D Y W G Q G T L V T V S S (SEQ ID NO: 59)

BMS3h-45

EVQLLES GGG L V Q P G G S L R L S C A A S G F T F R S Y E M A W V R Q A P G K G L E W S S I S T L G T K T Y Y A D S V K G R F T I S R D N S K N T L
Y L Q M N S L R A E D T A V Y Y C A Q S S T H I F D Y W G Q G T L V T V S S (SEQ ID NO: 60)

BMS3h-46

EVQLLES GGG L V Q P G G S L R L S C A A S G F T F I R Y E M A W V R Q A P G K G L E W S S I S S S G W T T Y Y A D S V K G R F T I S R D N S K N T L
Y L Q M N S L R A E D T A V Y Y C A K S D A H I F D Y W G Q G T L V T V S S (SEQ ID NO: 61)

BMS3h-47

EVQLLES GGG L V Q P G G S L R L S C A A S G F T F Y A Y E M A W V R Q A P G K G L E W S S I S D D G T R T Y Y A D S V K G R F T I S R D N S K N T L
Y L Q M N S L R A E D T A V Y Y C A K D L G Q G F D Y W G Q G T L V T V S S (SEQ ID NO: 62)

BMS3h-48

EVQLLES GGG L V Q P G G S L R L S C A A S G F T F A D H G M T W V R Q A P G K G L E W S G I G P S G E A T Y Y A D S V K G R F T I S R D N S K N T L
Y L Q M N S L R A E D T A V Y Y C A K D R I P N L V F D Y W G Q G T L V T V S S (SEQ ID NO: 63)

BMS3h-49

EVQLLES GGG L V Q P G G S L R L S C A A S G F T F E S Q D M S W V R Q A P G K G L E W S G I S P N G W D T Y Y A D S V K G R F T I S R D N S K N T L
Y L Q M N S L R A E D T A V Y Y C A K D R S D F D Y W G Q G T L V T V S S (SEQ ID NO: 64)

BMS3h-50

EVQLLES GGG L V Q P G G S L R L S C A A S G F T F G D Y D M W V R Q A P G K G L E W S R I R H P G G V T Y Y A D S V K G R F T I S R D N S K N T L
Y L Q M N S L R A E D T A V Y Y C A K A V P K G F D Y W G Q G T L V T V S S (SEQ ID NO: 65)

BMS3h-51

EVQLLES GGG L V Q P G G S L R L S C A A S G F T F R V Y W M T W V R Q A P G K G L E W S S I D P Q G G M T Y Y A D S V K G R F T I S R D N S K N T L
Y L Q M N S L R A E D T A V Y Y C A K A R I P N L E F D Y W G Q G T L V T V S S (SEQ ID NO: 66)

BMS3h-52

EVQLLESGGGLVQPGE LRLSCAASGFTFSAYDMTWVRQAPGKGLEWVSRINPTGSYTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKAKIPNLVFDYWGQGLTVTVSS (SEQ ID NO: 67)

BMS3h-53

EVQLLESGGGLVQPGGSLRLSCAASGFTFADSEMMWVRQAPGKGLEWVSGIAHNGGHTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKAGHPQQTEAFDYWGQGLTVTVSS (SEQ ID NO: 68)

BMS3h-54

EMQLLESGGGLVQPGGSLRLSCAASGFTFATYDMYWVRQAPGKGLEWVSKISPNGWSTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKYQTHFDYWGQGLTVTVSS (SEQ ID NO: 69)

BMS3h-55

EVQLLESGGGLVQPGGSLRLSCAASGFTFSVYDMRWVRQAPGKGLEWVSTISSSGTYTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKYPKNFDYWGQGLTVTVSS (SEQ ID NO: 70)

BMS3h-57

EVQLLESGGGLVQPGGSLRLSCAASGFTFSHEDMTWVRQAPGKGLEWVSSISPNGWDTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKRTSRKFDYWGQGLTVTVSS (SEQ ID NO: 71)

BMS3h-58

EVQLLESGGGLVQPGGSLRLSCAASGFTFEKYIMGWARQAPGKGLEWVSTIDYWGQHTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKRSHLIPLQFDYWGQGLTVTVSS (SEQ ID NO: 72)

BMS3h-59

EVQLLESGGGLVQPGGSLRLSCAASGFTFSDYAMGWVRQAPGKGLEWVSTISYVGYTYTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKKALRGEAFERFDYWGQGLTVTVSS (SEQ ID NO: 73)

BMS3h-60

EVQLLESGGGLVQPGGSLRLSCAASGFTFGPYMMHWVRQAPGKGLEWVSTIEVNGNRTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKWVGSKTSSDKSFDYWGQGLTVTVSS (SEQ ID NO: 74)

BMS3h-61

EVQLLESGGGLVQPGGSLRLSCAASGFTFGTTEMAWVRQAPGKGLEWVSSIGSAGAWTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKIGGHPQGQFDYWGQGLTVTVSS (SEQ ID NO: 75)

BMS3h-62

EVQLLESGGGLVQPGGSLRLSCAASGFTFPREWMWVRQAPGKGLEWVSSIQPMGQTTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKYSRNKGFFDYWGQGLTVTVSS (SEQ ID NO: 76)

BMS3h-63

EVQLLESGGGLVQPGGSLRLSCAASGFTFTSEYMGWVRQAPGKGLEWVSSIQRYGSTTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKHESNWETFDYWGQGLTVTVSS (SEQ ID NO: 77)

BMS3h-70

EVQLLESGGGLVQPGGSLRLSCAASGFTFSVYSMQWVRQAPGKGLEWVSAITPNGTRTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKTLGRGSPGVDFDYWGQGLTVTVSS (SEQ ID NO: 78)

BMS3h-71

EVQLLESGGGLVQPGGSLRLSCAASGFTFPSYAMTWVRQAPGKGLEWVSRITADGTVTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKGSIPMLTFDYWGQGLTVTVSS (SEQ ID NO: 79)

BMS3h-72

EVQLLESGGGLVQPGGSLRLSCAASGFTFSTYDMIWVRQAPGKGLEWVSAISPNGTGIYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKNQSVHHA VFDYWGQGLTVTVSS (SEQ ID NO: 80)

BMS3h-73

EVQLLESGGGLVQPGGSLRLSCAASGFTFENYEMTWVRQAPGKGLEWVSRIPHGR LTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKGQIPMLDFDYWGQGLTVTVSS (SEQ ID NO: 81)

BMS3h-74

EVQLLESGGGLVQPGGSLRLSCAASGFTFSHYMMWVRQAPGKGLEWVSTISHFGDITYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKNDMMKNGGFDYWGQGLTVTVSS (SEQ ID NO: 82)

BMS3h-75

EVQLLESGGGLVQPGGSLRLSCAASGFTFERYDMSWVRQAPGKGLEWVSRIDSRGWSTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKGLVPHLRFDYWGQGLTVTVSS (SEQ ID NO: 83)

BMS3h-76

EVQLLESGGGLVQPGGSLRLSCAASGFTFANAQMTWVRQAPGKGLEWVSRIDAMGDATYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKGKVP SIDYWGQGLTVTVSS (SEQ ID NO: 84)

BMS3h-77

EVQLLESGGGLVQPGGSLRLSCAASGFTFANAQMTWVRQAPGKGLEWVSRIDAMGDATYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKGVIPAFDYWGQGLTVTVSS (SEQ ID NO: 85)

BMS3h-78

EVQLLESGGGLVQPGGSLRLSCAASGFTFQNDRMHWVRQAPGKGLEWVSSISATGGDTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKQTGTNRFDYWGQGLTVTVSS (SEQ ID NO: 86)

BMS3h-79

EVQLLESGGGLVQPGGSLRLSCAASGFTFNQPYMSWVRQAPGKGLEWVSSIDASGGTTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDAAVYYCAKDRI PNLFVDYWGQGLTVTVSS (SEQ ID NO: 87)

BMS3h-80

EVQLLESGGGLVQPGGSLRLSCAASGFTFDNENMTWVRQAPGKGLEWVSRIDGGGYNTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKGQVPELLFDYWGQGLTVTVSS (SEQ ID NO: 88)

BMS3h-81

EVQLLESGGGLVQPGGSLRLSCAASGFTFVSSNMTWVRQAPGKGLEWVSAISGSGGSTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKGRIPTLVFDYWGQGLTVTVSS (SEQ ID NO: 89)

BMS3h-82

EVQLLESGGGLVQPGGSLRLSCAASGFTFVSSNMTWVRQAPGKGLEWVSAISGSGGSTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKDRI PNLFVDYWGQGLTVTVSS (SEQ ID NO: 90)

BMS3h-83

EVQLLESGGGLVQPGGSLRLSCAASGFTFSDDSMSWVRQAPGKGLEWVSRINDAGSSTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKGTIPLLEFDYWGQGLTVTVSS (SEQ ID NO: 91)

BMS3h-84

EMQLLESGGGLVQPGGSLRLSCAASGFTFVSDTMSWVRQAPGKGLEWVSRIDGTGGDTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAGDTAVYYCAKGLIPDLQFDYWGQGLVTVSS (SEQ ID NO: 92)

BMS3h-85

EVQLLESGGGLVQPGGSLRLSCAASGFTFDEEEMTWVRQAPGKGLEWVSRIIGGGHETYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKGTIPLLEFDYWGQGLVTVSS (SEQ ID NO: 93)

BMS3h-86

EVQLLESGGGLVQPGGSLRLSCAASGFTFDNENMTWVRQAPGKDEWVSRITERGDVYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKGTVP TLEFDYWGQGLVTVSS (SEQ ID NO: 94)

BMS3h-87

EVQLLESGGGLVQPGGSLRLSCAASGFTFDEEEMTWVRQAPGKGLEWVSRIIGGGHETYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKGTVP TLEFDYWGQGLVTVSS (SEQ ID NO: 95)

BMS3h-88

EVQLLESGGGLVQPGGSLRLSCAASGFTFHETEMTWVRQAPGKGLEWVSAINRLGQDTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKGRIPLVFDYWGQGLVTVSS (SEQ ID NO: 96)

BMS3h-89

EVQLLESGGGLVQPGGSLRLSCAASGFTFSDSMSWVRQAPGKGLEWVSRIINDAGSSTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKGTVP TLEFDYWGQGLVTVSS (SEQ ID NO: 97)

BMS3h-90

EVQLLESGGGLVQPGGSLRLSCAASGFTFDNENMTWVRQAPGKDEWVSRITERGDVYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKGRIPTLVFDYWGQGLVTVSS (SEQ ID NO: 98)

BMS3h-91

EVQLLESGGGLVQPGGSLRLSCAASGFTFSDSMSWVRQAPGKGLEWVSRIINDAGSSTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKGITPNLTFDYWGQGLVTVSS (SEQ ID NO: 99)

BMS3h-92

EVQLLESGGGLVQPGGSLRLSCAASGFTFADEPMTWVRQAPGKGLEWVSRIPEGAPTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKGLIPDLQFDYWGQGLVTVSS (SEQ ID NO: 100)

BMS3h-93

EVQLLESGGGLVQPGGSLRLSCAASGFTFQSDMTWVRQAPGKGLEWVSAIAPGGSTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKDRIPLNRFDYWGQGLVTVSS (SEQ ID NO: 101)

BMS3h-94

EVQLLESGGGLVQPGGSLRLSCAASGFTFVSDTMSWVRQAPGKGLEWVSRIDGTGGDTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKGQVPELLFDYWGQGLVTVSS (SEQ ID NO: 102)

BMS3h-95

EVQLLESGGGLVQPGGSLRLSCAASGFTFQSDMTWVRQAPGKGLEWVSAIAPGGSTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKDRIPLNLFDYWGQGLVTVSS (SEQ ID NO: 103)

BMS3h-96

EVQLLESGGGLVQPGGSLRLSCAAGFTFDLAEMTWVRQAPGKGLEWVSRIDEDGASTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDAAVYYCAEGVIPSLTFDYWGQGT LVTVSS (SEQ ID NO: 104)

BMS3h-97

EVQLLESGGGLVQPGGSLRLSCAASGFTFTDKHMSWVRQAPGKGLEWVSRI SPDGTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDAAVYYCAEGVIPSLTFDYWGQGT LVTVSS (SEQ ID NO: 105)

BMS3h-98

EVQLLESGGGLVQPGGSLRLSCAASGFTFAEDDMTWVRQAPGKGLEWVSRIAVDGDRTYYADSVKGRFTISRDN SKNTL
YLQMNSLRTEDTAVYYCAKGKTPHLVFDYWGQGT LVTVSS (SEQ ID NO: 106)

BMS3h-99

EVQLLESGGGLVQPGGSLRLSCAAGFTFDLAEMTWVRQAPGKGLEWVSRIDEDGASTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKGQVPALVFDYWGQGT LVTVSS (SEQ ID NO: 107)

BMS3h-100

EVQLLESGGGLVQPGGSLRLSCAASGFTFEDSMMSWVRQAPGKGLEWVSRI DPGGATYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKGVTPDLTFDYWGQGT LVTVSS (SEQ ID NO: 108)

BMS3h-101

EVQLLESGGGLVQPGGSLRLSCAASGFTFEHADMSWVRQASGKGLEWVSRI DSGQSTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKGVTPDLTFDYWGQGT LVTVSS (SEQ ID NO: 109)

BMS3h-102

EVQLLESGGGLVQPGGSLRLSCAASGFTFSEAEMNWVRQAPGKGLEWVSRI TTDDGSTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKGRIPTLHFDYWGQGT LVTVSS (SEQ ID NO: 110)

BMS3h-103

EVQLLESGGGLVQPGGSLRLSCAASGFTFDDSDMTWVRQAPGKSLEWVSYIR GDDDETYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKNRIPDLVFDYWGQGT LVTVSS (SEQ ID NO: 111)

BMS3h-108

EVQLLESGGGLVQPGGSLRLSCAASGFTFNVADMQWVRQAPGKGLEWVSIS PNGWDTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKHASTE GPTAFDYWGQGT LVTVSS (SEQ ID NO: 112)

BMS3h-109

EVQLLESGGGLVQPGGSLRLSCAASGFTFGPYDMGWVRQAPGKGLEWVSW ISAHGSFTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKWPKFDYWGQGT LVTVSS (SEQ ID NO: 113)

BMS3h-110

EVQLLESGGGLVQPGGSLRLSCAASGFTFGSGMSWVRQAPGKGLEWVSRI GSNGADTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKGMV PNLVFDYWGQGT LVTVSS (SEQ ID NO: 114)

BMS3h-111

EVQLLESGGGLVQPGGSLRLSCAASGFTFNRFDMTWVRQAPGKGLEWVSA ISGGGSTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKDRI PNLVFDYWGQGT LVTVSS (SEQ ID NO: 115)

BMS3h-112

EVQLLESGGGLVQPGGSLRLSCAASGFTFGESDMKWVRQAPGKGLEWVSSI PNGWDTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKSPSS RLKFDYWGQGT LVTVSS (SEQ ID NO: 116)

BMS3h-139

EVQLLES GGGGLVQPGGSLRLSCAASGFTFDSSSEMSWVRQAPGKGLEWVSSIENQGGATYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAKDRIPLNLFVDYWGQGT LVTVSS (SEQ ID NO: 117)

BMS3h-140

EVQLLES GGGGLVQPGGSLRLSCAASGFTLDAYPMYWRQAPGKGLEWVSWIASGGGATYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAKRTKNFDYWGQGT LVTVSS (SEQ ID NO: 118)

BMS3h-141

EVQLLES GGGGLVQPGGSLRLSCAASGFTFMSYSMAWVRQAPGKGLEWVSGITSNGNRITYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAKSTGANSRNFYWGQGT LVTVSS (SEQ ID NO: 119)

BMS3h-142

EVQLLES GGGGLVQPGGSLRLSCAASGFTFEGYLSWVRQAPGKGLEWVSSIAANGMQTYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAKKPRGIWDGDFDYWGQGT LVTVSS (SEQ ID NO: 120)

BMS3h-143

EVQLLES GGGGLVQPGGSLRLSCAASGFTFHESMTWVRQAPGKGLEWVSTIRHPGEFTYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAKGLIPDLQFDYWGQGT LVTVSS (SEQ ID NO: 121)

BMS3h-144

EVQLLES GGGGLVQPGGSLRLSCAASGFTFAMYSMSWVRQAPGKGLEWVSSIAPPGGRITYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAKQSLTGYSRSFDYWGQGT LVTVSS (SEQ ID NO: 122)

BMS3h-145

EVQLLES GGGGLVQPGGSLRLSCAASGFTFSQNPMWVRHAPGKGLEWVSTIPANGRPTSYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAKYSQQPGRFDYWGQGT LVTVSS (SEQ ID NO: 123)

BMS3h-146

EVQLLES GGGGLVQPGGSLRLSCAASGFTFANYHMTWVRQAPGKGLEWVSSIPDSGKQTYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAKGRIPLSLLFDYWGQGT LVTVSS (SEQ ID NO: 124)

BMS3h-147

EVQLLES GGGGLVQPGGSLRLSCAASGFTFAQYHMRWVRQAPGKGLEWVSTINDIGSNTYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAKVGRGSFSFDYWGQGT LVTVSS (SEQ ID NO: 125)

BMS3h-148

EVQLLES GGGGLVQPGGSLRLSCAASGFTFSSYDMKWVRQAPGKGLEWVSTISASGVFTYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAKREHAGQPPFDYWGQGT LVTVSS (SEQ ID NO: 126)

BMS3h-149

EVQLLES GGGGLVQPGGSLRLSCAASGFTFNGYAMSWVRQAPGKGLEWVSTINANGKYTYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAKKLTASNLYFDYWGQGT LVTVSS (SEQ ID NO: 127)

BMS3h-150

EVQLLES GGGGLVQPGGSLRLSCAASGFTFMDYDMKWVRQAPGKGLEWVSSITALGKKTYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAKDSVKYPLNLFYWGQGT LVTVSS (SEQ ID NO: 128)

BMS3h-151

EVQLLESGGGLVQPGGSLRLSCAASGFTFPHYTMWVRQAPGKGLEWVSSIQSPGWRTYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAKYGDGLPLTFDYWGQGT LVTVSS (SEQ ID NO: 129)

BMS3h-167

EVQLLESGGGLVQPGGSLRLSCAASGFTFSGTPMSWVRQAPGKGLEWVSRIGDEGQETYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAKGVTPDLTFDYWGQGT LVTVSS (SEQ ID NO: 130)

BMS3h-168

EVQLLESGGGLVQPGGSLRLSCAASGFTFSSSSMSWVRQAPGKGLEWVSAIGSDGPSTYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAKGRIPTLHFDYWGQGT LVTVSS (SEQ ID NO: 131)

BMS3h-169

EVQLLESGGGLVQPGGSLRLSCAASGFTFNPGE MTWVRQAPGKGLEWVSSIDGSGSSTYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAKGRIPTLHFDYWGQGT LVTVSS (SEQ ID NO: 132)

BMS3h-170

EVQLLESGGGLVQPGGSLRLSCAASGFTFPESMMGWVRQAPGKGLEWVSSIGYPGATTYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAKGGSRDDNFDYWGQGT LVTVSS (SEQ ID NO: 133)

BMS3h-171

EVQLLESGGGLVQPGGSLRLSCAASGFTFGQHS MHWVRQAPGKGLEWVSSISVPGPKTYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAKSLRDLRPGDSKSF DYWGQGT LVTVSS (SEQ ID NO: 134)

BMS3h-197

EVQLLESGGGLVQPGGSLRLSCAASGFTFGSAAM DWVRQAPGKGLEWVSSINDMGSNTYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAKQGGRFDYWGQGT LVTVSS (SEQ ID NO: 135)

BMS3h-199

EVQLLESGGGLVQPGGSLRLSCAASGFTFGYDR MAWVRQAPGKGLEWVSSIDGPGGATYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAEGRRVPDFDYWGQGT LVTVSS (SEQ ID NO: 136)

BMS3h-200

EVQLLESGGGLVQPGGSLRLSCAASGFTFGEYEM TWVRQAPGKGLEWVSRIDPFGSETYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAEGVVPDLNFDYWGQGT LVTVSS (SEQ ID NO: 137)

BMS3h-201

EVQLLESGGGLVQPGGSLRLSCAASGFTFDKYVM GWVRQAPGKGLEWVSTIGSYGGATYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAKRLTLSATKFDYWGQGT LVTVSS (SEQ ID NO: 138)

BMS3h-203

EVQLLESGGGLVQPGGSLRLSCAASGFTFEDYVM GWVRQAPGKGLEWVSTIAHRGDITYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAKRRRLSDYRFDYWGQGT LVTVSS (SEQ ID NO: 139)

BMS3h-204

EVQLLESGGGLVQPGGSLRLSCAASGFTFGQFDM YWVRQAPGKGLEWVSAISPAGTGTYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAKAGDRSSLFDYRGQGT LVTVSS (SEQ ID NO: 140)

BMS3h-205

EVQLLESGGGLVQPGGSLRLSCAASGFTFKDGTMT WVRQAPGKGLEWVSSISSYGRDITYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDAAVYYCAKLNAALGFDYWGQGT LVTVSS (SEQ ID NO: 141)

BMS3h-206

EVQLLES GGGGLVQPGGSLRLSCAASGFTFGPYPMWVRQAPGKGLEWVSGINAPGTRTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAQQMSSGVFDYWGQGLVTVSS (SEQ ID NO: 142)

BMS3h-207

EVQLLES GGGGLVQPGGSLRLSCAASGFTFSNQDMTWVRQAPGKGLEWVSSIDSSGQLTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKVKSLARFDYWGQGLVTVSS (SEQ ID NO: 143)

BMS3h-208

EVQLLES GGGGLVQPGGSLRLSCAASGFTFPESDMKWVRQAPGKGLEWVSSISPNGWDTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKPAQVLFDYWGQGLVTVSS (SEQ ID NO: 144)

BMS3h-209

EVQLLES GGGGLVQPGGSLRLSCAASGFTFEQYVMGWVRQAPGKGLEWVSTIGTSGKYTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAQRRSLRVHFDYWGQGLVTVSS (SEQ ID NO: 145)

BMS3h-210

EVQLLES GGGGLVQPGGSLRLSCAASGFTFGVEHMSWVRQAPGKGLEWVSAITGDGDRTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKTVSWNGRFDYWGQGLVTVSS (SEQ ID NO: 146)

BMS3h-211

EVQLLES GGGGLVQPGGSLRLSCAASGFTFAWYNMGWVRQAPGKGLEWVSRIAPSGIITYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKGLRGKFDYWGQGLVTVSS (SEQ ID NO: 147)

BMS3h-212

EVQLLES GGGGLVQPGGSLRLSCAASGFTFSNYEMRWVRQAPGKGLEWVSSISSAGTDYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKQSLNFDYWGQGLVTVSS (SEQ ID NO: 148)

BMS3h-213

EVQLLES GGGGLVQPGGSLRLSCVASGFTFDEEPMTWVRQAPGKGLEWVSIIDPGGGATYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKSNMFDYWGQGLVTVSS (SEQ ID NO: 149)

BMS3h-214

EVQLLES GGGGLVQPGGSLRLSCAASGFTFSAYPMHWVRQAPGKGLEWVSSIASSGITTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKFTRLHFPAQFDYWGQGLVTVSS (SEQ ID NO: 150)

BMS3h-215

EVQLLES GGGGLVQPGGSLRLSCAASGFTFADYAMGWVRQAPGKGLEWVSRISPEGSRTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLRPYASKFDYWGQGLVTVSS (SEQ ID NO: 151)

BMS3h-230

EVQLLES GGGGLVQPGGSLRLSCAASGFTFRPYDMGWVRQAPGKGLEWVSTISHQGNRTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKVSHHFDYWGQGLVTVSS (SEQ ID NO: 152)

BMS3h-231

EVQLLES GGGGLVQPGGSLRLSCAASGFTFSAYNMWVRQAPGKGLEWVSWINSTGSRTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKNWHRGRFDYWGQGLVTVSS (SEQ ID NO: 153)

BMS3h-232

EVQLLES GGGGLVQP GGSRLRLSCAASGFTFD RYRMGWVRQAPGKGLEWVSTINRLGQSTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKVKKKHKFDYWGQGT LVTVSS (SEQ ID NO: 154)

BMS3h-233

EVQLLES GGGGLVQP GGSRLRLSCAASGFTFAHYNMRWVRQAPGKGLEWVSTITKTGFRTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKAGQFDYWGQGT LVTVSS (SEQ ID NO: 155)

BMS3h-234

EVQLLES GGGGLVQP GGSRLRLSCAASGFTFYPYSMHVVRQAPGKGLEWVSTIDGSGMFTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAEDSLKASFDYWGQGT LVTVSS (SEQ ID NO: 156)

BMS3h-235

EVQLLES GGGGLVQP GGSRLRLSCAASGFTFPLYGMWVRQAPGKGLEWVSIGPYGHTTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKKRKKKFDYWGQGT LVTVSS (SEQ ID NO: 157)

BMS3h-236

EVQLLES GGGGLVQP GGSRLRLSCAASGFTFPRYRMSWVRQAPGKGLEWVSSITPYGAHTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKYGKWFYWGQGT LVTVSS (SEQ ID NO: 158)

BMS3h-237

EVQLLES GGGGLVQP GGSRLRLSCAASGFTFNEYAMRWRQAPGKGLEWVSTIDRLGLHTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKSGPFTFDYWGQGT LVTVSS (SEQ ID NO: 159)

BMS3h-238

EVQLLES GGGGLVQP GGSRLRLSCAASGFTFERYNMRWVRQAPGKGLEWVSTIDRLGLATYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKAGSWSFDYWGQGT LVTVSS (SEQ ID NO: 160)

BMS3h-239

EVQLLES GGGGLVQP GGSRLRLSCAASGFTFGIYDMKWVRQAPGKGLEWVSTISSSGHTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKYPQYPFDYWGQGT LVTVSS (SEQ ID NO: 161)

BMS3h-240

EVQLLES GGGGLVQP GGSRLRLSCAASGFTFWVYDMRWVRQAPGKGLEWVSTISATGVHTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKYPAGRFDYWGQGT LVTVSS (SEQ ID NO: 162)

BMS3h-241

EVQLLES GGGGLVQP GGSRLRLSCAASGFTFSTYDMIWVRQAPGKGLEWVSAISPNGTGTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKPPQVNTEFDYRGQGT LVTVSS (SEQ ID NO: 163)

BMS3h-243

EVQLLES GGGGLVQP GGSRLRLSCAASGFTFEKEDMGWVRQAPGKGLEWVSHISPNGYATYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKSWSSFDYWGQGT LVTVSS (SEQ ID NO: 164)

BMS3h-244

EVQLLES GGGGLVQP GGSRLRLSCAASGFTFSATPMEWARQAPGKGLEWVSTISESGYSTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKWNSTTGFDYWGQGT LVTVSS (SEQ ID NO: 165)

BMS3h-245

EVQLLES GGGGLVQP GGSRLRLSCAASGFTFNTVDMEWVRQAPGKGLEWVSSISPNGWDTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAEAPHRAFDYWGQGT LVTVSS (SEQ ID NO: 166)

BMS3h-246

EVQLLES GGG LVQPGGSLRLSCAASGFTFEDKEMSWVRQAPGKGLEWVSRI DALGDSTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAEGMPRLKFDYWGQGT LTVTVSS (SEQ ID NO: 167)

BMS3h-247

EVQLLES GGG LVQPGGSLRLSCAASGFTFSDHSMWVRQAPGKGLEWVSDIEPHGVHTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCANPTFDYWGQGT LTVTVSS (SEQ ID NO: 168)

BMS3h-248

EVQLLES GGG LVQPGGSLRLSCAASGFTFSPHTMHWVRQAPGKGLEWVSGIGPDGTTTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKRSYSWDRGWTFDYWGQGT LTVTVSS (SEQ ID NO: 169)

BMS3h-249

EVQLLES GGG LVQPGGSLRLSCAASGFTFYASDMKWVRQAPGKGLEWVSSIPNGWDTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKADYTYHSFDYWGQGT LTVTVSS (SEQ ID NO: 170)

BMS3h-250

EVQLLES GGG LVQPGGSLRLSCAASGFTFAHYNMWVRQAPGKGLEWVSTITKTGFRTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKAGQDFDYWGQGT LTVTVSS (SEQ ID NO: 171)

BMS3h-251

EVQLLES GGG LVQPGGSLRLSCAASGFTFSHYHMGWARQAPGKGLEWVSVIGPRGISTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKSPSRHRFDYWGQGT LTVTVSS (SEQ ID NO: 172)

BMS3h-252

EVQLLES GGG LVQPGGSLRLSCAASGFTFNEYAMWVRQAPGKGLEWVSTIDRLGLHTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKSGPFTFDYWGQGT LTVTVSS (SEQ ID NO: 173)

BMS3h-253

EVQLLES GGG LVQPGGSLRLSCAASGFTFGNYSMKWVRQAPGKGLEWVSTITPDGWYTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKVGDAVWGIGFDYWGQGT LTVTVSS (SEQ ID NO: 174)

BMS3h-254

EVQLLES GGG LVQPGGSLRLSCAASGFTFGDYGMKWVRQAPGKGLEWVSAITSNGDFTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKSLYKFDYWGQGT LTVTVSS (SEQ ID NO: 175)

BMS3h-255

EVQLLES GGG LVQPGGSLRLSCAGSGFTFPTYKMGWVRQAPGKGLEWVSFIDYWGWRYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKSPYSWTHDSPHFDYWGQGT LTVTVSS (SEQ ID NO: 176)

BMS3h-256

EVQLLES GGG LVQPGGSLRLSCAASGFTFRPYTMCWARQAPGKGLEWVSCISDAGSFTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKRMSSFYWGQGT LTVTVSS (SEQ ID NO: 177)

BMS3h-257

EVQLLES GGG LVQPGGSLRLSCAASGFTFQNYQMAWVRQAPGKGLEWVSTISGTGKNTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKTPQNYFSVRRFDYWGQGT LTVTVSS (SEQ ID NO: 178)

BMS3h-258

EVQLLESGGGLVQPGGSLRLSCAASGFTFGAYTMGWVRQAPGKGLEWVSKISTSGGQTYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAKPLNWWAFDYWGQGLTVTVSS (SEQ ID NO: 179)

BMS3h-272

EVQLLESGGGLVQPGGSLRLSCAASGFTFNAYPMTWVRQAPGKGLEWVSRIDGYGRHTYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAKGIIPNFDYWGQGLTVTVSS (SEQ ID NO: 180)

BMS3h-273

EVQLLESGGGLVQPGGSLRLSCAASGFTFGAVDMTWVRQAPGKGLEWVSAISPSGSATYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAKGRVPDLGFDYWGQGLTVTVSS (SEQ ID NO: 181)

BMS3h-274

EVQLLESGGGLVQPGGSLRLSCAASGFTFDSYAMGWARQAPGKGLEWVSAIGAKGLSTYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAKAARGKFDYWGQGLTVTVSS (SEQ ID NO: 182)

BMS3h-275

EVQLLESGGGLVQPGGSLRLSCAASGFTFTRYQMGWVRQAPGKGLEWVSVINWGSSTYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAKMSGKFAYWGQGLTVTVSS (SEQ ID NO: 183)

BMS3h-276

EVQLLESGGGLVQPGGSLRLSCAASGFTFGNYSMMWVRQAPGKGLEWVSTIIPAGTSTYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAKPSIRLFDYWGQGLTVTVSS (SEQ ID NO: 184)

BMS3h-279

EVQLLESGGGLVQPGGSLRLSCAASGFTFGAYDMGWVRQAPGKGLEWVSWISPNGYDTYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAKGGVKFDYWGQGLTVTVSS (SEQ ID NO: 185)

BMS3h-282

EVQLLESGGGLVQPGGSLRLSCAASGFTFVWYEMAWVRQAPGKGLEWVSTIQADGEQTYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAKASYALVYPPEEFDYWGQGLTVTVSS (SEQ ID NO: 186)

BMS3h-287

EVQLLESGGGLVQPGGSLRLSCAASGFTFTNYRMSWVRQAPGKGLEWVSAIDDLGVSTYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAKWRLKNSQPTDFDYWGQGLTVTVSS (SEQ ID NO: 187)

BMS3h-292

EVQLLESGGGLVQPGGSLRLSCAASGFTFDQAHMMWVRQAPGKGLEWVSFINPSGYTYTYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAKPSLSPSSFDYWGQGLTVTVSS (SEQ ID NO: 188)

BMS3h-293

EVQLLESGGGLVQPGGSLRLSCAASGFTFETGQMGWARQAPGKGLEWVSNIDGSGTYTYTYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAKSTQNYRFDYWGQGLTVTVSS (SEQ ID NO: 189)

BMS3h-296

EVQLLESGGGLVQPGGSLRLSCAASGFTFGAYPMYWVRQAPGKGLEWVSSIHKDGRITYTYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAKQGPVDGFDYWGQGLTVTVSS (SEQ ID NO: 190)

BMS3h-297

EVQLLESGGGLVQPGGSLRLSCAASGFTFPDEGMTWVRQAPGKGLEWVSTIETGGTVTYTYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAKMDGSGTWQTFDYWGQGLTVTVSS (SEQ ID NO: 191)

BMS3h-298

EVQLLESGGGLVQPGGSLRLSCAASGFTFDSLGMGWARQAPGKGLEWVSYIRAEGAYTTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKYLADSDYWGQGT LVTVSS (SEQ ID NO: 192)

BMS3h-299

EVQLLESGGGLVQPGGSLRLSCAASGFTFSESYMEWVRQAPGKGLEWVSGIDHIGGGTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKDDGRGSMFDYWGQGT LVTVSS (SEQ ID NO: 193)

BMS3h-300

EVQLLESGGGLVQPGGSLRLSCAASGFTFSGGYMWWVRQAPGKGLEWVSSIGASGAYTTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKTGGRLDYWGQGT LVTVSS (SEQ ID NO: 194)

BMS3h-301

EVQLLESGGGLVQPGGSLRLSCAASGFTFDEGHMGWVRQAPGKLEWVSYIGSLGLHTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKREFSNGGFDYWGQGT LVTVSS (SEQ ID NO: 195)

BMS3h-302

EVQLLESGGGLVQPGGSLRLSCAASGFTFKTSPMYWVRQAPGKLEWVSSIDRTGGHTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKQALLTDAKRFDYWGQGT LVTVSS (SEQ ID NO: 196)

BMS3h-303

EVQLLESGGGLVQPGGSLRLSCAASGFTFDGRDMVWVRQAPGKLEWVSAISPSGLDTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAERPQMLVTNFDYWGQGT LVTVSS (SEQ ID NO: 197)

BMS3h-304

EVQLLESGGGLVQPGGSLRLSCAASGFTFGNDPMSWVRQAPGKLEWVSGIGREGDSTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKDSMRHQPFDYWGQGT LVTVSS (SEQ ID NO: 198)

BMS3h-305

EVQLLESGGGLVQPGGSLRLSCAASGFTFDETYMKWVRQAPGKLEWVSAIGASGADTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKFTHLNGRFDYWGQGT LVTVSS (SEQ ID NO: 199)

BMS3h-306

EVQLLESGGGLVQPGGSLRLSCAASGFTFGGWPMGWVRQAPGKLEWVSGIDIDGAPTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKEEAGSWSFDYWGQGT LVTVSS (SEQ ID NO: 200)

BMS3h-307

EVQLLESGGGLVQPGGSLRLSCAASGFTFSDQAMWWARQAPGKLEWVSFIQGGGFTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKPSKPFDYWGQGT LVTVSS (SEQ ID NO: 201)

BMS3h-308

EVQLLESGGGLVQPGGSLRLSCAASGFTFETGQMWARQAPGKLEWVSNIDGSGTYTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKAVRNFAFDYWGQGT LVTVSS (SEQ ID NO: 202)

BMS3h-309

EVQLLESGGGLVQPGGSLRLSCAASGFTFSGHDMWVRQAPGKLEWVSAISPHGHTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKGIRGWI GHDTQPFDYWGQGT LVTVSS (SEQ ID NO: 203)

BMS3h-310

EVQLLESGGGLVQPGGSLRLSCAASGFTFESK DMLWVRQAPGKGLEWVSSISSDGTHTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAQELGGSWQFDYWGQGLTVTVSS (SEQ ID NO: 204)

BMS3h-311

EVQLLESGGGLVQPGGSLRLSCAASGFTFAD RDMVWVRQAPGKGLEWVSGIGASGTSTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDAAVYYCAKGGTGPTDLWDFDYWGQGLTVTVSS (SEQ ID NO: 205)

BMS3h-312

EVQLLESGGGLVQPGGSLRLSCAASGFTFDDEKMLWVRQAPGKGLEWVSSISVSGLHTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKEEAGSWSFDYWGQGLTVTVSS (SEQ ID NO: 206)

BMS3h-313

EVQLLESGGGLVQPGGSLRLSCAASGFTFGQERM I WVRQAPGKGLEWVSDISASGGTTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKEEAGSWSFDYWGQGLTVTVSS (SEQ ID NO: 207)

BMS3h-37-1

EVQLLESGGGLVQPGGSLRLSCAASGFTFEWYEMQWVRQAPGKGLEWVSAISGDGYRTYYADSVKGRFTISRDN SKMNTL
YLQMNSLRAEDTAVYYCAKELGYFDYRGRGLTVTVSS (SEQ ID NO: 208)

BMS3h-37-2

EVQLLESGGGLVQPGGSLRLSCAASGFTFEWYEMQWRRAPGKGLEWVSAISGDGYRTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKELGYFDYWGRGLTVTVSS (SEQ ID NO: 209)

BMS3h-37-3

EVQLLESGGGLVQPGGSLRLSCAASGFTFEWYEMQWRRAPGKGLEWVSAISGDGYRTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKELGYFDYRVQGLTVTVSS (SEQ ID NO: 210)

BMS3h-37-4

EVQLLESGGGLVQPGGSLRLSCAASGFTFEWYEMQWVRKAPGKGLEWVSAISGDGYRTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKELGYFDYWGRGLTVTVSS (SEQ ID NO: 211)

BMS3h-37-5

EVQLLESGGGLVQPGGSLRLSCAASGFTFEWYEMQWVRQAPGKGLEWISAISGDGYRTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKELGYFDYRVQGLTVTVSS (SEQ ID NO: 212)

BMS3h-37-6

EVQLLESGGGLVQPGGSLRLSCAASGFTFEWYEMQWRRAPGKGLEWVSAISGDGYRTYYADSVKGRFTISRDN SENTL
YLQMNSLRAEDTAVYYCAKELGYFDYWGRGLTVTVSS (SEQ ID NO: 213)

BMS3h-37-7

EVQLLETGGGLVQPGGSLRLSCAASGFTFEWYEMQWRRAPGKGLEWVSAISGDGYRTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKELGYFDYWGRGLTVTVTS (SEQ ID NO: 214)

BMS3h-37-8

EVQLLESGGGLVQPGGSLRLSCAASGFTFEWYEMQWVRQAPGKGLEWVSAISGDGYRTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKELGYFHYWGRGLTVTVSS (SEQ ID NO: 215)

BMS3h-37-9

EVQLLESGGGLVQPGGSLRLSCVASGFTFEWYEMQWVRQAPGNLEWISAISGDGYRTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKELGYFDYWGRGLTVTVSS (SEQ ID NO: 216)

BMS3h-37-10

EVQLLES GGGGLVQPGGSLRLSCAASGFTFEWYEMQWVRAPGKGLEWVSAISGDGYRTYYADSVKGRFTISRDN SKNTL
YLLMNSLRAEDTAVYYCAKELGYFDYWGRGTLTVSS (SEQ ID NO: 217)

BMS3h-37-11

EVQLLES GGGGLVQPGGSLRLSCAASGFTFEWYEMQWVRKAPGKGLEWVSAISGDGYRTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKELGYFDYRGRGTLTVSS (SEQ ID NO: 218)

BMS3h-37-12

EVQLLES GGGGLVQPGGSMRLSCAASGFTFEWYEMQWVRAPGKGLEWVSAISGDGYRTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKELGYFDYRGRGTLTVSS (SEQ ID NO: 219)

BMS3h-37-201

EVQLLES GGGGLVQPGGSLRLSCAASGFTFEWYEMQWVRAPGKGLEWVSMISGDGYRTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKELGYFDYWGRGTLTVSS (SEQ ID NO: 220)

BMS3h-37-202

EVQLLES GGGGLVQPGGSLRLSCAASGFTFEWYEMQWVRAPGKGLEWVSAISGDGWRTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKELGYFDYWGRGTLTVSS (SEQ ID NO: 221)

BMS3h-37-203

EVQLLES GGGGLVQPGGSLRLSCAASGFTFGWYEMQWVRAPGKGLEWVSAISGDGYRTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKELLYFDYWGRGTLTVSS (SEQ ID NO: 222)

BMS3h-37-204

EVQLLES GGGGLVQPGGSLRLSCAASGFTFEWYEMQWVRAPGKGLEWVSAISGDGYRTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKELGFFDYWGRGTLTVSS (SEQ ID NO: 223)

BMS3h-37-205

EVQLLES GGGGLVQPGGSLRLSCAASGFTFEWYEMQWVRAPGKGLEWVSAISGDGYRTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKELEYFDYWGRGTLTVSS (SEQ ID NO: 224)

BMS3h-37-206

EVQLLES GGGGLVQPGGSLRLSCAASGFTFEWYEMQWVRAPGKGLEWVSAISGDGYRTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLELEYFDYWGRGTLTVSS (SEQ ID NO: 225)

BMS3h-37-207

EVQLLES GGGGLVQPGGSLRLSCAASGFTFEWYEMQWVRAPGKGLEWVSAISGDGYRTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKELAFFDYWGRGTLTVSS (SEQ ID NO: 226)

BMS3h-37-208

EVQLLES GGGGLVQPGGSLRLSCAASGFTFEWYEMQWVRAPGKGLEWVSAISGDGYRTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKELLYFDYWGRGTLTVSS (SEQ ID NO: 227)

BMS3h-37-209

EVQLLES GGGGLVQPGGSLRLSCAASGFTFEWYEMQWVRAPGKGLEWVSAISGDGYRTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKELEFFDYWGRGTLTVSS (SEQ ID NO: 228)

BMS3h-37-210

EVQLLESGGGLVQPGGSLRLSCAASGFTFEWYEMQWRRAPGKGLEWVSAISGDGYRTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKELQFFDYWGRGTLVTVSS (SEQ ID NO: 229)

BMS3h-37-211

EVQLLESGGGLVQPGGSLRLSCAASGFTFEWYEMQWRRAPGKGLEWVSAISGDGYRTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKELLFFDYWGRGTLVTVSS (SEQ ID NO: 230)

BMS3h-37-212

EVQLLESGGGLVQPGGSLRLSCAASGFTFEWYEMQWRRAPGKGLEWVSAISGDGYRTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKELEFFDYWGRGTLVTVSS (SEQ ID NO: 231)

BMS3h-37-213

EVQLLESGGGLVQPGGSLRLSCAASGFTFEWYEMQWRRAPGKGLEWVSAISGDGYRTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKELLFFDYRGRGTLVTVSS (SEQ ID NO: 232)

BMS3h-37-214

EVQLLESGGGLVQPGGSLRLSCAASGFTFEWYEMQWRRAPGKGLEWVSAISGDGYRTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKNLEYFDYWGRGTLVTVSS (SEQ ID NO: 233)

BMS3h-37-215

EVRLLESGGGLVQPGGSLRLSCAASGFTFEWYEMQWRRAPGKGLEWVSAISGDGYRTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKELQFFDYWGRGTLVTVSS (SEQ ID NO: 234)

BMS3h-38-1

EVQLLGSGGGLVQPGGSLRLSCAASGFTFEEEEIHWVRQAPGKGLEWVSAISGSGGSTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCSKEPFRFDYWGGTGLVTVSS (SEQ ID NO: 235)

BMS3h-38-2

EVQLLASGGGLVQPGGSLRLSCAASGFTFEEEEIHWVRQAPGKGLEWVSAISGSGGSTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCGKEPFRFDYWGGTGLVTVSS (SEQ ID NO: 236)

BMS3h-38-3

EVQLLASGGGLVQPGGSLRLSCAASGFTFEEEEIHWVRQAPGKGLEWVSAISGSGGSTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCGKEPFRFDYWGGTGLVTVSS (SEQ ID NO: 237)

BMS3h-38-4

EVQLLDPGGGLVQPGGSLRLSCAASGFTFGKEEMIHWVRQAPGKGLEWVSSISGSGGSTYYADSVKGRFTISRDN SRNTL
YLQMNSLRAEDTAVYYCGKEPFRFDYWGGTGLVTVSS (SEQ ID NO: 238)

BMS3h-38-5

EVQLLGSGGGLVQPGGSLRLSCAASGFTFEEEEIHWVRQAPGKGLEWVSAISGSGGSTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCGKEPFRFDYWGGTGLVTVSS (SEQ ID NO: 239)

BMS3h-38-6

EVQLLEPGGGLVQPGGSLRLSCAASGFTFEEEEIHWVRQAPGKGLEWVSAISGSGGSTYYADSVKGRFTISRDN SKNTL
YLLMNSLRAEDTAVYYCSKEPFRFDYWGGALVTVSS (SEQ ID NO: 240)

BMS3h-38-7

EVQLLDPGGGLVQPGGSLRLSCAASGFTFGKEEMIHWVRQAPGKGLEWVSSISGSGGSTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKEPLRFDYWGGTGLVTVSS (SEQ ID NO: 241)

BMS3h-38-8

EVQLLESGGGLVQPGGSLRLSCAASGFTFESEMIWVRQAPGKGLEWISAIISGSGGSTYYADSVKGRFTIHRDNSKNTL
YLQMNSLR AEDTAVYYCSKEPFRFDYRGLGLTVTVSS (SEQ ID NO: 242)

BMS3h-38-9

EVQLDPPGGGLVQPGGSLRLSCAASGFTFGKEEMIWVRQAPGKGLEWSSISGSGGSTYYADSVKGRFTISRDNRSNTL
YLQMNSLR AEDTAVYYCAKEPLRFDYWGQGLTVTVSS (SEQ ID NO: 243)

BMS3h-38-10

EVQLLESGGGFVQPGGSLRLSCAASGFTFESEMIWVRQAPGKGLEWISAIISGSGGSTYYADSVKGRFTISRDNKNTL
YLQMNSLR AEDTAVYYCAKEPFRFDYWGQGLTVTVSS (SEQ ID NO: 244)

BMS3h-38-11

EVQLDPPGGGLVQPGGSLRLSCAASGFTFESEMIWVRQAPGKGLEWISAIISGSGGSTYYADSVKGRFTISRDNNSNTL
YLQMNSLR AEDTAVYYCGREPFRFDYWGQGLTVTVSS (SEQ ID NO: 245)

BMS3h-38-12

EVRLLESGLVQPGGSLRLSCAASGFTFESEMIWVRQAPGKGLEWVSAISGSGGSTYYADSVKGRFTISRDNKNTL
YLQMNSLR AEDTAVYYCGKEPFRFDYWGQGLTVTVSS (SEQ ID NO: 246)

BMS3h-38-13

EVQQLESGGGLVQPGGSLRLSCAASGFTFESEMIWVRQAPGKGLEWVSAISGSGGSTYYADSVKGRFTISRDNKNTL
YLQMNSLR AEDTAVYYCGKEPFRFDYWGQGLTVTVSS (SEQ ID NO: 247)

BMS3h-38-201

EVQLLASGGGLVQPGGSLRLSCAASGFTFESEMIWVRQAPGKGLEWVSAISGSGGSTYYADSVKGRFTISRDNKNTL
YLQMNSLR AEDTAVYYCGKEPFYDYWGQGLTVTVSS (SEQ ID NO: 248)

BMS3h-38-202

EVQLLASGGGLVQPGGSLRLSCAASGFTFESEMIWVRQAPGKGLEWVSAISGSGGSTYYADSVKGRFTISRDNKNTL
YLQMNSLR AEDTAVYYCGKEPFYDYWGQGLTVTVSS (SEQ ID NO: 249)

BMS3h-38-203

EVQLLASGGGLVQPGGSLRLSCAASGFTFESEMIWVRQAPGKGLEWVSAISGSGGSTYYADSVKGRFTISRDNKNTL
YLQMNSLR AEDTAVYYCGKEPFYDYWGQGLTVTVSS (SEQ ID NO: 250)

BMS3h-38-204

EVQLLASGGGLVQPGGSLRLSCAASGFTFPQEEMIWVRQAPGKGLEWVSAISGSGGSTYYADSVKGRFTISRDNKNTL
YLQMNSLR AEDTAVYYCGKEPFRYDYWGQGLTVTVSS (SEQ ID NO: 251)

BMS3h-38-205

EVQLLASGGGLVQPGGSLRLSCAASGFTFFAAEMIWVRQAPGKGLEWVSAISGSGGSTYYADSVKGRFTISRDNKNTL
YLQMNSLR AEDTAVYYCGKEPFRYDYWGQGLTVTVSS (SEQ ID NO: 252)

BMS3h-38-206

EVQLLASGGGLVQPGGSLRLSCAASGFTFESEMIWVRQAPGKGLEWVSAISRPGTSTYYADSVKGRFTISRDNKNTL
YLQMNSLR AEDTAVYYCGKEPFRYDYWGQGLTVTVSS (SEQ ID NO: 253)

BMS3h-38-207
EVQLLASGGGLVQPGGSLRLSCAASGFTFEDEEEMIWVRQAPGKGLEWVSAISRMGFSTYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCGKEPFRYDYWGQGT LVT VSS (SEQ ID NO: 254)

BMS3h-38-208
EVQLLASGGGLVQPGGSLRLSCAASGFTFEDEEEMIWVRQAPGKGLEWVSAISR WGHSTYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCGKEPFRYDYWGQGT LVT VSS (SEQ ID NO: 255)

BMS3h-38-209
EVQLLASGGGLVQPGGSLRLSCAASGFTFEDEEEMIWVRQAPGKGLEWVSAISRLGWSTYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCGKEPFRYDYWGQGT LVT VSS (SEQ ID NO: 256)

BMS3h-38-210
EVQLLASGGGLVQPGGSLRLSCAASGFTFEDEEEMIWVRQAPGKGLEWVSAISR WGSTYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCGKEPFRYDYWGQGT LVT VSS (SEQ ID NO: 257)

BMS3h-38-211
EVQLLASGGGLVQPGGSLRLSCAASGFTFEDEEEMIWVRQAPGKGLEWVSAISRQGGSTYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCGKEPFRYDYWGQGT LVT VSS (SEQ ID NO: 258)

BMS3h-38-212
EVQLLASGGGLVQPGGSLRLSCAASGFTFEDEEEMIWVRQAPGKGLEWVSAISVSGWSTYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCGKEPFRYDYWGQGT LVT VSS (SEQ ID NO: 259)

BMS3h-38-213
EVQLLASGGGLVQPGGSLRLSCAASGFTFEDEEEMIWVRQAPGKGLEWVSAISR WGWSTYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCGKEPFRYDYWGQGT LVT VSS (SEQ ID NO: 260)

BMS3h-38-214
EVQLLASGGGLVQPGGSLRLSCAASGFTFEDEEEMIWVRQAPGKGLEWVSAISR NGLSTYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCGKEPFRYDYWGQGT LVT VSS (SEQ ID NO: 261)

BMS3h-38-215
EVQLLASGGGLVQPGGSLRLSCAASGFTFEDEEEMIWVRQAPGKGLEWVSAISGLWSTYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCGKEPFRYDYWGQGT LVT VSS (SEQ ID NO: 262)

BMS3h-38-216
EVQLLASGGGLVQPGGSLRLSCAASGFTFEDEEEMIWVRQAPGKGLEWVSAISALGWSTYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCGKEPFRYDYWGQGT LVT VSS (SEQ ID NO: 263)

BMS3h-38-217
EVQLLASGGGLVQPGGSLRLSCAASGFTFEDEEEMIWVRQAPGKGLEWVSAISR RGYSTYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCGKEPFRYDYWGQGT LVT VSS (SEQ ID NO: 264)

BMS3h-38-218
EVQLLASGGGLVQPGGSLRLSCAASGFTFEDEEEMIWVRQAPGKGLEWVSAISR HGWSTYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCGKEPFRYDYWGQGT LVT VSS (SEQ ID NO: 265)

BMS3h-38-219
EVQLLASGGGLVQPGGSLRLSCAASGFTFEDEEEMIWVRQAPGKGLEWVSSISRGGSTYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCGKEPFRYDYWGQGT LVT VSS (SEQ ID NO: 266)

BMS3h-38-220
EVQLLASGGGLVQPGGSLRLSCAASGFTFEDEEIMWVRQAPGKGLEWVSAISRIGNSTYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCGKEPFRYDYWGQGLVTVSS (SEQ ID NO: 267)

BMS3h-38-221
EVQLLASGGGLVQPGGSLRLSCAASGFTFEDEEIMWVRQAPGKGLEWVSAISGHGWSTYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCGKEPFRYDYWGQGLVTVSS (SEQ ID NO: 268)

BMS3h-38-222
EVQLLASGGGLVQPGGSLRLSCAASGFTFEDEEIMWVRQAPGKGLEWVSAISRWGGSTYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCGKEPFRYDYWGQGLVTVSS (SEQ ID NO: 269)

BMS3h-38-223
EVQLLASGGGLVQPGGSLRLSCAASGFTFEDEEIMWVRQAPGKGLEWVSAISGSGGSTYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCGKEPFMYDYWGQGLVTVSS (SEQ ID NO: 270)

BMS3h-38-224
EVQLLASGGGLVQPGGSLRLSCAASGFTFEDEEIMWVRQAPGKGLEWVSAISGSGGSTYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCGKEPFPYDYWGQGLVTVSS (SEQ ID NO: 271)

BMS3h-38-225
EVQLLASGGGLVQPGGSLRLSCAASGFTFEDEEIMWVRQAPGKGLEWVSAISGSGGGTYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCGKEPFRYDYWGQGLVTVSS (SEQ ID NO: 272)

BMS3h-38-226
EVQLLASGGGLVQPGGSLRLSCAASGFTFEDEEIMWVRQAPGKGLEWVSAISGSGGSTYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCGKEPLYDYWGQGLVTVSS (SEQ ID NO: 273)

BMS3h-38-227
EVQLLASGGGLVQPGGSLRLSCAASGFTFEDEEIMWVRQAPGKGLEWVSAISGSGGSTYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCGKEPMYDYWGQGLVTVSS (SEQ ID NO: 274)

BMS3h-38-228
EVQLLASGGGLVQPGGSLRLSCAASGFTFEDEEIMWVRQAPGKGLEWVSAISRNGFSTYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCGKEPFRYDYWGQGLVTVSS (SEQ ID NO: 275)

BMS3h-38-229
EVQLLASGGGLVQPGGSLRLSCAASGFTFEDEEIMWVRQAPGKGLEWVSAISRTGGSTYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCGKEPFRYDYWGQGLVTVSS (SEQ ID NO: 276)

BMS3h-38-230
EVQLLASGGGLVQPGGSLRLSCAASGFTFEDEEIMWVRQAPGKGLEWVSAISREGGSTYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCGKEPFRYDYWGQGLVTVSS (SEQ ID NO: 277)

BMS3h-38-231
EVQLLASGGGLVQPGGSLRLSCAASGFPFEDEEIMWVRQAPGKGLEWVSAISRQGWSTYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCGKEPFRYDYWGQGLVTVSS (SEQ ID NO: 278)

BMS3h-38-232

EVQLLASGGGLVQPGGSLRLSCAASGFTFEEEEMIWVRQAPGKGLEWVSAISRGGGSTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCGKEPFRYDYWGQGLTVTVSS (SEQ ID NO: 279)

BMS3h-38-233

EVQLLASGGGLVQPGGSLRLSCAASGFTFEEEEMIWVRQAPGKGLEWVSAISRTGYSTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCGKEPFRYDYWGQGLTVTVSS (SEQ ID NO: 280)

BMS3h-38-234

EVQLLASGGGLVQPGGSLRLSCAASGFTFEEEEMIWVRQAPGKGLEWVSAISRNGRSTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCGKEPFRYDYWGQGLTVTVSS (SEQ ID NO: 281)

BMS3h-38-235

EVQLLASGGGLVQPGGSLRLSCAASGFTFEEEEMIWVRQAPGKGLEWVSAISRNGYSTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCGKEPFRYDYWGQGLTVTVSS (SEQ ID NO: 282)

BMS3h-38-236

EVQLLASGGGLVQPGGSLRLSCAASGFTFEEEEMIWVRQAPGKGLEWVSAISRKGSSTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCGKEPFRYDYWGQGLTVTVSS (SEQ ID NO: 283)

BMS3h-38-237

EVQLLASGGGLVQPGGSLRLSCAASGFTFEEEEMIWVRQAPGKGLEWVSAISRGGWSTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCGKEPFRYDYWGQGLTVTVSS (SEQ ID NO: 284)

BMS3h-38-238

EVQLLASGGGLVQPGGSLRLSCAASGFTFEEEEMIWVRQAPGKGLEWVSAISRSGYSTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCGKEPFRYDYWGQGLTVTVSS (SEQ ID NO: 285)

BMS3h-38-239

EVQLLASGGGLVQPGGSLRLSCAASGFTFEEEEMIWVRQAPGKGLEWVSAISRNGMSTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCGKEPFRYDYWGQGLTVTVSS (SEQ ID NO: 286)

BMS3h-38-240

EVQLLESGGGLVQPGGSLRLSCAASGFTFEEEEMIWVRQAPGKGLEWVSAISRNGYSTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCGKEPFRYDYWGQGLTVTVSS (SEQ ID NO: 287)

BMS3h-41-1

EVQLLESGEGLVQPGGSLRLSCAASGFTFTEHEMIWVRQAPGKGLEWVSSISGNGANTYYADSVKGRFTISRDN SKNTL
YLQMNSLRPEDTAVYYCAKEPLRFDYWGQGLTVTVSS (SEQ ID NO: 288)

BMS3h-41-2

EVQLLESGGGLVQPGGSLRLSCAASGSTFTEYEMIWVRQAPGKGLEWISSISGNGANTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYFCAKEPLRFDYRGQGLTVTVSS (SEQ ID NO: 289)

BMS3h-41-3

EVQLLEPGGGLVQPGGSLRLSCAASGFTFTEYEMIWVRKAPGKMEWVSSISGNGANTYYADSVKGRFTISRDN SKNML
YLQMNSLRAEDTAVYYCAKEPLRFGYWGQGLTVTVSS (SEQ ID NO: 290)

BMS3h-41-4

EVQLLDSGGGLVQPGGSLRLSCAASGFTFTEYEMIWVRQAPGKGLEWVSSISGNGANTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKEPLRFDYWGRGTLTVTVSS (SEQ ID NO: 291)

BMS3h-41-5

EVQLLGSGGGLVQPGGSLRLSCAASGFTFTEYEMIWVRQAPGKGLEWVSSISGNGANTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKEPLRYDDWGQGLVTVSS (SEQ ID NO: 292)

BMS3h-41-6

EVQPLESGGGLVQPGGSLRLSCASGFTFNEYEMIWVRQAPGKGLEWVSSISGNGANTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKEPLRFDYWGQGLVTVSS (SEQ ID NO: 293)

BMS3h-41-7

EVQLLESGGLVQPGGSLRLSCAASGFTFAEYEMIWVRQAPGKGLEWVSSISGNGANTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKEPLRFDYWGQGLVTVSS (SEQ ID NO: 294)

BMS3h-41-8

EVQLLDPPGGGLVQPGGSLRLSCAASGFTFTESEMIWVRQAPGKGLEWVSSISGNGANTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKEPLRFDYWGQGLVTVSS (SEQ ID NO: 295)

BMS3h-41-9

EVQLLEPGGGLVQPGGSLRLSCAASGFTFTEYEMIWVRQAPGKGMWVSSISGNGANTYYADSVKGRFTISRDN SKNTL
YLQMNSLRPEDTAVYYCAKEPLRFDWGGQGLVTVSS (SEQ ID NO: 296)

BMS3h-41-10

EVQLLESGGLVQPGGSLRLSCAASGFTFTEYEMIWVRQAPGKGLEWVSSISGNGANTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKEPLRFDNWGQGLVTVSS (SEQ ID NO: 297)

BMS3h-41-11

EVQLLESRGGLVQPGGSLRLSCAASGFTFTEHEMIWVRQAPGKGLEWVSSISGNGANTYYADSVKGRFSVSRDN SKNTL
YLQMNSLRAEDTAVYYCAKEPLRFDYWGGQGLVTVSS (SEQ ID NO: 298)

BMS3h-41-12

EVQPLESGGGLVQPGGSLRLSCAASGFTFTEYEMIWVRQAPGKGLEWVSSISGNGANTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKEPLRFDYWGGQGLVTVSS (SEQ ID NO: 299)

BMS3h-41-13

EVQLLESAAGGLVQPGGSLRLSCAASGFTFAEYEMIWVRQAPGKGLEWVSSISGNGANTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKEPLRFDYWGGALVTVSS (SEQ ID NO: 300)

BMS3h-41-14

EVQLLEPGGGLVQPGGSLRLSCAASGFTFTEYEMIWVRQAPGKGLEWVSSISGNGANTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKEPLRFDNWGGQGLVTVSS (SEQ ID NO: 301)

BMS3h-43-1

EVQLLESGGGLVQPGGSLRLSCTASGFTFNMYESWVRQAPGKGLEWVSGISRRGFTTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKEPITYDLRYARFDYSGQGLVTVSS (SEQ ID NO: 302)

BMS3h-43-2

EEQLLESGGGLVQPGGSLRLSCTASGFTFNMYESWVRQAPGKGLEWVSGISRRGFTTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKEPITYATRYARFDYWGGQGLVTVSS (SEQ ID NO: 303)

BMS3h-43-3

EVQLLES GGGGLVQP GGS LRLSCTASGFTFNMYEMSWVRQAPGKGLEWVSGISR RGFTTYADSVKGRFTISRDNFKNTL
YLQMNSLRAEDTAVYYCAKEPITYDMRYARFDYGGQGLTVTVSS (SEQ ID NO: 304)

BMS3h-43-4

EVQLLES GGGGLVQP GGS LRLSCTASGFTFNMYEMSWVRQAPGKGLEWVSGISR RGFTTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKEPITYDMRYARFDNWGQGLTVTVSN (SEQ ID NO: 305)

BMS3h-43-5

EVQLLES GGGGLVQP GGS LRLSCTASGFTFNMYEMSWVRQAPGKGLEWVSGISR RGFTTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKEPITYDLRYARFDYSGQGLTVTVSS (SEQ ID NO: 306)

BMS3h-43-6

EVQLMES GGGGLVQP GGS LRLSCTASGFSFNMYEMSWVRQAPGKGLEWVSGISR RGFTTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKEPITYDMRYARFDYWGRGTLTVTVSS (SEQ ID NO: 307)

BMS3h-43-7

EVQLLES GGGGLVQP GGS LRLSCTASGFAFNMYEMSWVRQAPGKGLEWVSGISR HGFTTYADSVKGRFTVSRDN SKNTL
YLQMNSLRAEDTAVYYCAKEPITYDMRYARSDYWGQGLTVTVSS (SEQ ID NO: 308)

BMS3h-43-8

EVQLLES GGGGLVQP GGS LRLSCTASGFTFNMYEMSWVRQAPGKGLEWVSGISR RGFTTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKEPITYDMRYARSDYWGQGLTVTVSS (SEQ ID NO: 309)

BMS3h-43-9

EVQLLES GGGGLVQP GGS LRLSCTASGFTFNMYEMSWVRQAPGKGLEWVSGISR RGFTTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKEPITYSMRYARFDYSGLGTMTVTVSS (SEQ ID NO: 310)

BMS3h-43-10

EVQLLES GGGGLVQP GGS LRLSCTASGFTFNMYEMSWVRQAPGKGLEWVSGISR RGFTTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKEPITYDMRYARFDYSGQGLTVTVSS (SEQ ID NO: 311)

BMS3h-43-11

EVQLLES GGGGLVQP GGS LRLSCTASGFTFNMYEMSWVRKAPGKGLEWVSGISR HGFTTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKEPITYDMRYARFDYWGQGLTVTVSS (SEQ ID NO: 312)

BMS3h-43-12

EVQLFES GGGGLVQP GGS LRLSCTASGFTFNMYEMSWVRQAPGKGLEWVSGISR RGFTTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKEPITYDMRYARFDYWGRGTLTVTVSS (SEQ ID NO: 313)

BMS3h-43-13

EVQLLES GGGGLVQP GGS LRLSCTASGFTFNMYEMSWVRQAPGKGLEWVSGISR RGFTTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKEPITYDMRYARFDYWGRGTLTVTVSS (SEQ ID NO: 314)

BMS3h-43-14

EVQLLES GGGGSVQP GGS LRLSCTASGFSFNMYEMSWVRQAPGKGLEWVSGISR RGFTTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKEPITYDMRYARFDYWGQGLTVTVSG (SEQ ID NO: 315)

BMS3h-43-15

EVQLLES GGGGLVQP GGS LRLSCTASGFTFNMYEMSWVRKAPGKGLEWVSGISR RGFTTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKEPITYDMRYARFDYWGQGLTVTVSS (SEQ ID NO: 316)

BMS3h-56-1

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFTFEDWGQGLVTVSS (SEQ ID NO: 317)

BMS3h-56-2

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFTFDDWGQGLVTVSS (SEQ ID NO: 318)

BMS3h-56-3

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCTKLPFIFYWQGLVTVSS (SEQ ID NO: 319)

BMS3h-56-4

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFMFDDRQGLVTVSS (SEQ ID NO: 320)

BMS3h-56-5

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFTFDDWGQGLVTVSS (SEQ ID NO: 321)

BMS3h-56-6

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFIFDNRGQGLVTVSS (SEQ ID NO: 322)

BMS3h-56-7

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTSVYHCAPPFIFGDWGPGLVTVSS (SEQ ID NO: 323)

BMS3h-56-8

EVQLLESGGGLVQPGGSRRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFTFEDWGQGLVTVSS (SEQ ID NO: 324)

BMS3h-56-9

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFMFDDRQGLVTVSS (SEQ ID NO: 325)

BMS3h-56-10

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTTYADSVKGRFTISRDN SKNML
YLQMNSLRAEDTAVYYCAKLPFMFDDRQGLVTVSS (SEQ ID NO: 326)

BMS3h-56-11

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFMFDDRQGLVTVSS (SEQ ID NO: 327)

BMS3h-56-12

EVQLLESGGGLIQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCLKLPFIFYWQGLVTVSS (SEQ ID NO: 328)

BMS3h-56-13

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTYADSVKGRFTISRDN SKNTL
YLQMNSLRADDTAVYHCKLPFFIFDYWGQGT LVTVSS (SEQ ID NO: 329)

BMS3h-56-14

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGMVLERVSAINPQGTRTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFFDSRGQGT LVTVSS (SEQ ID NO: 330)

BMS3h-56-15

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRAPGKGLERVSAINPQGTRTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFTFEDWGQGT LVTVSS (SEQ ID NO: 331)

BMS3h-56-16

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTYADSVMGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFTFEDWGQGT LVTVSS (SEQ ID NO: 332)

BMS3h-56-17

EVQLLESGGGLVQPGGSLRLSCAASGFSFRDYEMWWVRQAPGKGLERVSAINPQGTRTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFTFEDWGQGT LVTVSS (SEQ ID NO: 333)

BMS3h-56-18

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKVLERVSAINPQGTRTYADSVKGRFTISRDN SKNML
YLQMNSLRAEDTAVYYCAKLPFTFEDWGQGT LVTVSS (SEQ ID NO: 334)

BMS3h-56-19

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYHCKLPFTFEDWGQGT LVTVSS (SEQ ID NO: 335)

BMS3h-56-20

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCTKLPFTFEDWGQGT LVTVSS (SEQ ID NO: 336)

BMS3h-56-21

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCLKLPFTFEDWGQGT LVTVSS (SEQ ID NO: 337)

BMS3h-56-22

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTYADSVKGRFTISRDN SKNTL
YLQMNSLRADDTAVYHCKLPFFIFEWGQGT LVTVSS (SEQ ID NO: 338)

BMS3h-56-23

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTYADSVMGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKEPYSFDSWGQGT LVTVSS (SEQ ID NO: 339)

BMS3h-56-24

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTYADSVMGRFTISRDN SKNTL
YLQMNSLRAEDTAVYHCKAEPYSYDWGQGT LVTVSS (SEQ ID NO: 340)

BMS3h-56-25

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRAPGKGLERVSAINPQGTRTYADSVMGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFTFDDWGQGT LVTVSS (SEQ ID NO: 341)

BMS3h-56-26

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWRRAPGKGLERVSAINPQGTRTYADSVMGRTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFMFDDRGGGTLVTVSS (SEQ ID NO: 342)

BMS3h-56-27

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTYADSVMGRTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFMFDDWGQGT LVTVSS (SEQ ID NO: 343)

BMS3h-56-28

EVQLLESGGGLVQPGGSLRLSCAASGFTFAGYELWWVRQAPGKGLERVSAINPQGTRTYADSVMGRTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFTFDDWGQGT LVTVSS (SEQ ID NO: 344)

BMS3h-56-29

EVQLLESGGGLVQPGGSLRLSCAASGFTFAGYELWWVRQAPGKGLERVSAINPQGTRTYADSVMGRTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFMFDDRGGGTLVTVSS (SEQ ID NO: 345)

BMS3h-56-30

EVQLLESGGGLVQPGGSLRLSCAASGFTFAGYEMWWFRQAPGKGLERVSAINPQGTRTYADSVMGRTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFTFDDWGQGT LVTVSS (SEQ ID NO: 346)

BMS3h-56-31

EVQLLESGGGLVQPGGSLRLSCAASGFTFAGYEMWWFRQAPGKGLERVSAINPQGTRTYADSVMGRTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFMFDDRGGGTLVTVSS (SEQ ID NO: 347)

BMS3h-56-32

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLEWVSAINPQGTRTYADSVMGRTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFTFDDWGQGT LVTVSS (SEQ ID NO: 348)

BMS3h-56-33

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLEWVSAINPQGTRTYADSVMGRTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFMFDDRGGGTLVTVSS (SEQ ID NO: 349)

BMS3h-56-202

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPTYFSDRGQGT LVTVSS (SEQ ID NO: 350)

BMS3h-56-203

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPPFFFEWGQGT LVTVSS (SEQ ID NO: 351)

BMS3h-56-204

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPTYFKDWGQGT LVTVSS (SEQ ID NO: 352)

BMS3h-56-205

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPHYFSEWGQGT LVTVSS (SEQ ID NO: 353)

BMS3h-56-206

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYHCAKLPFFEDWGQGT LVTVS N (SEQ ID NO: 354)

BMS3h-56-207

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFPFSEWGQGT LVTVS S (SEQ ID NO: 355)

BMS3h-56-208

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFYFSEWGQGT LVTVS S (SEQ ID NO: 356)

BMS3h-56-209

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPYGNLTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFTFEDWGQGT LVTVS S (SEQ ID NO: 357)

BMS3h-56-210

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPPGTLTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFTFEDRGQGT LVTVS S (SEQ ID NO: 358)

BMS3h-56-211

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPWGGLTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFTFEDWGQGT LVTVS S (SEQ ID NO: 359)

BMS3h-56-212

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPMGGFTTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFTFEDWGQGT LVTVS S (SEQ ID NO: 360)

BMS3h-56-213

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPWGSHTTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFTFEDWGQGT LVTVS S (SEQ ID NO: 361)

BMS3h-56-214

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPSGGLTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFTFDDRQGT LVTVS S (SEQ ID NO: 362)

BMS3h-56-215

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPHGSLTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFTFDDWGQGT LVTVS S (SEQ ID NO: 363)

BMS3h-56-216

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPAGRLTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFTFEDWGQGT LVTVS S (SEQ ID NO: 364)

BMS3h-56-217

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPWGSLTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFTFEDWGQGT LVTVS S (SEQ ID NO: 365)

BMS3h-56-218

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYHCAKLPFTFDDWGQGT LVTVS S (SEQ ID NO: 366)

BMS3h-56-219

EVQLLESGGGLVQPGGSLRLSCADSGFTFPPVEMMWVRQAPGKGLERVSAINPQGTRTYADSVKGRFTISRDN SKNTL
YMQMNSLRAEDTAVYYCAKLPFTFEDWGQGLTVTVSS (SEQ ID NO: 367)

BMS3h-56-220

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMMWVRQAPGKGLERVSAINPYGGLTYADSVKGRFTISRDN SKNTL
YMQMNSLRAEDTAVYYCAKLPFTFDDWGQGLTVTVSS (SEQ ID NO: 368)

BMS3h-56-221

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMMWVRQAPGKGLERVSAINPWGNHTYYADSVKGRFTISRDN SKNTL
YMQMNSLRAEDTAVYYCAKLPFTFEDWGQGLTVTVSS (SEQ ID NO: 369)

BMS3h-56-222

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMMWVRQAPGKGLERVSAINPHGGYTYADSVKGRFTISRDN SKNTL
YMQMNSLRAEDTAVYYCAKLPFTFEDWGQGLTVTVSS (SEQ ID NO: 370)

BMS3h-56-223

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMMWVRQAPGRGLERVSAINPPGMLTYADSVKGRFTISRDN SKNTL
YMQMNSLRAEDTAVYYCAKLPFTFDDWGQGLTVTVSS (SEQ ID NO: 371)

BMS3h-56-224

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMMWVRQAPGKGLERVSAINPWQLTYADSVKGRFTISRDN SKNTL
YMQMNSLRAEDTAVYYCAKLPFTFEDWGQGLTVTVSS (SEQ ID NO: 372)

BMS3h-56-225

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMMWVRQAPGKGLERVSAINPWGGYTYADSVKGRFTISRDN SKNTL
YMQMNSLRAEDTAVYYCAKLPFTFDDWGQGLTVTVSS (SEQ ID NO: 373)

BMS3h-56-226

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMMWVRQAPGKGLERVSAINPSGGLTYADSVKGRFTISRDN SKNTL
YMQMNSLRAEDTAVYYCAKLPFTFEDWGQGLTVTVSS (SEQ ID NO: 374)

BMS3h-56-227

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMMWVRQAPGKGLERVSAINPSGGLTYADSVKGRFTISRDN SKNTL
YMQMNSLRAEDTAVYYCAKLPFTFDDWGQGLTVTVSS (SEQ ID NO: 375)

BMS3h-56-228

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMMWVRQAPGKGLERVSAINPSGLTYADSVKGRFTISRDN SKNTL
YMQMNSLRAEDTAVYYCAKLPFTFEDWGQGLTVTVSS (SEQ ID NO: 376)

BMS3h-56-229

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMMWVRQAPGKGLERVSAINPYGSLTYADSVKGRFTISRDN SKNTL
YMQMNSLRAEDTAVYYCAKLPFTFDDWGQGLTVTVSS (SEQ ID NO: 377)

BMS3h-56-230

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMMWVRQAPGKGLERVSAINPWGGYTYADSVKGRFTISRDN SKNTL
YMQMNSLRAEDTAVYYCAKLPFTFEDWGQGLTVTVSS (SEQ ID NO: 378)

BMS3h-56-231

EVQLLES GGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGGLTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFTFEDWGQGT LVTVSS (SEQ ID NO: 379)

BMS3h-56-232

EVQLLES GGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPWGSHYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFTFDDWGQGT LVTVSS (SEQ ID NO: 380)

BMS3h-56-233

EVQLLES GGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPWGTLTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFTFDDWGQGT LVTVSS (SEQ ID NO: 381)

BMS3h-56-234

EVQLLES GGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPNGRLTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFTFADWGQGT LVTVSS (SEQ ID NO: 382)

BMS3h-56-235

EVQLLES GGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPWGQLTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFTFDDWGQGT LVTVSS (SEQ ID NO: 383)

BMS3h-56-236

EVQLLES GGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPHGGLTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFTFDDWGQGT LVTVSS (SEQ ID NO: 384)

BMS3h-56-237

EVQLLES GGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPAGMLTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFTFDDWGQGT LVTVSS (SEQ ID NO: 385)

BMS3h-56-238

EVQLLES GGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPHGTLTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFTFEDWGQGT LVTVSS (SEQ ID NO: 386)

BMS3h-56-239

EVQLLES GGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPWGSLTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFTFDDWGQGT LVTVSS (SEQ ID NO: 387)

BMS3h-56-240

EVQLLES GGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPYGGLTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFTFEDWGQGT LVTVSS (SEQ ID NO: 388)

BMS3h-56-241

EVQLLES GGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPAGFLTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFTFEDWGQGT LVTVSS (SEQ ID NO: 389)

BMS3h-56-242

EVQLLES GGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPYGGLTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFTFEDWGQGT LVTVSS (SEQ ID NO: 390)

BMS3h-56-243

EVQLLES GGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPWGGFTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFTFEDWGQGT LVTVSS (SEQ ID NO: 391)

BMS3h-56-244

EVQLLES GGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPWGGLTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFTFDDWGQGLTVTVSS (SEQ ID NO: 392)

BMS3h-56-245

EVQLLES GGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPYGGLTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFTFEDWGQGLTVTVSS (SEQ ID NO: 393)

BMS3h-56-246

EVQLLES GGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPWGGLTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFTFEDWGQGLTVTVSS (SEQ ID NO: 394)

BMS3h-56-247

EVQLLES GGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPWGGYTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFTFEDWGRGTLTVTVSS (SEQ ID NO: 395)

BMS3h-56-248

EVQLLES GGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPYGNLTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFTFDDWGQGLTVTVSS (SEQ ID NO: 396)

BMS3h-56-249

EVQLLES GGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPHGGFTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFTFEDWGQGLTVTVSS (SEQ ID NO: 397)

BMS3h-56-250

EVQLLES GGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPAGFYTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFTFDDWGQGLTVTVSS (SEQ ID NO: 398)

BMS3h-56-251

EVQLLES GGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPAGGLTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFTFDDWGQGLTVTVSS (SEQ ID NO: 399)

BMS3h-56-252

EVQLLES GGGGLVQPGGSLRLSCAASGFAFRDYEMWWVRQAPGKGLERVSAINPHGSLTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFTFEDWGQGLTVTVSS (SEQ ID NO: 400)

BMS3h-56-253

EVQLLES GGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPAGGYTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFTFEDWGQGLTVTVSS (SEQ ID NO: 401)

BMS3h-56-254

EVQLLES GGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFWFTEWGQGLTVTVSS (SEQ ID NO: 402)

BMS3h-56-255

EVQLLES GGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFMFSDRGQGLTVTVSS (SEQ ID NO: 403)

BMS3h-56-256

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFLFQEWGQGLVTVSS (SEQ ID NO: 404)

BMS3h-56-257

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPTRFEDWGQGLVTVSS (SEQ ID NO: 405)

BMS3h-56-258

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFYFHEWGQGLVTVSS (SEQ ID NO: 406)

BMS3h-56-259

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCGKEPFRYDYWGQGLVTVSS (SEQ ID NO: 407)

BMS3h-56-260

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPTFFKDWGQGLVTVSS (SEQ ID NO: 408)

BMS3h-56-261

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPPFFQEWGQGLVTVSS (SEQ ID NO: 409)

BMS3h-56-262

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPLFHDRGQGLVTVSS (SEQ ID NO: 410)

BMS3h-56-263

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPLFEDWGQGLVTVSS (SEQ ID NO: 411)

BMS3h-56-264

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYHC AKLPFGFSEWGQGLVTVSS (SEQ ID NO: 412)

BMS3h-56-265

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPLFQDWGQGLVTVSS (SEQ ID NO: 413)

BMS3h-56-266

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPPFFHEWGQGLVTVSS (SEQ ID NO: 414)

BMS3h-56-267

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPHYFKDWGQGLVTVSS (SEQ ID NO: 415)

BMS3h-56-268

EVQLLESGGGLVQSGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPHYFEWGQGLVTVSS (SEQ ID NO: 416)

BMS3h-56-269

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMMWVRQAPGKGLERVSAINPQGTRTYADS VKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFRFSDRGQGLVTVSS (SEQ ID NO: 417)

BMS3h-56-270

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMMWVRQAPGKGLERVSAINPQGTRTYADS VKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFLQDWGQGLVTVSS (SEQ ID NO: 418)

BMS3h-56-271

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMMWVRQAPGKGLERVSAINPQGTRTYADS VKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFYFSEWGQGLVTVSN (SEQ ID NO: 419)

BMS3h-56-272

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMMWVRQAPGKGLERVSAINPQGTRTYADS VKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFWFQEWGQGLVTVSS (SEQ ID NO: 420)

BMS3h-56-273

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMMWVRQAPGKGLERVSAINPWGSLTYADS VKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFYFQEWGQGLVTVSS (SEQ ID NO: 421)

BMS3h-56-274

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMMWVRQAPGKGLERVSAINPWGSLTYADS VKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPMPFFEDWGQGLVTVSN (SEQ ID NO: 422)

BMS3h-56-275

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMMWVRQAPGKGLERVSAINPWGSLTYADS VKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFYFHEWGQGLVTVSS (SEQ ID NO: 423)

BMS3h-56-276

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMMWVRQAPGKGLERVSAINPWGSLTYADS VKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFFFQEWGQGLVTVSS (SEQ ID NO: 424)

BMS3h-56-277

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMMWVRQAPGKGLERVSAINPWGSLTYADS VKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFFFHEWGQGLVTVSS (SEQ ID NO: 425)

BMS3h-56-278

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMMWVRQAPGKGLERVSAINPWGGFTYYADS VKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFYFQEWGQGLVTVSS (SEQ ID NO: 426)

BMS3h-56-279

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMMWVRQAPGKGLERVSAINPWGGFTYYADS VKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPMPFFEDWGQGLVTVSN (SEQ ID NO: 427)

BMS3h-56-280

EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMMWVRQAPGKGLERVSAINPWGGFTYYADS VKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFYFHEWGQGLVTVSS (SEQ ID NO: 428)

BMS3h-56-281

EVQLLES GGG LVQP GGS LRLSCAASGFTFRDYEMWVRQAPGKGLERVSAINPWGGFTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFFFQEWGQGLVTVSS (SEQ ID NO: 429)

BMS3h-56-282

EVQLLES GGG LVQP GGS LRLSCAASGFTFRDYEMWVRQAPGKGLERVSAINPWGGFTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFFFHEWGQGLVTVSS (SEQ ID NO: 430)

BMS3h-56-283

EVQLLES GGG LVQP GGS LRLSCAASGFTFRDYEMWVRQAPGKGLERVSAINPWGGFTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFFYFQEWGQGLVTVSS (SEQ ID NO: 431)

BMS3h-56-284

EVQLLES GGG LVQP GGS LRLSCAASGFTFRDYEMWVRQAPGKGLERVSAINPWGGFTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFFFDWGQGLVTVSN (SEQ ID NO: 432)

BMS3h-56-285

EVQLLES GGG LVQP GGS LRLSCAASGFTFRDYEMWVRQAPGKGLERVSAINPWGGFTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFFYFHEWGQGLVTVSS (SEQ ID NO: 433)

BMS3h-56-286

EVQLLES GGG LVQP GGS LRLSCAASGFTFRDYEMWVRQAPGKGLERVSAINPWGGFTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFFFQEWGQGLVTVSS (SEQ ID NO: 434)

BMS3h-56-287

EVQLLES GGG LVQP GGS LRLSCAASGFTFRDYEMWVRQAPGKGLERVSAINPWGGFTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFFFHEWGQGLVTVSS (SEQ ID NO: 435)

BMS3h-56-288

EVQLLES GGG LVQP GGS LRLSCAASGFTFRDYEMWVRQAPGKGLERVSAINPQGRTRTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKLPFFFDWGQGLVTVSS (SEQ ID NO: 436)

BMS3h-106-1

EVQLLETGGGLVQP GGS LRLSCAASGFTFSTYHMQWVRAPGKGLEWVSMIDADGLGTYADPVKGRFTISRDN SKNTL
YLQMNSLRAKDTAVYYCARPGPQFGQFDYLGQGLVTVSS (SEQ ID NO: 437)

BMS3h-106-2

EVQLFESGGGLVQTGGSLRLSCAASGFTFSTYHMQWVRAPGKGLEWVSMIDADGLGKYADPVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCVKPGPQFGQYDYWGQGLVTVSS (SEQ ID NO: 438)

BMS3h-107-1

EVQLLES GGG LVQP GGS LRLSCSASGFTFSGYDMQWVRQAPGKGLEWVSTISASGVYTYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKYPNRFALNSFDYRGRGLVTVSS (SEQ ID NO: 439)

BMS3h-107-2

EVQLLES GGG LVQP GGS LRLSCAASGFTFSGYDMQWVRQAPGRGLEWVSTISASGVYTYTDSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCTKYPNRFARNFDYWGQGLVTVSS (SEQ ID NO: 440)

BMS3h-131-1

DILMTQSPSSLSASVGDRTITCRANSSILWALAWYQQKPGEAPKLLIESSSGLQSGVPSRFSGSGSGTDFTLTISLQ
PEDFATYYCVQNAVWPGTFSQGTKVEIKR (SEQ ID NO: 441)

BMS3h-131-2
DIQMTQSPSSLSASVGDRVTITCRADSSILWALAWYQQKPGKAPKLLIESSSGLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCVQNAVWPGTFGQGTKVEIKR (SEQ ID NO: 442)

BMS3h-131-3
DIQMTVSPSSLSASVGDRVTITCRADSSILWALAWYQQKPGKAPKLLIESSSGLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCVQNAVWPGTFGQGTKVEIKR (SEQ ID NO: 443)

BMS3h-131-4
DIQMTQSPSSLSASVGDRVTITCRANSSILWALAWYQQKPGKAPKLLIESSSGLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCVQNAVWPGTFDQGTKVEIKR (SEQ ID NO: 444)

BMS3h-131-5
DIQMTQSPSSLSASVGDRVTITCRANSSILWALAWYQQKPGKAPKLLIESSTGLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCVQNAVWPGTFGQGTKVEIKR (SEQ ID NO: 445)

BMS3h-131-6
DIQMTVSPSSLSASVGDRVTITCRANSSILWALAWYQQKPGKAPKLLIESSSGLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCVQNAVWPGTFGQGTKVEIKR (SEQ ID NO: 446)

BMS3h-131-7
DIQMTQSPSSLSASVGDRVTITCRADSSILWALAWYQQKPGKAPKLLIESSSGLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCVQNAVWPGTFDQGTKVEIKR (SEQ ID NO: 447)

BMS3h-131-8
DIQMTQSPSSLSASVGDRVTITCRANSSILWALAWYQQKPGKAPELLIESSSGLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCVQNAVWPGTFGQGTKVEIKR (SEQ ID NO: 448)

BMS3h-131-9
DIQMTQSPSSLSASVGDRVTITCRANSSILWALAWYQQKPGKAPKLLIESSSGLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCVQNAVWPGTFGQGTKVENKR (SEQ ID NO: 449)

BMS3h-131-10
DIQMTQSPSSLSASVGDRVTITCRANSSILWALAWYQQKPGKAPKLLIESSSGLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCVQNAVWPGTFGQGTKVEIKR (SEQ ID NO: 450)

BMS3h-131-11
DIQMTQSPSSLSASVGDRVTITCRANSSILWALAWYQQKPGKAPKLLIESSSGLQSGIPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCVQNAVWPGTFGQGTKVEIKR (SEQ ID NO: 451)

BMS3h-131-12
DIQMTQSPSSLSASVGDRVTITCRANSSILWALAWYQQKPGKAPKLLIESSSGLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCVQNAVWPGTFGQGTKVEIKR (SEQ ID NO: 452)

BMS3h-131-13
DILLTQSPSSLSASVGDRVTITCRANSSILWALAWYQQKPGKAPKLLIESSSGLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCVQNAVWPGTFGQGTKVEIKR (SEQ ID NO: 453)

BMS3h-131-14

DIQMTQSPSSLSASVGDRVTITCRANSSILWALAWYQQKPGKAPKLLIESSSGLQSGVPSRFSGSGTGDTFTLTISGLQ
PEDFATYYCVQNAVWPGTFDQGTKVEIKR (SEQ ID NO: 454)

BMS3h-131-15

DIQMTQSPSSLSASVGDRVTIPCRANSSILWALAWYQQKPGKAPKLLIESSSGLQSGVPSRFSGSGTGDTFTLTISSLQ
PEDFATYYCVQNAVWPGTFGQGTKVEIKR (SEQ ID NO: 455)

BMS3h-193-1

DIQMAQSPSSLSASVGDRVTITCRASQTIERRLNWYQQKPGKAPKLLIYLASRLQSGVPSRFSGSGTGDTFTLTISSLQ
PEDFATYYCHQYASPLTLGQGTKVEIKR (SEQ ID NO: 456)

BMS3h-193-2

DIQMTQSPSSLSASVGDSVTITCRASQTIERRLNWYQQKPGKAPKLLIYLASRLQSGVPSRFSGSGTGDTFTLTISSLQ
PEDFATYYCHQYASPLTFGQGTNVEIKR (SEQ ID NO: 457)

BMS3h-193-3

DIQMTQSPSSLSASVGDRVTITCRASQTIERRLNWYQQKPGKAPKLLIYLASRLQSGVPSRFSGSGTGDTFTLTISSLQ
PEDFAAYYCHQYESPPLTFGQGTKVEIKR (SEQ ID NO: 458)

BMS3h-193-4

DIQMTQSPSSLSASVGDRVTITCRASRTIERRLNWYQQKPGKAPKLLIYLASRLQSGVPSRFSGSGTGDTFTLTISSLQ
PEDFATYYCHQYESPPLTFGQGTKVEIKR (SEQ ID NO: 459)

BMS3h-193-5

DIQMTQSPSSLSASVGERVTITCRASQTIERRLNWYQQKPGKAPKLLIYLASRLQSGVPSRFSGSGTGDTFTLTISNLQ
PEDSATYYCHQYASPLTLGQGTKVEIKR (SEQ ID NO: 460)

BMS3h-193-6

DIQMTQSPSSLSASVGDRVTITCRASQTIERRLNWYQQKPGKAPKLLIYLASRLQSGVPSRFSGSGTGDTFTLTISSLQ
PEDFATYYCHQYASPLTLGQGTKVEIKR (SEQ ID NO: 461)

BMS3h-193-7

DIQITQSPSSLSASVGDRVTITCRASQTIERRLNWYQQKPGKDPKLLIYLASRLQSGVPSRFSGSGTGDTFTLTISSLQ
PEDFATYYCHQYESPPLTFGQGTKVEIKR (SEQ ID NO: 462)

BMS3h-193-8

DIQMTQSPSSLSASVGDRVTITCRASQTIERRLNWYQQKPGKAPKLLIYLASRLQSGVPSRFSGSGTGDTFTLTISSLQ
PEDFATYYCHQYESPPLTFGQGTKVEIKW (SEQ ID NO: 463)

BMS3h-193-9

DIQLTQSPSSLSASVGDRVTITCRASQTIERRLNWYQQKPGKAPKLLIYLASRLQSGVPSRFSGSGTGTEFTLTISSLQ
PEDFATYYCHQYESPPLTFGQGTKVEIKR (SEQ ID NO: 464)

BMS3h-193-10

DIQMSQSPSTLSASVGDRVTITCRASQTIERRLNWYQQKPGKAPKLLIYLASRLQSGVPSRFSGSGTGDTFTLTISSLQ
PEDFATYYCHQYESPPLMFGQGTKVEIKR (SEQ ID NO: 465)

BMS3h-193-11

DIQMTQSPSSLSASVGDRVTITCRASQTIERRLNWYQQKPGKDPKLLIYLASRLQSGVPSRFSGSGTGDTFTLTISSLQ
PEDFATYYCHQYESPPLTFGQGTKVEIKR (SEQ ID NO: 466)

BMS3h-193-12

DIQMTQSPSSLSASVGDRVTITCRASQTIERRLNWYQQKPGKAPKLLIYLASRLQSGVPSRFSGSGSGDFTLTISLQ
PEDFATYYCHQYESPPLTFGQGTKVEIKR (SEQ ID NO: 467)

BMS3h-193-13

DIQMTQSPSSLSASVGDRVTITCRASQTIERRLNWYQQKPGKAPKLLIYLASRLQSGVPSRFSGSGSGDFTLTISLQ
PEDFATYYCHQYESPPLTFGQGTKVEIKR (SEQ ID NO: 468)

BMS3h-193-14

DIQMTQYPSSLSASVGDRVTITCRASQSIERRLNWYQQKPGKAPKLLIYLASRLQSGVPSRFSGSGSGDFTLTISLQ
PEDFATYYCHQYESPPLTFGQGTKVEIKR (SEQ ID NO: 469)

BMS3h-193-15

DIQMTQSPSSLSASVGDRVTITCRASRTIERRLNWYQQKPGKAPKLLIYLASRLQSGVPSRFSGSGSGDFTLTISLQ
PEDFATYYCHPYESPPLTFGQGTKVEIKR (SEQ ID NO: 470)

BMS3h-193-16

DIQMTQSPSSLSASVGDRVTITCRASQAIERRLNWYQQKPGKAPKLLIYLASRLQSGVPSRFSGSGSGDFTLTISLQ
PEDFATYYCHQYASPLTLGQGTKVEIKR (SEQ ID NO: 471)

BMS3h-193-17

NIQMTQSPSSLSASVGDRVTITCRASQAIERRLNWYQQKPGKAPKLLIYLASRLQSGVPSRFSGSGSGDFTLTISLQ
PEDFATYYCHQYESPPLTFGQGTKVEIKR (SEQ ID NO: 472)

BMS3h-193-18

DIQMTQSPSSLSASVGDRVTITCRASQTIGRRLNWYQQKPGKAPKLLIYLASRLQSGVPSRFSGSGSGDFTLTISLQ
PEDFATYYCHQYESPPLTFGQGTKVEIKR (SEQ ID NO: 473)

BMS3h-193-19

DIQMTQSPSSLSASVGDRVTITCRASQTIERRLNWYQQKPGKAPKLLIYLASRLQSGVPSRFSGSGSGTEFTLTISLQ
PEDFATYYCHQYESPPLTFGQGTKVEIKR (SEQ ID NO: 474)

BMS3h-193-20

DIQMTQTPSSLSASVGDRVTITCRASQTIERRLNWYQQKPGKAPKLLIYLASRLQSGVPSRFSGSGSGDFTLTISLQ
PEDFATYYCHQYESPPLTFGQGTKVVIKR (SEQ ID NO: 475)

BMS3h-193-21

DIQMTQSPSSLSASVGDSVTITCRASQTIERRLNWYQQKPGKAPKLLIYLASRLQSGVPSRFSGSGSGDFTLTISLQ
PEDFATYYCHQYESPPLTFGQGTKVEIKR (SEQ ID NO: 476)

BMS3h-193-22

HIQMTQSPSSLSASVGDRVTITCRASQTIERRLNWYQQKPGKAPKLLIYLASRLQSGVPSRFSGSGSGDFTLTISLQ
PEDFATYYCHQYESPPLTFGQGTKVEIKR (SEQ ID NO: 477)

BMS3h-193-23

DVQMTQSPSSLSASVGDRVTITCRASQTIERRLNWYQQKPGKAPKLLIYLTSRLQSGVPSRFSGSGSGDFTLTISLQ
PEDFATYYCHQYASPLTFGQGTKVEIKR (SEQ ID NO: 478)

BMS3h-193-24

DIQMTQSPSSLSASVGDRVTITCRASQTIERRLNWYQQKPGKAPKLLIYLASRLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCHQYESPPLTFGQGTKVVIKR (SEQ ID NO: 479)

BMS3h-193-25

DIQMTQSPSSLSASVGDRVTITCRASQTIERRLNWYQQKPGKAPRLLIYLATRLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCHQYESPPLTFGQGTKVEIKR (SEQ ID NO: 480)

BMS3h-193-26

DIQMTQSPSSLSASVGDRVTITCRASQPIERRLNWYQQKPGKAPKLLIYLASRLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCHQYESPPLTFGQGTKVEIKR (SEQ ID NO: 481)

BMS3h-193-27

DIQMTQSPSSLSASVGDRVTITCRASQTIGRRLNWYQQKPGKAPKLLIYLASRLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCHQYESPPLTFGQGTKVEIKR (SEQ ID NO: 482)

BMS3h-193-28

DIQMTQSPSSLSASVGDRVTITCRASQSIERRLNWYQQKPGKAPKLLIYLASRLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCHQYESPPLTFGQGTKVEIIR (SEQ ID NO: 483)

BMS3h-193-29

DIQMTQSPSSLSASVGDRVTITCRASQTIERRLNWYQQKPGKAPKLLIYLATRLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCHQYESPPLTFGQGTKVEIKR (SEQ ID NO: 484)

BMS3h-193-30

DIQMTQSPSSLSASVGDRVTITCRASQSIERRLNWYQQKPGKAPKLLIYLASRLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCHQYESPPLTFGQGTKVEIKR (SEQ ID NO: 485)

BMS3h-193-2501

DIQMTQSPSSLSASVGDRVTITCRASQTIERRLNWYQQKPGKAPRLLIYLATRLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCHQFEHPPLTFGQGTKVEIKR (SEQ ID NO: 486)

BMS3h-193-2502

DIQMTQSPSSLSASVGDRVTITCRASFPIDRRLNWYQQKPGKAPRLLIYLATRLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCHQYESPPLTFGQGTKVEIKR (SEQ ID NO: 487)

BMS3h-193-2503

DIQMTQSPSSLSASVGDRVTITCRASSTIGRRLNWYQQKPGKAPRLLIYLATRLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCHQYESPPLTFGQGTKVEIKR (SEQ ID NO: 488)

BMS3h-193-2504

DIQMTQSPSSLSASVGDRVTITCRASSQIGRRLNWYQQKPGKAPRLLIYLATRLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCHQYESPPLTFGQGTKVEIKR (SEQ ID NO: 489)

BMS3h-193-2505

DIQMTQSPSSLSASVGDRVTITCRASERIGRRLNWYQQKPGKAPRLLIYLATRLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCHQYESPPLTFGQGTKVEIKR (SEQ ID NO: 490)

BMS3h-193-2506

DIQMTQSPSSLSASVGDRVTITCRASQQIGRRLNWYQQKPGKAPRLLIYLATRLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCHQYESPPLTFGQGTKVEIKR (SEQ ID NO: 491)

BMS3h-193-2507

DIQMTQSPSSLSASVGDRVTITCRASQPIARRLNWYQQKPGKAPRLLIYLATRLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCHQYESPPLTFGQGTKVEIKR (SEQ ID NO: 492)

BMS3h-193-2508

DIQMTQSPSSLSASVGDRVTITCRASGNIGRRLNWYQQKPGKAPRLLIYLATRLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCHQYESPPLTFGQGTKVEIKR (SEQ ID NO: 493)

BMS3h-193-2509

DIQMTQSPSSLSASVGDRVTITCRASRNIDRRLNWYQQKPGKAPRLLIYLATRLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCHQYESPPLTFGQGTKVEIKR (SEQ ID NO: 494)

BMS3h-193-2510

DIQMTQSPSSLSASVGDRVTITCRASQSIGRRLNWYQQKPGKAPRLLIYLATRLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCHQYESPPLTFGQGTKVEIKR (SEQ ID NO: 495)

BMS3h-193-2511

DIQMTQSPSSLSASVGDRVTITCRASQNIIGRRLNWYQQKPGKAPRLLIYLATRLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCHQYESPPLTFGQGTKVEIKR (SEQ ID NO: 496)

BMS3h-193-2512

DIQMTQSPSSLSASVGDRVTITCRASEVIGRRLNWYQQKPGKAPRLLIYLATRLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCHQYESPPLTFGQGTKVEIKR (SEQ ID NO: 497)

BMS3h-193-2513

DIQMTQSPSSLSASVGDRVTITCRASEAIGRRLNWYQQKPGKAPRLLIYLATRLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCHQYESPPLTFGQGTKVEIKR (SEQ ID NO: 498)

BMS3h-193-2514

DIQMTQSPSSLSASVGDRVTITCRASTSIARRLNWYQQKPGKAPRLLIYLATRLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCHQYESPPLTFGQGTKVEIKR (SEQ ID NO: 499)

BMS3h-193-2515

DIQMTQSPSSLSASVGDRVTITCRASLNIGRRLNWYQQKPGKAPRLLIYLATRLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCHQYESPPLTFGQGTKVEIKR (SEQ ID NO: 500)

BMS3h-193-2516

DIQMTQSPSSLSASVGDRVTITCRASQTIERRLNWYQQKPGKAPRLLIYLSSKLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCHQYESPPLTFGQGTKVEIKR (SEQ ID NO: 501)

BMS3h-198-1

EVQLLESGGGLVQPGGSLRLSCAASGSTIAGYEMWVRQAPGKGLERVS AISGSGGSTYYADSVKGRFTISRDDSKNTL
YLQMNSLRAEDTAVYYCARDPYSFDYWGGTLVTVSS (SEQ ID NO: 502)

BMS3h-198-2

EVQPLESGGGGLVQPGGSLRLSCAASGFTFAGYEMWVRQAPGKGLERISAISGSGGSTYYADSVKGRFTISRDDSKNTL
YLQMNSLRAEDTAVYYCARDPYSFDYWGGTLVTVSS (SEQ ID NO: 503)

BMS3h-198-3

EVQLLESGGGVQPGGSLRLSCAATGSTFAGYEMWVRQAPGKGLERVSATSGSGGSTYYADSVKGRFTISRDDSKNTL
YLQMNSLRAEDTAVYYCARDPYSYDYWGQGLTVSVSS (SEQ ID NO: 504)

BMS3h-198-4

EVQLLESGGGLVQPGGSLRLSCAASGLTFAGYEMWVRQAPGKGLERVSATSGSGGSTYYADSVKGRFTISRDDSKNTL
YLQMNSLRAEDTAVYYHCARDPYSFDYWGGQGLTVTVSS (SEQ ID NO: 505)

BMS3h-198-5

EVQLLESGGGLVQPGGSLRLSCAASGFTFAGYEMWVRQAPGKGLERVSATSGSGGSTYYADSVKGRFTISRDDSKNTL
YLQMNSLRAEDTAVYYHCAKEPYSYDYWGQGLTVTVSS (SEQ ID NO: 506)

BMS3h-198-6

EVQLLESGGGLVQPGGSLRLSCAASGSTFAGYEMWVRQAPGKGLERVSATSGSGGSTYYADSVKGRFTISRDDSKNTL
YLQMNSLRPEDTAVYYCVKDPYSFDYWGGQGLTVTVSS (SEQ ID NO: 507)

BMS3h-198-7

EVQLLESGGGLVQPGGSLRLSCAASGSTIAGYEMWVRQAPGKGLERVSATSGSGGSTYYADSVKGRFTISRDDSKNTL
YLQMNSLRAEDTAVYYCARDPYSFDYWGGQGLPTVTVSS (SEQ ID NO: 508)

BMS3h-198-8

EVQLMESGGGLVQPGGSLRLSCAASGSTFAGYEMWVRQAPGKGLERVSATSGSGRSTYYADSVKGRFTISRDDSKNTL
YLQMNSLRAEDTAVYYCAKDPYSFDYWGGQGLTVTVSS (SEQ ID NO: 509)

BMS3h-198-9

EVQLLESGGGLVQPGGSLRLSCAASGFTFAGYEMWVRQAPGKGLERVSATSGSGGSTYYADSVKGRFTISRDDSKNTL
YLQMNSLRAEDTAVYYCAKEPYSFDYWGGQGLTVTVSS (SEQ ID NO: 510)

BMS3h-198-10

EVQLLESGGGLVQPGGSLRLSCAASGSTIAGYEMWVRQAPGKGLERVSATSGSGGSTYYADSVKGRFTISRDDSKNTL
YLQMNSLRAEDTAVYYCAKDPYSFDYWGGQGLTVTVSS (SEQ ID NO: 511)

BMS3h-198-11

EVQLLESGGGLVQPGGSLRLSCAASGFTFAGYEMWVRQAPGKGLERVSATSGSGGSTYYADSVKGRFTISRDDSKNTL
YLQMNSLRAEDTAVYYCARDPYSFDYWGGQGLTVSVSS (SEQ ID NO: 512)

BMS3h-198-12

EVQLLESGGGLVQPGGSLRLSCAASGFTIAGYEMWVRQAPGKGLERVSATSGSGGSTYYADSVKGRFTISRDDSKNTL
YLQMNSLRAEDTAVYYCAKDPYSFDYWGGQGLTVTVSS (SEQ ID NO: 513)

BMS3h-198-13

EVQLLESGGGLVQPGGSLRLSCAASGFTFAGYEMWVRQAPGKGLERVSATSGSGGSTYYADSVKGRFTISRDDSKNTL
YLQMNSLRAEDTAVYYCAKEPYSFDYWGGQGLTVTVSS (SEQ ID NO: 514)

BMS3h-198-14

EVQLLESGGGLVQPGGSLRLSCAASGFTFAGYEMWVRQAPGKGLERVSATSGSGGSTYYADSVKGRFTISRDDTKNTL
YLQMNSLRAEDTAVYYCAKDPYSFDYWRQGLTVTVSS (SEQ ID NO: 515)

BMS3h-198-15

EVQLLESGGGLVQPGGSLRLSCAASGSTFAGYEMWVRQAPGKGLERVSATSGSGGSTYYADSVKGRFTISRDDSKNTL
YLQMNSLRAEDTAVYYCARDPYSFDYWGGQGLTVTVSS (SEQ ID NO: 516)

BMS3h-198-16

EVQLLES GGGGLVQPGGSLRLSCAASGFTFAGYEMMWVRQAPGKGLERISAIISGSGGSTYYADSVKGRFTISRDDSKNTL
YLQMNSLR AEDTAVYYCAKDPYSFDYWGGQGLVTVSS (SEQ ID NO: 517)

BMS3h-198-17

EVQLLES GGGGLVQPGGSLRLSCAASGFTFAGYEMMWVRQAPGKGLERVS AISGSGGSTYYADSVKGRFTISRDDSKNTL
YLQMNSLR AEDTAVYYCARDPYSFDYWGGQGLVTVSS (SEQ ID NO: 518)

BMS3h-198-18

EVQLLES GGGGLVQPGGSLRLSCAASGLTFAGYEMMWRRAPGKGLERVAAISGSGGSTYYADSVKGRFTISRDDSKNTL
YLQMNSLR AEDTAVYYCARDPYSFDYWGGQGLVTVSS (SEQ ID NO: 519)

BMS3h-198-19

EVQLLES GGGGLVQPGGSLRLSCAASGFTFAGYELMWVRQAPGKGLERVS AISGSGGSTYYADSVKGRFTISRDDSKNTL
YLQMNSLR AEDTAVYYCARDPYSFDYRGQGLVTVSS (SEQ ID NO: 520)

BMS3h-198-20

EVQLLES GGGGLVQPGGSLRLSCAAPGFTLAGYEMMWVRQAPGKGLERVS AISGSGGSTYYADSVKGRFTISRDDSKNTL
YLQMNSLR AEDTAVYYCAKEPYSFDYWGGQGLVTVSS (SEQ ID NO: 521)

BMS3h-198-21

EVQLLES GGGGLVQPGGSLRLSCAASGLTFAGYEMMWRRAPGKGLERVS AISGSGGSTYYADSVKGRFTISRDDSKNTL
YLQMNSLR AEDTAVYYCARDPYSFDYWGRGTLVTVSS (SEQ ID NO: 522)

BMS3h-198-22

EVQLLES GGGGLVQPGGSLRLSCAASGFTFAGYEMMWVRQAPGKGLERVS AISGSGGSTYYADSVKGRFTISRDDSKNTL
YLQMNSLR AEDTAVYYCAKEPYSYDYWGHGTLVTVSS (SEQ ID NO: 523)

BMS3h-198-23

EVQPLESGGGGLVQPGGSLRLSCAASGFTFAGYEMMWVRQAPGKGLERVS AISGSGGNTYYADSVKGRFTISRDDSKNTL
YLQMNSLR AEDTGYYCARDPYSFDYWGGQGLVTVSS (SEQ ID NO: 524)

BMS3h-198-24

EVQLLES GGGGLVQPGGSLRLSCAASGFTFAGYEMMWVRQAPGKGLERVS AISGSGGSTYYADSVKGRFTISRDDSKNTL
YLQMNSLR AEDTAVYYCAKEPYSFDSWGQGLVTVSS (SEQ ID NO: 525)

BMS3h-198-25

EAQLLES GGGGLVQPGGSLRLSCAASGLTFAGYEMMWVRQAPGKGLERVS AISGSGGSTYYADSVKGRFTISRDDSKNTL
YLQMNSLR AEDTAVYYCARDPYSFDYWGGQGLVTVSS (SEQ ID NO: 526)

BMS3h-198-26

EVQLLES GGGGLVQPGGSLRLSCAASGSTFAGYEMMWVRQAPGKGLERVS AISGSGGSTYYADSVKGRFISRDDSKNTL
YLQMNSLR AEDTAVYYCAKEPYSFDHWGQGLVTVSS (SEQ ID NO: 527)

BMS3h-198-27

EVQLLES GGGGLVQPGGSLRLSCAASGSTFAGYEMMWRRAPGKGLERVS AISGSGGSTYYADSVKGRFTISRDDSKNTL
YLQMNSLR AEDTAVYYCARDPYSFDYWGGQGLVTVSS (SEQ ID NO: 528)

BMS3h-198-28

EVQLLES GGGGLVQPGGSLRLSCAASGFTFAGYEMWWFRQAPGKGLERVSAISGSGGSTYYADSVKGRFTISRDDSKNTL
YLQMNSLR AEDTAVYYCAKDPYSFDNWGQGT LVT VSS (SEQ ID NO: 529)

BMS3h-198-29

EVQLLES GGGGLVEP GGSRLRLSCAASGFTFAGYEMWWVRQAPGKGLERVSAISGSGGSTYYADSVKGRFTISRDDSKNTL
YLQMNSLR AEDTAVYYCAKEPYSFDHRGQGT LVT VSS (SEQ ID NO: 530)

BMS3h-198-30

EVQLLES GGGGLVQPGGSLRLSCAASGYTFAGYEMWWVRQAPGKGLERVSAISGSGGSTYYADSVKGRFTISRDDSKNTL
YLQMNSLR AEDTAVYYCAKEPYSFDHRGQGT LVT VSS (SEQ ID NO: 531)

BMS3h-198-31

EVQLLES GGGGLVQPGGSLRLSCAASGFTFAGYEMWWVRQAPGKGLERVSAISGSGGSTYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYHCAKEPYSYDYGQGT LVT VSS (SEQ ID NO: 532)

BMS3h-198-32

EVQLLES GGGGLVQPGGSLRLSCAASGFTFAGYEMWWFRQAPGKGLERVSAISGSGGSTYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAKDPYSFDNWGQGT LVT VSS (SEQ ID NO: 533)

BMS3h-198-33

EVQLLES GGGGLVQPGGSLRLSCAASGFTFAGYEMWWVRQAPGKGLERVSAISGSGGSTYYADSVKGRFTISRDDSKNTL
YLQMNSLR AEDTAVYYCAKEPYSYDYGQGT LVT VSS (SEQ ID NO: 534)

BMS3h-198-34

EVQLLES GGGGLVQPGGSLRLSCAASGFTFAGYEMWWVRQAPGKGLERVSAISGSGGSTYYADSVKGRFTISRDDSKNTL
YLQMNSLR AEDTAVYYCAKDPYSFDNWGQGT LVT VSS (SEQ ID NO: 535)

BMS3h-198-35

EVQLLES GGGGLVQPGGSLRLSCAASGFTFAGYEMWWVRQAPGKGLEWVSAISGSGGSTYYADSVKGRFTISRDDSKNTL
YLQMNSLR AEDTAVYYHCAKEPYSYDYGQGT LVT VSS (SEQ ID NO: 536)

BMS3h-198-36

EVQLLES GGGGLVQPGGSLRLSCAASGFTFAGYEMWWFRQAPGKGLEWVSAISGSGGSTYYADSVKGRFTISRDDSKNTL
YLQMNSLR AEDTAVYYCAKDPYSFDNWGQGT LVT VSS (SEQ ID NO: 537)

BMS3h-198-37

EVQLLES GGGGLVQPGGSLRLSCAASGFTFAGYELWWVRQAPGKGLERVSAISGSGGSTYYADSVKGRFTISRDDSKNTL
YLQMNSLR AEDTAVYYCAKDPYSFDYRGQGT LVT VSS (SEQ ID NO: 538)

BMS3h-198-38

EVQLLES GGGGLVQPGGSLRLSCAASGFTFAGYELWWVRQAPGKGLERVSAISGSGGSTYYADSVKGRFTISRDDSKNTL
YLQMNSLR AEDTAVYYCARDPYSFDYWGQGT LVT VSS (SEQ ID NO: 539)

BMS3h-202-1

EVQLLES GGGGLVQPGGSLRLSCAASGFTFPTAEMLWVRKAPGKGLEWVSSISASGGSTYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAKEPVSYVATFDYWGQGT LVT VSS (SEQ ID NO: 540)

BMS3h-202-2

EVQLLVSGGGLVQPGGSLRLSCAASGFTFPTAEMLWVRQAPGKGP EWVSSISASGGSTYYADSVKGRFTISRDN SKNTL
YLQMNSLR AEDTAVYYCAKEPVSYVATFDYWGQGT LVT VSS (SEQ ID NO: 541)

BMS3h-202-3

EVQLLES GGGGLVQPGGSLRLSCAASGFTFPTAEMVWRKAPGMGLEWVSSISASGGYTYADSVKGRFTISRDN SKNML
YLQMNSLRAEDTAVYYCAKEPVSYVATFDYWGQALVTVTS (SEQ ID NO: 542)

BMS3h-202-4

EVQLLVSGGGLVQPGGSLRLSCAASGFTFPTAEMVWRQAPGKGLEWVSSISASGGSTYYADSVKGRFISRDDSKNTL
YLQMNSLRAEDTAVYYCAKEPVSYVATFDYWGHALVTVSS (SEQ ID NO: 543)

BMS3h-202-5

EVQLLES GGGGLVQPGGSLRLSCAASGFTFPTAEMLWVRQAPGKGLEWVSSISASGGSTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKEPVSYVATFDYWGQGLTVTVSS (SEQ ID NO: 544)

BMS3h-202-6

EAQLLES GGGGLVQPGGSLRLSCAASGFTFPTAEMVWRQAPGKGLEWISSISASGGSTYYADSVKGRFTISRDN SKNTL
YLQLNSLRAEDTAVYYCAKEPVSYVATFDYWGRTLVTVSS (SEQ ID NO: 545)

BMS3h-202-7

EVQLLES GGGGLVQPGGSLRLSCAASGFTFPTAEMLWVRQAPGKGLEWVSSISASGGSTYYADSVKGRFTISRDN SKSTL
YLQMNSLRAEDTAVYYCAKEPVSYVATFDYWGPGALVTVSS (SEQ ID NO: 546)

BMS3h-202-8

EVQLLES GGGGLVQPGGSLRLSCAASGFTFPTAEMLWVRKAPGKGLEWVSSISASGGSTYYADSVKGRFTISRDN SKNTL
FLQMNSLRAEDTAVYYCAKEPVSYVATFDYWGQGLTVTVSS (SEQ ID NO: 547)

BMS3h-202-9

EVQLLES GGGGLVQPGGSLRLSCAASGFTFPTAEMLWVRQAPGKGLEWVSSISASGGSTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKEPVSYVATFDYWGPGALVTVSS (SEQ ID NO: 548)

BMS3h-202-10

EVQLLES GGGGLVQPGGSLRLSCAASGFTFPTAEMLWVRQAPGKGLEWVSSISASGGSTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDTAVYYCAKEPVVYVATFDYWGQGLTVTVSS (SEQ ID NO: 549)

BMS3h-202-11

EVQLLES GGGGLVQPGGSLRLSCAASGFTFPTAEMLWVRKAPGKGLEWVSSISASGGSTYYADSVKGRFTISRDN SKNTL
YLQMNSLRAEDAAVYYCAKEPVSYVATFDYWGQGLTVTVSS (SEQ ID NO: 550)

BMS3h-217-1

NIQMTQSPSSLSASVGDRVITICRASHFIGTLLTWYQHKGPKAPKLLITYGSLLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCGQGVLPATFGQGTKVEIKR (SEQ ID NO: 551)

BMS3h-217-2

DIQMTQSPSSLSASVGDRVITICRASHFIGTLLSWYQQKPRKAPKLLITYGSLLQSGVPSRFSGSGSGTDFTLTISSLH
PEDFATYYCGQGVLPPTFGQGTKVEIKR (SEQ ID NO: 552)

BMS3h-217-3

DIQMTQSPSSLTASVGDRVITICRASHFIGTLLSWYQQKPKAPKLLVITYGSLLQSGVPSRFSGSGSGTDFTLTISNLQ
PEDFATYYCGQGVLPPTFGQGTKVENIR (SEQ ID NO: 553)

BMS3h-217-4

DIQMTQSPSSLSASVGDRVTITCRASHFIATLLSWYQQKPGKAPKLLITYGSLLQSGVPSRFSGSGSGTDFTLTISLQ
PEDFATYYCGQGVLPPTFGQGTKVEIKR (SEQ ID NO: 554)

BMS3h-217-5

DIQMTQSPSSLSASVGDRVTITCRASHFIATLLSWYQQKPGKAPKLLITYGSLLQSGVPSRFSGSGSGTDFTLTISLQ
PEDFATYYCGQGVLPPTFGQGTKVEIKR (SEQ ID NO: 555)

BMS3h-217-6

DIQMTQSPSSLSASVGDRVTITCRASHFIGTLLSWYQQKPGKATKLLITYGSLLQSGVPSRFSGSGSGTDFTLTISLQ
PEDFATYYCGQGVLPPTFGQGTKVEIKR (SEQ ID NO: 556)

BMS3h-217-7

DIQMTQSPSSLSASVGDRVTITCRASHFIGSLLSWYQHKGKAPKLLITYGSLLQSGVPSRFSGSGSGTDFTLTISLQ
PEDFATYYCGQGVLPATFGQGTKVEIKR (SEQ ID NO: 557)

BMS3h-217-8

DIQMTQSPSSLSASVGDRVTITCRASHFIGTLLSWYQHKGKAPKLLITYGSLLQSGVPSRFSGSGSGTDFTLTISLQ
PEDFATYYCGQGVLPATFGQGTKVEIKR (SEQ ID NO: 558)

BMS3h-217-9

DIQMTQSPSSLSASVGDRVTITCRASHFIGTLLSWYQHKGKAPKLLITYGSMLQSGVPSRFSGSGSGTDFTLTISLQ
PEDFATYYCGQGVLPATFGQGTKVEIKR (SEQ ID NO: 559)

BMS3h-217-10

DIQMTQSPSSLSASVGDRVTITCRASHFIGTLLSWYQHKGKAPKLLITYGSLLQSGVPSRFSGSGSGTEFTLTISLQ
PEDFATYYCGQGVLPATFGQGTKVEIKR (SEQ ID NO: 560)

BMS3h-217-11

DIQMTQSPSSLSASVGDRVTITCRASHFIGTLLSWYQHKGKAPKLLITYGSLLQSGVPSRFSGSGSGTEFTLTISLQ
PEDFATYYCGQGVLPATFGQGTKVEIKR (SEQ ID NO: 561)

BMS3h-217-12

NIQMTQSPSSLSASVGDRVTITCRASHFIGTLLSWYQHKGKAPKLLITYGSLLQSGVPSRFSGSGSGTDFTLTISLQ
PEDFATYYCGQGVLPATFGQGTKVEIKR (SEQ ID NO: 562)

BMS3h-217-13

DIQMTQSPSSLSASVGDRVTINCRASHFIGTLLSWYQHKGKAPKLLITYGSLLQSGVPSRFSGSGSGTDFTLTISLQ
PEDFATYYCGQGVLPATFGQGTKVEIKR (SEQ ID NO: 563)

BMS3h-217-14

DIQMTQSPSSLSASVGDRVTITCRASHFIGTLLSWYQQKPGKATKLLITYGSLLQSGVPSRFSGSGSGTDFTLTISLQ
PEDFATYYCGQGVLPPTFGQGTKVEIKR (SEQ ID NO: 564)

BMS3h-217-15

DIQMTQSPSSLYASVGDRVTITCRVSHFIGTLLSWYQQKPGKAPKLLITYGSLLQSGVPSRFSGSGSGTDFTLTISLQ
PEDFATYYCGQGVLPPTFGQGTKVEIKQ (SEQ ID NO: 565)

BMS3h-217-16

DIQMTQSPSSLSASVGDRVTITCRASHFIGTLLSWYQQKPRKAPKLLITYGSLLQSGVPSRFSGSGSGTDFTLTISLQ
PEDFATYYCGQGVLPPTFGQGTKVEIKR (SEQ ID NO: 566)

BMS3h-217-17

DIQIIQSPSSLSASVGDRVTITCRASHFIGTLLSWYQQKPGKAPKLLITYGSLQSGVPSRFSGSGSGTDFTLTISLQ
PEDFATYYCGQGVLPPTFGQGTKVEIKR (SEQ ID NO: 567)

BMS3h-217-18

DIQMTQSPSSLSASVGDRVTITCRASHFIGTLLSWYQLKPGKAPKLLITYGSLQSGVPSRFSGSGSGTDFTLTISLQ
PEDFATYYCGQGVLPATFGQGTKVEIKR (SEQ ID NO: 568)

BMS3h-217-19

DIQMTQSPSSLSASVGDRVTITCRASHFIGTLLSWYQLKPGKAPKLLITYGSLQSGVPSRFSGSGSGTDFTLTISLQ
PEDFATYYCGQGVLPATFGQGTKVENKR (SEQ ID NO: 569)

BMS3h-217-20

DIQMTQSPSSLSASVGDRVTITCRASHFIGTLLSWYQLKPGKAPKLLITYGSLQSGVPSRFSGSGSGTDFTLTISLQ
PEDFATYYCGQGVLPATFGQGTKVEIKR (SEQ ID NO: 570)

BMS3h-217-21

DIQMTQAPSSLSASVGDRVTITCRASHFIGTLLSWYQLKPGKAPKLLITYGSLQSGVPSRFSGSGSGTDFTLTISLQ
PEDFATYYCGQGVLPATFGQGTKVENKR (SEQ ID NO: 571)

BMS3h-217-22

DIQMTQSPSSLSASVGDRVTITCRASHFIGSLLSWYQQKPGKAPKLLITYGSLQSGVPSRFSGSGSGTDFALTISLQ
PEDFATYYCGQGVLPATFGQGTKVEIKR (SEQ ID NO: 572)

BMS3h-217-23

DIQMTQSPSSLSASVGDRVTITCRASHFIGSLLSWYQVKPGKAPKLLITYGSLQSGVPSRFSGSGSGTDFTLTISLQ
PEDFATYYCGQGVLPATFGQGTVEIKR (SEQ ID NO: 573)

BMS3h-217-24

DILMTQSPSSLSASVGDRVTITCRASHFIGSLLSWYQQKPGKAPKLLITYGSLQSGVPSRFSGSGSGTDFTLTISLQ
PEDFATYYCGQGVLPATFGQGTKVEIKR (SEQ ID NO: 574)

BMS3h-217-25

DIQMTQSPSSLSASVGDRVTITCRASHFIGTLVSWYQQKPGKAPKLLITYGSLQSGVPSRFSGSGSGTDFTLTISLQ
PEDFATYYCGQGVLPATYGGQGTKVEIKR (SEQ ID NO: 575)

BMS3h-217-26

DIQMTQSPSSLSASVGDRVTITCRASHFIGTLVSWYQQKPGKAPKLLITYGSLQSGVPSRFSGSGSGTDFTLTISLQ
PEDFATYYCGQGVLPATFGQGTKVENKR (SEQ ID NO: 576)

BMS3h-217-27

DIKMTQSPSSLSASVGDRVTITCRASHFIGTLVSWYQQKPGKAPKLLITYGSMQSGVPSRFSGSGSGTDFTLTISLQ
PEDFATYYCGQGVLPATFGQGTKVEIKR (SEQ ID NO: 577)

BMS3h-217-28

DIQMTQSPSSLSASVGDRVTITQASHFIGTLVSWYQQKPGKAPKLLITYGSLQSGVPSRFSGSGSGTDFTLTISLQ
PEDFATYYCGQGVLPATFGQGTKVEIKR (SEQ ID NO: 578)

BMS3h-217-29

DIQMTQSPSSLSASVGDRVTITCRASHFIGTLLSWYQQKPGKAPKLLITYGSWLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCGQGVLPATFGQGTKVEIKR (SEQ ID NO: 579)

BMS3h-217-30

DIQMTQSPSSLSASVGDRVTITCRASHFIGTLLSWYQLKPGKAPKLLITYGSWLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCGQGVLPATFGQGTKVEIKR (SEQ ID NO: 580)

BMS3h-217-31

DIQMTQSPSSLSASVGDRVTITCRASHFIGTLLSWYQQKPGKAPKLLITYGSLLQSGVPSRFSGSGFGTDFTLTISSLQ
PEDFATYYCGQEVLPATFGQGTKVEIKR (SEQ ID NO: 581)

BMS3h-217-32

DIQMTQSPSSLSASVGDRVSITCRASHFIGTLLSWYQQKPGKAPKLLITYGSLLQSGVPSRFSGSGFGTDFTLTISSLQ
PEDLATYYCGQEVLPATFGQGTKVEIKR (SEQ ID NO: 582)

BMS3h-217-33

DIQMTQSPSSLSASVGDRVTITCQASHFIGTLLSWYQQKPGKAPKLLITYGSLLQSGVPSRFSGSGFGTDFTLTISSLQ
PEDFATYYCGQEVLPATFGQGTKVEIKR (SEQ ID NO: 583)

BMS3h-217-34

DIQMTQSPSSLSASVGDRVTITCRASHFIGTLLSWYQQKPGKAPKLLITYGSLLQSGVPSRFSGSGFGTEFTLTIGSLQ
PEDFATYYCGQGVLPATFGQGTKVEIKR (SEQ ID NO: 584)

BMS3h-217-35

DIQMTQSPSSLSASVGDRVTITCRASHFIGTLLSWYQQKPGKATKLLITYGSLLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCGQGVLPPTFGQGTKVEIKR (SEQ ID NO: 585)

BMS3h-217-2301

DIQMTQSPSSLSASVGDRVTITCRASHFIASLLSWYQVKGKAPKLLITYGSLLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCGQGVLPATFGQGTVEIKR (SEQ ID NO: 586)

BMS3h-217-2302

DIQMTQSPSSLSASVGDRVTITCRASHFIAQLLSWYQVKGKAPKLLITYGSLLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCGQGVLPATFGQGTVEIKR (SEQ ID NO: 587)

BMS3h-217-2303

DIQMTQSPSSLSASVGDRVTITCRASHFIAQLLSWYQVKGKAPKLLITYGSLLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCGQGVLPATFGQGTVEIRR (SEQ ID NO: 588)

BMS3h-217-2304

DIQMTQSPSSLSASVGDRVTITCRASHYIASLLSWYQVKGKAPKLLITYGSLLQSGAPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCGQGVLPATFGQGTVEIKR (SEQ ID NO: 589)

BMS3h-217-2305

DIQMTQSPSSLSASVGDRVTITCRASHFIGSLLSWYQVKGKAPKLLITWASYLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCGQGVLPATFGQGTVEIKR (SEQ ID NO: 590)

BMS3h-217-2306

DIQMTQSPSSLSASVGDRVTITCRASHFIGSLLSWYQVKGKAPKLLITWTSYLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCGQGVLPATFGQGTVEIKR (SEQ ID NO: 591)

BMS3h-217-2307
DIQMTQSPSSLSASVGDRVTITCRASHFIGSLLSWYQVKPGKAPKLLITWSSYLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCGQGVLPATFGQGTVEIKR (SEQ ID NO: 592)

BMS3h-217-2308
DIQMTQSPSSLSASVGDRVTITCRASHFIGSLLSWYQVKPGKAPKLLITWGSWLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCGQGVLPATFGQGTVEIKR (SEQ ID NO: 593)

BMS3h-217-2309
DIQMTQSPSSLSASVGDRVTITCRASHFIGSLLSWYQVKPGKAPKLLITWASWLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCGQGVLPATFGQGTVEIKR (SEQ ID NO: 594)

BMS3h-217-2310
DIQMTQSPSSLSASVGDRVTITCRASHFIGSLLSWYQVKPGKAPKLLITWSSWLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCGQGVLPATFGQGTVEIKR (SEQ ID NO: 595)

BMS3h-217-2311
DIQMTQSPSSLSASVGDRVTITCRASHWIAQLLSWYQVKPGKAPKLLITYGSLLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCGQGVLPATFGQGTVEIKR (SEQ ID NO: 596)

BMS3h-217-2312
DIQMTQSPSSLSASVGDRVTITCRASHFIGSLLRWYQVKPGKAPKLLITYGSLLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCGQGVLPATFGQGTVEIKR (SEQ ID NO: 597)

BMS3h-217-2313
DIQMTQSPSSLSASVGDRVTITCRASHRIAQLLSWYQVKPGKAPKLLITYGSLLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCGQGVLPATFGQGTVEIKR (SEQ ID NO: 598)

BMS3h-217-2314
DIQMTQSPSSLSASVGDRVTITCRASHYIASLLSWYQVKPGKAPKLLITYGSLLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCGQGVLPATFGQGTVEIKR (SEQ ID NO: 599)

BMS3h-217-2315
DIQMTQSPSSLSASVGDRVTITCRASHFIGSLLSWYQVKPGKAPKLLIRFGSLLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCGQGVLPATFGQGTVEIKR (SEQ ID NO: 600)

BMS3h-217-2316
DIQMTQSPSSLSASVGDRVTITCRASHFIGSLLSWYQVKPGKAPKLLITYKSYLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCGQGVLPATFGQGTVEIKR (SEQ ID NO: 601)

BMS3h-217-2317
DIQMTQSPSSLSASVGDRVTITCRASHFIGSLLSWYQVKPGKAPKLLITWGSYLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCGQGVLPATFGQGTVEIKR (SEQ ID NO: 602)

BMS3h-217-2318
DIQMTQSPSSLSASVGDRVTITCRASHFIWGPLSWYQVKPGKAPKLLITYGSLLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDSATYYCGQGVLPATFGQGTVEIKR (SEQ ID NO: 603)

BMS3h-217-2319
DIQMTQSPSSLSASVGDRVTITCRASHWIATLLSWYQVKPGKAPKLLITYGSLLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCGQGVLPATFGQGTVEIKR (SEQ ID NO: 604)

BMS3h-217-2320
DIQMTQSPSSLSASVGDRVTITCRASHFIWGPLSWYQVKPGKAPKLLITYGSLLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCGQGVLPATFGQGTVEIKR (SEQ ID NO: 605)

BMS3h-217-2321
DIQMTQSPSSLSASVGDRVTITCRASHFIGSLLNWYQVKPGKAPKLLITYGSLLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCGQGVLPATFGQGTVEIKR (SEQ ID NO: 606)

BMS3h-217-2322
DIQMTQSPSSLSASVGDRVTITCRASHFIGSLLSWYQVKPGKAPKLLITYGSWLQSGVPSRFSGSGSGTDFTLTISSLQ
PEDFATYYCGQGVLPATFGQGTVEIKR (SEQ ID NO: 607)

表4

編碼人類抗CD40可變域之核苷酸序列

BMS3h-56-201

GAGGTGCAGCTGTTGGAGTCCGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACTTCCGTTTTACTTTACGAGT
GGGGTCAGGGAACCCTGGTCACCGTCTCGAGC (SEQ ID NO: 608)

BMS3h-56-258

GAGGTGCAGCTGTTGGAGTCTGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACTTCCGTTTTACTTTACGAGT
GGGGTCAGGGAACCCTGGTCACCGTCTCGAGC (SEQ ID NO: 609)

BMS3h-37

GAGGTGCAGCTGTTGGAGTCTGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCAGTGGTATGAGATGCAGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAATCC
TGATGGTTATCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGCTTGGGTATTTGACTACT
GGGGTCAGGGAACCCTGGTCACCGTCTCGAGC (SEQ ID NO: 610)

BMS3h-38

GAGGTGCAGCTGTTGGAGTCTGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCAGGAGGAGGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAATCC
TAGTGGTGGTAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGAGCCGTTTCGTTTTGACTACT
GGGGTCAGGGAACCCTGGTCACCGTCTCGAGC (SEQ ID NO: 611)

BMS3h-41

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTACTGAGTATGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTGGAGTGGGTCTCATCTATTTCCGG
TAATGGTGCTAATACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGCCGTTAGGTTTGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 612)

BMS3h-43

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTACAGCCTCCGGAT
TCACCTTTAATATGTATGAGATGTCGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGGTATTAGTAG
GCGTGGTTTTACTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGAGCCGATTACGTATGCTATGA
GGTATGCGCGTTTTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 613)

BMS3h-56

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCCGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTATTTTTGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 614)

BMS3h-106

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCGACTTATCATATGCAGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTGGAGTGGGTCTCAATGATTGATGC
GGATGGTCTTGGGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACCGGGTCCGAGTTTGGTCAGT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 615)

BMS3h-107

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCTTCCGGAT
TCACCTTTTCGGGGTATGATATGCAGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAACGATTAGTGC
GTCGGGTGTTTTTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCACCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAATATCCTAATCGTTTTGCGCTTA
ATAATTTTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 616)

BMS3h-131

GACATCCAGATGACCCAGTCTCCATCCTCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAATA
GTTCTATTTTGTGGGCGTTAGCTTGGTACCAGCAGAAACCAGGGAAGCCCTAAGCTCCTGATCGAGAGTTCTTCCGG
TTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGTACGTACTACTGTGTTTCAAGATGCGGGTTGGCCTGGTACGTTCCGGCAAGGGACCAAGGTGGAAA
TCAAACGG (SEQ ID NO: 617)

BMS3h-193

GACATCCAGATGACCCAGTCTCCATCCTCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
AGACGATTGAGCGTCGTTTAAATTGGTATCAGCAGAAACCAGGGAAGCCCTAAGCTCCTGATCTATCTTGCTTCCCG
TTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGTACGTACTACTGTGTTTCAAGATGCGGGTTGGCCTGGTACGTTCCGGCAAGGGACCAAGGTGGAAA
TCAAACGG (SEQ ID NO: 618)

BMS3h-198

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGCTGGGTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAGTGG
TAGTGGTGGTAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACGATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGATCCTTATAGTTTTGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 619)

BMS3h-202

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCCGACTGCTGAGATGGTGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCATCTATTTCCGC
TAGTGGTGGTTTACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGCCGGTATGTGGCGA
CGTTTACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 620)

BMS3h-217

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ATTTTATTGGTACTCTGTTATCTTGGTACCAGCAGAAACCAGGGAAGCCCTAAGCTCCTGATCACTTATGGTTCCTT
GTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGTACTACTGTGTGTCAGGGGGTGTGTGGCTGCGACGTTCCGGCAAGGACCAAGGTGGAA
TCAAACGG (SEQ ID NO: 621)

BMS3h-1

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCCGAAGAATGAGATGACGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCGATTGAGTC
GGATGGTCAGGCTACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCTGAGGACACCGCGGTATATTACTGTGCGAAAAATCGGATTCCTGATCTTGTGT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 622)

BMS3h-2

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGATGCTGGGGCTATGACGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCATCTATTGATAA
GGAGGGTCTGTCTACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGGTAGGATTCCTGGGCTGGTTT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 623)

BMS3h-3

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGGTGATGCGGCGATGACTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCGATTACGCC
TATGGGTGATGGTACATACTACGCAGACTCCGTGAAGGGCCGGTTACCGTCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGCGTATTCCTACTCTTCAGT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 624)

BMS3h-4

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGGATTCGCTATGACTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTACTTC
GAATGGTTATGAGACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGCGTATTCCTACTCTTCATT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 625)

BMS3h-5

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGATGAGCATGATATGAGTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCACGTATTGGTCC
GGATGGTTTTATACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGGCGTATTCTACTCTTCATT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 626)

BMS3h-6

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGGTGAGTATCATATGTCTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAAGGATTACTCC
TCTTGGTACGCTTACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGGCGTATTCTTTCGCTTACGT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 627)

BMS3h-7

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGGTACGAATGCGATGAGTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTGGAGTGGGTCTCAAGGATTTCCGC
GGGTGGTGATTATACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATTACTGTGCGAAAGGGCGTGTTCGGATCTGCTTT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 628)

BMS3h-8

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCCGTCTGAGGAGATGTCTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAAGGATTTCCGC
TGATGGTGCTAATACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGGCGTGTTCGGATCTGCTTT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 629)

BMS3h-9

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGCTGAGGATGATATGACTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCACGTATTGCGGT
TGATGGTGATCGGACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGTAAGGTTCCGTCTCTTCATT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 630)

BMS3h-10

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGATCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTAGGACGATGGATATGTCTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCACGTATTACGGG
TGATGGTATGAATACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGGGGACACCGCGGTATATTACTGTGCGAAAGGGTGACTCCGGATTTGACTT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 631)

BMS3h-11

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGCGTGATGATATGACGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCACGTATTAATGC
TGGGGGTGTGCATACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGGGTGACTCCGGATTTGACTT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 632)

BMS3h-12

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGATGATGATTCTATGACGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCACGGATTTTCGAG
TGATGGTGCGAGTACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGGGTGACTCCGGATTTGACTT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 633)

BMS3h-13

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTACTGAGGAGGATATGACGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCACGTATTGATAG
TGTTGGTGAGGGGACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGGGTGACTCCGGATTTGACTT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 634)

BMS3h-14

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCTGATTTCGGCGATGAGTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCACGGATTGATAA
TCCTGGTCAGCATACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGGTACTGTTCTACGCTGGAGT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 635)

BMS3h-15

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGGGCAGCATAGTATGACTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCACGTATTGATGG
TGGGGGTATAATACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGGGAGGTTCTCTGCTTCATT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 636)

BMS3h-16

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGGTTCAGGAGCCTATGACTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCACGGATTGCGTA
TAATGGTGGTGATACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGGATTACTCCTAATTTGACTT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 637)

BMS3h-17

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTGAGAAATTATCCGATGTCTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCACGTATTAATGC
TACGGGTCTATTACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGGTTATTCCTCATTTGATGT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 638)

BMS3h-18

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCGTGATTATGATATGAGTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCACGTATTACTGG
TACTGGTAATAGTACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGGTGGTGCCGTATCTTGCTT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 639)

BMS3h-19

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGGGCTGATGCGATGACGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAAGGATTAATGT
GGATGGTGATCGGACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGTACTGTTCTACGCTGGAGT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 640)

BMS3h-21

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGATCGGGCGGATATGACGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAAGGATTTCCGG
GGAGGGTAAGTGATACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGGATGGTTCTAATTTGGTTT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 641)

BMS3h-22

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTATTGGGAGCCGATGTCTTGGGTCCGCCAGGCTCCGGGGAAGGGTCTAGAGTGGGTCTCACGTATTAATTC
TTCTGGTTGGGATACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGGATGGTTCTAATTTGGTTT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 642)

BMS3h-24

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTGTGATGAGCCGATGACTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCACGTATTCCTCC
TGAGGGTGCTCCGACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGGATTAATTCCTAATTTGACTT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 643)

BMS3h-26

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTATAATCATGATATGTCTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCACGTATTAGTCG
GGGTGGTCTTCAGACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGGATTGTGCCGGATCTGCATT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 644)

BMS3h-27

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTAATGAGTATCTATGTCTGTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCACGTATTAATGG
GGATGGTGCTAATACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGGATTATTCGGCTATGCAGT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 645)

BMS3h-28

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGGGGATGTGCTATGTCTGTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAAGGATTGATCC
TTATGGTTCTAATACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGTATTATGCCTAGTCTTACTT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 646)

BMS3h-29

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGCGGATTATGATATGCTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCACGTATTTCCGGC
GCTTGGTGCTACTACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGTGAGCTCCGGCGTTGGAGT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 647)

BMS3h-30

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTAAGCGTTATTATATGACTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGGTATTGTTC
TTCTGGTAATAGGACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGTAGGATTCCGGATCTGCATT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 648)

BMS3h-31

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGCTGATTATGATATGACTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGGATTTCCTCC
GACGGGTGGGCAGACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGTGTTATTCCGTATTTGCTT
TTCTCCGTTTACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 649)

BMS3h-32

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCTAAGTATTGGATGGGTGGGCCCCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCATCGATTGATTCC
GCATGGTGCTGGTACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGTCGAGGACACCGCGGTATATTACTGTGCGAAAGGTGCTCCTAAGTTTATGACTA
CGTATACGTTTACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 650)

BMS3h-33

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTGTCTTATCCGATGCAATTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCATCGATTGATTCC
GAGGGGTTCCGTTACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGTGCTAGTTGGACGTTTACT
ACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 651)

BMS3h-34

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTGCGAATAGTAATATGACTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCACGTATTAATCC
GGATGGTGGGTCTACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGGAAGGGCGTATTCCTACTCTTCATT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 652)

BMS3h-35

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGGGCCGAGGAGGATGGGTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCATCGATTGATGA
TATTGGTCGTAGGACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGGAAGGGCGCAGGGTGTGTTGTTGT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 653)

BMS3h-36

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGGATTATAGGATGGTTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCATCGATTCTAC
TTCTGGTGAGCTGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACGGCGGGTCAGTTTTTTGACT
ACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 654)

BMS3h-39

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCCGGAGTATGAGATGGTTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTGAGTGGGTCTCAGCGATTTCGCG
TGAGGGTCGGGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAACCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGAGCCTGTTCTGTTTTGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 655)

BMS3h-40

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCGACTTATGAGATGCTTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCATCTATTTCTTC
TTCTGGTAATTATACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGCCGCTGATGTTTGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 656)

BMS3h-42

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGATACTGAGGAGATGAGTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCGATTAGTCC
TAATGGTGCTTTTACATTCTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGCCTATTCTGTTTGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 657)

BMS3h-44

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGGTCATTATGATATGGTTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAACTATTAATGG
TGCTGGTCTGAATACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGCAAAGTCTAGTCTGATTTTTGACT
ACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 658)

BMS3h-45

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTAGGAGTTATGAGATGGCGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCATCTATTAGTAC
TCTGGGTACGAAGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGCAATCTTACTCATATTTTTGACT
ACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 659)

BMS3h-46

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTATTAGGTATGAGATGGCTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAAGTATTTCTGC
GTCTGGTTGGACGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAAGTGTGCTCATATTTTTGACT
ACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 660)

BMS3h-47

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTATGCTTATGAGATGGCTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCATCTATTTTCGGA
TGATGGTACGCGACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGATCTGGGGCAGGGGTTGACT
ACTGGGGTCAGGGAACCTGTGTCACCGTCTCGAGC (SEQ ID NO: 661)

BMS3h-48

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGCTGATCATGGGATGACGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGGGATTGGTCC
GTCTGGTGAAGCGACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGATCGTATTCTTAATCTTGTT
TTGACTACTGGGGTCAGGGAACCTGGTACCGTCTCGAGC (SEQ ID NO: 662)

BMS3h-49

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGTCTCAGGATATGTCTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGGTATTAGTCC
GAATGGTTGGGATACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGATAGGTCTGATTTTGACTACT
GGGGTCAGGGAACCTGGTACCGTCTCGAGC (SEQ ID NO: 663)

BMS3h-50

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGGGGATTATGATATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAAGGATTCTCA
TCCGGGTGGTGTACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGCTGTTCTTAAGGGTTTTGACT
ACTGGGGTCAGGGAACCTGGTACCGTCTCGAGC (SEQ ID NO: 664)

BMS3h-51

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGCGGTTTATTGGATGACTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCATCTATTGATCC
GCAGGGTGGGATGACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCTCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGCGGTATTCTTAATTTGGAGT
TTGACTACTGGGGTCAGGGAACCTGGTACCGTCTCGAGC (SEQ ID NO: 665)

BMS3h-52

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGAGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTAGTGCTTATGATATGACGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTTGAAGTGGGTCTCACGTATTAATCC
GACGGGTCTTATACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGCTAAGATTCCGAATTTGGTTT
TTGACTACTGGGGTCAGGGAACCTGGTACCGTCTCGAGC (SEQ ID NO: 666)

BMS3h-53

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGCGGATAGTGAGATGATGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGGTATTGCGCA
TAATGGTGGGCATACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGCTGGTCATCTCAGCAGACTG
AGGCTTTTGACTACTGGGGTCAGGGAACCTGGTACCGTCTCGAGC (SEQ ID NO: 667)

BMS3h-54

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTGCTACTTATGATATGTATTGGGTCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAAGATTCTCC
GAATGGTTGGAGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAATATCAGACGATTTTGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 668)

BMS3h-55

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTAGTGTATGATATGAGGTGGGTCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAACGATTCTTC
TTCGGGTACGTATACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAATATCCTAAGAATTTTGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 669)

BMS3h-57

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCTCATGAGGATATGACTTGGGTCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAAGTATTAGTCC
GAATGGTTGGGATACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACGTAAGGAGTAAGTTTGACT
ACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 670)

BMS3h-58

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGAAGTATATTATGGGTTGGGCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAACGATTGATTA
TTGGGGTCAGCATACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACGTAAGTATCTTATCTCTGCG
AGTTTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 671)

BMS3h-59

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCTGATTATGCGATGGGGTGGGTCGCCAGGCTCCAGGGAAGGGTCTGAGTGGGTCTCAACGATTTCGTA
TGTGGGTTATTATACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAAGGCTCTGCGGGGGGAGGCGT
TTACGGAGCGTTTGTACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 672)

BMS3h-60

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGGTCCGTATATGATGCATTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAACGATTGAGGT
TAATGGTAATAGGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAATGGGTTGGTTCGAAGACGTCGT
CGGATAAGAGTTTGTACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 673)

BMS3h-61

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGGTACGACGGAGATGGCTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAAGTATTGGTAG
TGCTGGTGCTTGGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAATTGGTGGGCATCCTCAGGGTC
AGTTTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 674)

BMS3h-62

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCCCTAGGGAGTGGATGGCTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAAGTATTCAGCC
TATGGGTGAGACTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAATATTCTCGGAATAAGGGGTTTT
TTGACTACTGGGGTCAGGGAACCCCTGGTCACCGTCTCGAGC (SEQ ID NO: 675)

BMS3h-63

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTACGAGTGAGTATATGGGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCATCTATTCAGAG
GTATGGGTAGTACGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACATGAGTCTAATTGGGAGACTT
TTGACTACTGGGGTCAGGGAACCCCTGGTCACCGTCTCGAGC (SEQ ID NO: 676)

BMS3h-70

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCGGTGTATAGTATGACAGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCGATTACTCC
TAATGGTACTCGGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACTCTTGGTGGGGTTCTTATC
CTGGTGTGATTTTGACTACTGGGGTCAGGGAACCCCTGGTCACCGTCTCGAGC (SEQ ID NO: 677)

BMS3h-71

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCCGAGTTATGCTATGACGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTGGAGTGGGTCTCAGCTATTACGGC
GGATGGTACTGTTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGTTCTATTCCGATGCTTACGT
TTGACTACTGGGGTCAGGGAACCCCTGGTCACCGTCTCGAGC (SEQ ID NO: 678)

BMS3h-72

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCGACTTATGATATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTTCTCC
TAATGGTACTGGTATATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAAATCAGAGTGTTCATCATGCTG
TTTTTGACTACTGGGGTCAGGGAACCCCTGGTCACCGTCTCGAGC (SEQ ID NO: 679)

BMS3h-73

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTGAGAAATTATGAGATGACGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTGCGCC
GCATGGTCGGCTTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGGTCAGATTCCGATGCTTGATT
TTGACTACTGGGGTCAGGGAACCCCTGGTCACCGTCTCGAGC (SEQ ID NO: 680)

BMS3h-74

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTTCGATTATATGATGATGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAACGATTTCTCA
TTTTGGTGATATTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAAATGATATGGTGATGAAGAATG
GGGGGTTTGACTACTGGGGTCAGGGAACCCCTGGTCACCGTCTCGAGC (SEQ ID NO: 681)

BMS3h-75

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGAGGTATGATATGAGTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCACGTATTGATTC
GCGGGGTTGGTCTACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGGTTGGTGCCGCATCTGAGGT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 682)

BMS3h-76

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGCGAATGCGCAGATGACTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAAGGATTGATGC
TATGGGTGATGCTACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGTAAAGGTTCCGAGTATTGACT
ACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 683)

BMS3h-77

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGCGAATGCGCAGATGACTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAAGGATTGATGC
TATGGGTGATGCTACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGGTATTATCCGGCGTTTACT
ACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 684)

BMS3h-78

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGAATGATCGATGCATTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCATCGATTCTGC
TACTGGTGGTGATACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACAGACGGGTACGAATCGTTTTG
ACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 685)

BMS3h-79

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTAATCAGCCTTATATGTCGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTGGAGTGGGTCTCATCTATTGATGC
TTCGGGTGGTACTACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGATCGTATTCTAATCTTGTGT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 686)

BMS3h-80

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGATAATGAGAATATGACTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCACGTATTGATGG
TGGGGGTTATAATACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGCGAGTTCTTGAGCTGCTGT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 687)

BMS3h-81

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGTTTCGTGGAATATGACTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAGTGG
TAGTGGTGGTAGCACATACTATGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGTCGGATTCTACGTTGGTGT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 688)

BMS3h-82

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGTTTCGTGCAATATGACTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAGTGG
TAGTGGTGGTAGCACATACTATGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGATCGTATTCTTAATCTTGTGT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 689)

BMS3h-83

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCTGATGATTCGATGAGTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAAATGA
TGCTGGTAGTTCTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGTACTATTCTCTTCTGGAGT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 690)

BMS3h-84

GAGATGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGTTTCGGATACTATGAGTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTGATGG
GACTGGTGGTGATACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGGGACACCGCGGTATATTACTGTGCGAAAGGGTATTCTCTGATCTTCAGT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 691)

BMS3h-85

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGATGAGGAGGAGATGACGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTATTGG
TGGTGGTCATGAGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGTACTATTCTCTTCTGGAGT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 692)

BMS3h-86

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGATAATGAGAATATGACTTGGGTCCGCCAGGCTCCAGGGAAGGATCTAGAGTGGGTCTCAGGATTACTGA
GAGGGGTGATGTGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGTACTGTTCTACGCTGGAGT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 693)

BMS3h-87

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGATGAGGAGGAGATGACGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTATTGG
TGGTGGTCATGAGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGTACTGTTCTACGCTGGAGT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 694)

BMS3h-88

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCATGAGACGGAGATGACGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAAATCG
GCTGGGTGAGGATACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGTAGGATTCTGGGCTGGTTT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 695)

BMS3h-89

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCTGATGATTGATGAGTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCACGTATTAATGA
TGCTGGTAGTTCTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGTACTGTTCTACGCTGGAGT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 696)

BMS3h-90

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGATAATGAGAATATGACTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCACGGATTACTGA
GAGGGGTGATGTGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGTGCGATTCTACGTTGGTGT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 697)

BMS3h-91

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCTGATGATTGATGAGTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCACGTATTAATGA
TGCTGGTAGTTCTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGGATTACTCTAATTTGACTT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 698)

BMS3h-92

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGCTGATGAGCCGATGACTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCACGTATTCCTCC
TGAGGGTGCTCCGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGGTTATTCCTGATCTTCAGT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 699)

BMS3h-93

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCTGATGATGATGAGTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGTATTGCTGC
GCCTGGTGGTAGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGATCGTATTCTAATCTTAGGT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 700)

BMS3h-94

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGTTTTCGGATACTATGAGTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGTATTGATGG
GACTGGTGGTGATACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGCAGGTTCTGAGTGCTGT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 701)

BMS3h-95

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCTGATGATGATGAGTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGTATTGCTGC
GCCTGGTGGTAGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGATCGTATTCTAATCTTGTGT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 702)

BMS3h-96

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCGCCGGAT
TCACCTTTGATCTGGCGGAGATGACTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCACGTATTGATGA
GGATGGTGCTTCTACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACGCCGCGGTATATTACTGTGCGGAAGGTGTTATCCGTCTCTGACTT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 703)

BMS3h-97

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTACTGATAAGCATATGAGTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCACGGATTTCGCC
TGATGGTACGTATACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACGCCGCGGTATATTACTGTGCGGAAGGTGTTATCCGTCTCTGACTT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 704)

BMS3h-98

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGCTGAGGATGATATGACTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCACGTATTTCGGT
TGATGGTGATCGGACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTACCGAGGACACCGCGGTATATTACTGTGCGAAAGGGAAGACGCCGCATCTTGTGT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 705)

BMS3h-99

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCGCCGGAT
TCACCTTTGATCTGGCGGAGATGACTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCACGTATTGATGA
GGATGGTGCTTCTACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGTCAGGTTCTGTCTTGGTTT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 706)

BMS3h-100

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGGATTGATGATGTCGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCACGGATTGATCC
TGGGGGTGCTCAGACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGGTGACTCCGGATTGACTT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 707)

BMS3h-101

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGCATGCGGATATGAGTTGGGTCCGCCAGGCTTCCAGGGAAGGGTCTAGAGTGGGTCTCACGTATTGATAA
TAGTGGTCAGTCTACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGGTGACTCCGGATTGACGT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 708)

BMS3h-102

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTAGTGAGGCGGAGATGAATTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCACGTATTACGAC
GGATGGTGATTCTACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGGCGTATTCTACTTTCATT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 709)

BMS3h-103

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCAGGAT
TCACCTTTGATGATAGTGATATGACTTGGGTCCGCCAGGCTCCAGGGAAGAGTCTAGAGTGGGTCTCATATATTCGGG
TGATGATGATGAGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAAATCGGATTCCTGATCTTGTGT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 710)

BMS3h-108

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTAATGTGGCGGATATGCAGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAAGTATTAGTCC
GAATGGTTGGGATACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACATGCTTCTACGGAGGGGCCGA
TCGCTTTTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 711)

BMS3h-109

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGGGCGTATGATATGGGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTGGAGTGGGTCTCATGGATTTCTGC
TCATGGTTCTGTTTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAATGGCCTTATAAGTTTGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 712)

BMS3h-110

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGGGAGTGGGTCTATGAGTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGGATTGGTAG
TAATGGTGCGGATACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGGATGGTTCTTAATTTGGTTT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 713)

BMS3h-111

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTAATCGTTTTGATATGACGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAGTGG
TAGTGGTGGTAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGATCGTATTCTTAATCTTGTGT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 714)

BMS3h-112

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGGGAGAGTGATATGAAGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAAGTATTAGTCC
GAATGGTTGGGATACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAATCTCCTTCTCTCGTCTTAAGT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 715)

BMS3h-139

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGATAGTAGTGAGATGAGTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCATCGATTGAGAA
TCAGGGTGGTGCGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGATCGTATTCTTAATCTTGTGT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 716)

BMS3h-140

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGATGCGTATCCTATGTATTGGGTCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCATGGATTGCTTC
GGGTGGTGGTGCGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACGTACGAAGAATTTTGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 717)

BMS3h-141

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTATGAGTTATTCTATGGCTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGGGATTACTTC
TAATGGTAATCGGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAATCGACTGGGGCTAATAGTAGGA
ATTTTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 718)

BMS3h-142

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGGGGTATCTGATGTCGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAAGTATTGCGGC
TAATGGTATGTCAGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAAAGCCGAGGGGTATTTGGGGATG
GGGATTTTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 719)

BMS3h-143

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCATGAGTCTACGATGACGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAACTATTGCGCA
TCCGGGTGAGTTTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAAGGGCTTATTCCTGATCTTCAGT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 720)

BMS3h-144

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTGCAGATGTATAGTATGAGTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCATCGATTGCGCC
GCCGGGTGGTAGGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACAGTCGCTGACGGGTATAGTA
GGTCTTTTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 721)

BMS3h-145

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTTCGAGAATCCGATGTGCTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAACGATTCTCTGC
GAATGGTCGTCTACATCCTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAATATAGTCAGCAGCCGGGTGCTG
GGTTTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 722)

BMS3h-146

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTGCTAATTATCATATGACGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCATCGATTCTCTGA
TAGTGGTAAGCAGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTACAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGTAGGATTCCTCTCTTCTTT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 723)

BMS3h-147

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGCGCAGTATCATATGCGTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAACGATTAATGA
TATTGGTAGTAATACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGTTGGGGGGCGGGGAGTTTTT
CTTTTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 724)

BMS3h-148

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCTTCGTATGATATGAAGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAACGATTAGTGC
GTCTGGTGTGTTTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACGGGAGCATGCGGGTCAGCCGC
CTTTTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 725)

BMS3h-149

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTAATGGTTATGCTATGAGTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAACTATTAATGC
TAATGGTAAGTATACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAAGTTGACTCTTGCTTCTAATT
ATTTTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 726)

BMS3h-150

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTATGGATTATGATATGAAGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAAGTATTACTGC
GCTTGGTAAGAAGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAAGTATGTTAAGTATCCTCTTA
ATCTTTTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 727)

BMS3h-151

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCCGCATTATACGATGGCGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTGGAGTGGGTCTCATCTATTAGTGC
GCCTGGTTGGCGGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAATATGGGGATGGTCTTCTTTGA
CTTTTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 728)

BMS3h-167

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTAGTGGTACGCCGATGTCTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGTATTGGGGA
TGAGGGTCAGGAGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGGTGACTCCGGATTGACTT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 729)

BMS3h-168

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTAGTAGTAGTTCGATGTCTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCGATTGGGTG
TGATGGTCCGAGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGGGTATTCTACTCTTCATT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 730)

BMS3h-169

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTAATCCTGGTGAGATGACGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAAGTATTGATGG
GTCTGGTCTTCGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGGGCGTATTCTACTCTTCATT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 731)

BMS3h-170

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCTGAGTCTATGATGGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCATCGATTGGGTA
TCCTGGTGCTACTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGGTGGTAGTCGGGATGATAATT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 732)

BMS3h-171

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGGTCAGCATAGTATGCATTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAAGTATTAGTGT
TCCGGGTCCGAAGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGTCTTAGGGATTTCGCTCCGG
GTGATAGTAAGAGTTTTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 733)

BMS3h-197

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGGTCTGCTGCTATGGATTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCATCTATTAATGA
TATGGGTTCTAATACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACAGGGTGGTCGTTTTGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 734)

BMS3h-199

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGGTTATGATAGGATGGCTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCATCGATTGATGG
TCCTGGTGGGGCTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGGAAGGGAGGAGGGTTCCTGATTTTG
ACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 735)

BMS3h-200

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGGTGAGTATGAGATGACTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAAGGATTGATCC
GTTTGGTCTGAGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGGAAGGTGTGGTTCCTGATTTGAATT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 736)

BMS3h-201

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGATAAGTATGTTATGGGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAACTATTGGTAG
TTATGGTGGGGCTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGCTTACTCTTAGTGCGACTA
AGTTTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 737)

BMS3h-203

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGGATTATGTATGGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAACTATTGCGCA
TCGGGGTGATATTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACGTAGGCGCTTAGTGATTATC
GGTTTGACTACTGGGGTCAGGGAACCTGGTCAACGTCTCGAGC (SEQ ID NO: 738)

BMS3h-204

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGGGAGTTTGATATGTATTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCGATTAGTCC
GGCTGGTACTGGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGCGGGGGATCGGTCTAGTCTTT
TTGACTACAGGGGTGAGGGAACCTGGTCAACGTCTCGAGC (SEQ ID NO: 739)

BMS3h-205

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTAAGGATACGGGTATGACGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAAGTATTTCTAG
TTATGGTCGTGATACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAATGAATGCGGCGCTGGGTTTTG
ACTACTGGGGTCAGGGAACCTGGTCAACGTCTCGAGC (SEQ ID NO: 740)

BMS3h-206

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGGTCCGTATCCGATGAGTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGGTATTAATGC
GCCGGGTACGAGGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGCAACAGATGTCTAGTGGGGTTTTG
ACTACTGGGGTCAGGGAACCTGGTCAACGTCTCGAGC (SEQ ID NO: 741)

BMS3h-207

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCGAATCAGGATATGACTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAAGTATTGATAG
TTCTGGTCAGCTTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGTTAAGTCTCTTGCGCGGTTTG
ACTACTGGGGTCAGGGAACCTGGTCAACGTCTCGAGC (SEQ ID NO: 742)

BMS3h-208

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGCGCAGCCTCCGGAT
TCACCTTTCTGAGTCTGATATGAAGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAAGTATTAGTCC
GAATGGTTGGGATACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACCGGCTCAGGTCTGTTTGACT
ACTGGGGTCAGGGAACCTGGTCAACGTCTCGAGC (SEQ ID NO: 743)

BMS3h-209

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGCAGTATGTATGGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAACGATTGGTAC
GTCGGGTAAGTATACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGCAACGTAGGTCTCTGACTCGGGTTC
ATTTTGACTACTGGGGTCAGGGAACCTGGTCAACGTCTCGAGC (SEQ ID NO: 744)

BMS3h-210

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGGTGTGGAGCATATGAGTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCGATTACGGG
TGATGGTGATCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAACGGTTTCGTGGAATGGTCGTT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 745)

BMS3h-211

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGCGTGGTATAATATGGGTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTGAGTGGGTCTCAAGGATTGCTCC
GTCTGGTATTATTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAAGGGTTGCGTGGTAAGTTTGACT
ACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 746)

BMS3h-212

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTGAATTATGAGATGAGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCATCTATTTCTTC
GGGTGGTGGGGCGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAACAGTCGCTTAATTTTGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 747)

BMS3h-213

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGAGCCTCCGGAT
TCACCTTTTGATGAGGAGCCGATGACTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAATTATTGATCC
GGGTGGTGGGGCGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAATCTAATAGTATGTTTGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 748)

BMS3h-214

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCTGCGTATCCTATGCATTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCATCTATTGCTTC
TTCGGGTATTACGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAATTTACTCGGTGCATTTTCTG
CGCAGTTTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 749)

BMS3h-215

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTGCTGATTATGCGATGGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAAGGATTTCTCC
TGAGGGTTCTAGGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAATTTGCGGCCGTATGCGTCGAAGT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 750)

BMS3h-230

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTAGGCCGTATGATATGGGTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAACGATTTCTCA
TCAGGGTAATCGGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAAGTGTCTCATCATTTTGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 751)

BMS3h-231

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCTGCGTATAATATGTGGTGGGCCCGCCAGGCTCCAGGGAAGGGTTAGAGTGGGTCTCATGGATTAATTC
GACTGGTTCTCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAAATTGGCATCGGGGAGGTTTG
ACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 752)

BMS3h-232

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGATAGGTATCGGATGGGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAACGATTAATCG
GCTGGGTACAGGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGTGAAGAAGCATAAGTTTGACT
ACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 753)

BMS3h-233

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGCGCATTATAATATGCGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAACGATTACGAA
GACTGGTTTTCTGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGTGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGCGGGGAGTTTGATTGTTGACT
ACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 754)

BMS3h-234

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTAGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTATCCTTATAGTATGCATTGGGTCCGCCAGGCTCCAGGGAAGGGTCTGAGTGGGTCTCAACTATTGATGG
TAGTGGTATGTTTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGGAAGATTCTCTGAAGGCTTCTTTTG
ACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 755)

BMS3h-235

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCCGCTTTATGGGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCATATATTGGGCC
TTATGGTCATACTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAAAGCGGAAGAAGAAGTTTGACT
ACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 756)

BMS3h-236

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCTAGGTATCGGATGAGTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAAGTATTACTCC
GTATGGTGCTCATACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAATATGGTAAGTGGTATTTTGACT
ACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 757)

BMS3h-237

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTAATGAGTATGCGATGAGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAACGATTGATCG
TCTGGGTCTTCATACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGTGGGCCTTTACGTTTGACT
ACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 758)

BMS3h-238

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGCGGTATAATATGCGTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAACGATTGATCG
GCTGGGTCTTGCTACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGCGGGTTCGTGGTCTTTTGACT
ACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 759)

BMS3h-239

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGGTATTTATGATATGAAGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAACGATTTCGTG
GTCGGGTACTCATACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAATATCCTCAGCCTTATCCTTTG
ACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 760)

BMS3h-240

GAGGTGCAGCTATTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTGGGTGATGATATGCGTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAACGATTTCGTG
GACTGGTGTGCATACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAATATCCTCAGCCTTATCCTTTG
ACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 761)

BMS3h-241

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCGACTTATGATATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTTCTCC
TAATGGTACTGGTACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACCTCCGAGGTGAATACTGAGT
TTGACTACCGGGTTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 762)

BMS3h-243

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGAAGGAGGATATGGGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCACATATTTCCGCC
GAATGGTATGCGACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAAGTTGGTCTAGTTTGGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 763)

BMS3h-244

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTAGTGCTACTCCGATGGAGTGGGCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAACTATTTCTGA
GAGTGGTTATAGTACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAATGGAATTCGACTACTGGTTTTG
ACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 764)

BMS3h-245

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTAATACGGTGGATATGGAGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAAGTATTAGTCC
GAATGGTTGGGATACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGGAAGCTCCGCATCGGGCGTTTGACT
ACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 765)

BMS3h-246

GAGGTGCAGCTGTTGGAGTCTGGGGGGGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGGATAAGGAGATGAGTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGGATTGATGC
TTTGGGTGATTCTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGGATGGTTCTCTGCTCTGAAGT
TTGACTACTGGGTGAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 766)

BMS3h-247

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTAGTGATCATTGATGATGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGATATTGAGCC
GCATGGTGTTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAATCCTACTTTGACTACTGGGGT
AGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 767)

BMS3h-248

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCGCCGATACTATGCATTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGGTATTGGTCC
GGATGGTACTACTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACGTTCTGATAGTTGGGATCGT
GGTGGACGTTTACTACTGGGGTCAAGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 768)

BMS3h-249

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTATGCTTCGGATATGAAGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAAGTATTAGTCC
GAATGGTTGGGATACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGCTGATTATCTTATCATTCTT
TTGACTACTGGGGTCAAGGGACCTGGTCACCGTCTCGAGC (SEQ ID NO: 769)

BMS3h-250

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCGCATTATATATGCGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAACGATTACGAA
GACTGGTTTTCTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGTGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGCGGGGAGTTTGATTTTGACT
ACTGGGGTCAAGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 770)

BMS3h-251

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCGCATTATCATATGGGTGGGGCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGTTATTGGGCC
GAGGGGTATTTCTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAATCGCCTTCGCGTCATAGGTTTG
ACTACTGGGGTCAAGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 771)

BMS3h-252

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTAATGAGTATGCGATGAGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAACGATTGATCG
TCTGGGTCTTCATACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAAGTGGGCCTTTTACGTTTGACT
ACTGGGGTCAAGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 772)

BMS3h-253

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGGTAATTATAGTATGAAGTGGGCCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAACTATTACTCC
TGATGGTTGGTATACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGTGGGGGATGCTGTTGGGGGT
GGATTGGTGGGTTTACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 773)

BMS3h-254

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGGGATTATGGTATGAAGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTACGTC
TAATGGTGATTTTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAATCTTTGTATAAGTTTGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 774)

BMS3h-255

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCCCTACTTATAAGATGGGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCATTTATTGATTA
TTGGGGTTGGCGGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAAGTCCGTATTCTTGGACTCATG
ATAGTCTCATTTTACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 775)

BMS3h-256

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTAGGCCTTATACGATGTGTTGGGCCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCATGTATTAGTGA
TGCTGGTTCTTTTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAAGTCCGTATTCTTGGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 776)

BMS3h-257

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCAAGATTATCAGATGGCTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAACTATTAGTGG
GACTGGTAAGAATACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAAGTCCGTATTCTTGGACTACT
TGCGTCGGTTTACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 777)

BMS3h-258

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGGGGCGTATACTATGGGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAAAGATTTTCGAC
GTCTGGTGGGCGAGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAAGTCCGTATTCTTGGACTACT
ACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 778)

BMS3h-272

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTAATGCGTATCCTATGACTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCACGGATTGATGG
TTATGGTGGGCATACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAAGGATTATTCCTAATTTTACT
ACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 779)

BMS3h-273

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGGGGCGGTTGATATGACGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTGGGGC
TAGTGGTTCTGCTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGGCGTGTGCCGGATCTTGGTT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 780)

BMS3h-274

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGATAGTTATGCGATGGGGTGGGCCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTGGGGC
TAAGGGTTTGTCTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGGCTAGGGGTAAGTTTGACT
ACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 781)

BMS3h-275

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTACTCGGTATCAGATGGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGTTATTAATGT
TTGGGGTTCGAGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAATGTCTGGGAAGTTTGCTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 782)

BMS3h-276

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTTTCTGTGCAGCCTCCGGAT
TCACCTTTGGGAATTATAGTATGATGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAACGATTATTCC
TGCTGGTACGTCTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACCGTCGATTAGGTTGTTTGACT
ACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 783)

BMS3h-279

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGGTGCATGATATGGGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCATGGATTCTCC
GAATGGTTATGATACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGGGTGTGAAGTTTGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 784)

BMS3h-282

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGTTTGGTATGAGATGGCTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAACGATTACGGC
TGATGGTGAGCAGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGCTTCGTATGCTCTTGTGTATC
CTCCTGAGGAGTTTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 785)

BMS3h-287

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTACGAATTATAGGATGTCTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTGATGA
TCTGGGTGTGTGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAATGGAGGCTTAAGAATAGTCAGC
CGACGGATTTTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 786)

BMS3h-292

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGATCAGGCTCATATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCATTTATTAATCC
TTCGGGTATTATACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACCTTCGCTTAGTCCGTCTCTT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 787)

BMS3h-293

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGACTGGTCAGATGGGTGGGGCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAAATATTGATGG
GTCTGGTACGTATACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAAGTACGCAGAATTATCGGTTTG
ACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 788)

BMS3h-296

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGGTGCTTATCCGATGTATTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCATCTATTCATAA
GGATGGTAGGATTACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAACAGGGTACGCCGGTTGATGGGT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 789)

BMS3h-297

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCTGATGAGGGTATGACGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAACGATTGAGAC
TGGTGGTACGGTGACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAATGGATGGGTCTGGTACATGGC
AGACGTTTACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 790)

BMS3h-298

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGATAGTCTGGGTATGGGTGGGGCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCATATATTCGGGC
TGAGGGTGCTTATACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAATATCTTGCGGATTCTGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 791)

BMS3h-299

GAGGTGCAGCTGTTGGAATCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTAGTGAGTCTGATATGGAGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGGTATTGATCA
TATTGGTGGTGGGACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAAGATGATGGTCTGGTGGGTCTA
TGTTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 792)

BMS3h-300

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCTGGTGGGTATATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAAGTATTGGGGC
TAGTGGTGGGTATACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAACGGGGGTAGGTTAGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 793)

BMS3h-301

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGATGAGGGGCATATGGGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCATATATTGGGAG
TCTGGGTTTGATACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACGGGAGTTTAGTAATGGGGGGT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 794)

BMS3h-302

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTAAGACTAGTCTATGTATTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCATCGATTGATCG
GACTGGTGGGCATACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACAGGCTCTGCTTACTGATGCGA
AGCGTTTTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 795)

BMS3h-303

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGATGGTCCGGATATGGTTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAGTCC
GAGTGGTCTGGATACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACGCTCAGATGCTGGTTACTA
ATTTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 796)

BMS3h-304

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGGTAATGATCCGATGAGTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGGGATTGGTCCG
GGAGGGTGATTCTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGATTCTATGCGGCATCAGCCGT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 797)

BMS3h-305

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGATGAGACTTATATGAAGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCGATTGGGGC
GTCGGGTGCTGATACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAATTTACGCATCTGAATGGTCCGT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 798)

BMS3h-306

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGGGGGGTGGCCTATGGGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGGTATTGATAT
TGATGGTGTCTCCGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGGAGGCGGGTCTTGGTCTT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 799)

BMS3h-307

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTAGTGATCAGGCGATGTGGTGGGCCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCATTTATTCAGGG
TGATGGTGGTTTTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACCTAGTAAGCCGTTTGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 800)

BMS3h-308

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGACTGGTCAGATGGGTTGGGCCCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAAATATTGATGG
GTCTGGTACGTACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGCGGTGCGGAATTTTGCTTTTG
ACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 801)

BMS3h-309

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTAGTGGGATGATATGCTTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGTATTAGTCC
TCATGGTACGCATACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGGATTAGGGGTTGGATTGGTC
ATGATACGCAGCCTTTTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 802)

BMS3h-310

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGAGTAAGGATATGCTTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCATCTATTTGCTC
GGATGGTACTCATACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGCTGGTGGGTCTTGGCAGT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 803)

BMS3h-311

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGCGGATCGTGATATGTTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGTATTGGGGC
GTCGGGTACGTCTACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGGTGGGACGGGTCTACTGATT
TGTTGGGATTTTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 804)

BMS3h-312

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGATGATGAGAAGATGCTTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAAGTATTAGTGT
GAGTGGTCTGCATACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGGAGGCGGGTCTTGGTCTT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 805)

BMS3h-313

GAGGTGCAGCTGTTGGAGTCCGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGGGCGAGGAGGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGATATTTGGC
TTCGGGTGGGACTACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGGAGGCGGGTCTTGGTCTT
TTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 806)

BMS3h-37-1

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCTCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGTGGTATGAGATGCAGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCGATTTCTGG
TGATGGTTATCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATTCATGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGCTTGGGTATTTTGACTACA
GGGGTCGGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 807)

BMS3h-37-2

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGTGGTATGAGATGCAGTGGGTCCGCCGGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCGATTTCTGG
TGATGGTTATCGTACATACTACGCAGACTCCGTGAAAGGCCGGTTCACCATCTCCCGCGACAATCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGCTTGGGTATTTTGACTACT
GGGGTCGGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 808)

BMS3h-37-3

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGTGGTATGAGATGCAGTGGGTCCGCCGGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCGATTTCTGG
TGATGGTTATCGTACATACTACGCAGACTCCGTGAAAGGCCGGTTCACCATCTCCCGCGACAATCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGCTTGGGTATTTTGACTACC
GGGTTTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 809)

BMS3h-37-4

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGTGGTATGAGATGCAGTGGGTCCGCAAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCGATTTCTGG
TGATGGTTATCGTACATACTACGCAGACTCCGTGAAAGGCCGGTTCACCATCTCCCGCGACAATCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGCTTGGGTATTTTGACTACT
GGGGTCGGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 810)

BMS3h-37-5

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGTGGTATGAGATGCAGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGATCTCAGCGATTTCTGG
TGATGGTTATCGTACATACTACGCAGACTCCGTGAAAGGCCGGTTCACCATCTCCCGCGACAATCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGCTTGGGTATTTTGACTACA
GGGTTTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 811)

BMS3h-37-6

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGTGGTATGAGATGCAGTGGGTCCGCCGGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCGATTTCTGG
TGATGGTTATCGTACATACTACGCAGACTCCGTGAAAGGCCGGTTCACCATCTCCCGCGACAATCCGAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGCTTGGGTATTTTGACTACT
GGGGTCGGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 812)

BMS3h-37-7

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGTGGTATGAGATGCAGTGGGTCCGCCGGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCGATTTCTGG
TGATGGTTATCGTACATACTACGCAGACTCCGTGAAAGGCCGGTTCACCATCTCCCGCGACAATCCAAGAACACGCTG
TATCTGCAAATGGACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGCTTGGGTATTTTGACTACT
GGGGTCGGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 813)

BMS3h-37-8

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGTGGTATGAGATGCAGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCGATTTCTGG
TGATGGTTATCGTACATACTACGCAGACTCCGTGAAAGGCCGGTTCACCATCTCAGCGACAATCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGCTTGGGTATTTTGACTACT
GGGGTCGGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 814)

BMS3h-37-9

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGTAGCCTCCGGAT
TCACCTTTGAGTGGTATGAGATGCAGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCGATTTCTGG
TGATGGTTATCGTACATACTACGCAGACTCCGTGAAAGGCCGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGCTTGGGTATTTTGACTACT
GGGGTCGGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 815)

BMS3h-37-10

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCTGGAT
TCACCTTTGAGTGGTATGAGATGCAGTGGGTCCGCCGGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCGATTTCTGG
TGATGGTTATCGTACATACTACGCAGACTCCGTGAAAGGCCGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCTAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGCTTGGGTATTTGACTACT
GGGGTCGGGGAACCTCGTCACCGTCTCGAGC (SEQ ID NO: 816)

BMS3h-37-11

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGTGGTATGAGATGCAGTGGGTCCGCAAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCGATTTCTGG
TGATGGTTATCGTACATACTACGCAGACTCCGTGAAAGGCCGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGCTTGGGTATTTTGACTACA
GGGGTCGGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 817)

BMS3h-37-12

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCATGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGTGGTATGAGATGCAGTGGGTCCGCCGGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCGATTTCTGG
TGATGGTTATCGTACATACTACGCAGACTCCGTGAAAGGCCGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGCTTGGGTATTTTGACTACA
GGGGTCGGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 818)

BMS3h-37-201

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGTGGTATGAGATGCAGTGGGTCCGCCGGGCTCCAGGGAAGGGATTAGAGTGGGTCTCAATGATTTCCGG
GGATGGTTATCGTACATACTACGCAGACTCCGTGAAAGGCCGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGCTTGGGTATTTTGACTACT
GGGGTCGGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 819)

BMS3h-37-202

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGTGGTATGAGATGCAGTGGGTCCGCCGGGCTCCAGGGAAGGGACTAGAGTGGGTCTCAGCGATTTCTGG
TGACGGTTGGCGCACATACTACGCAGACTCCGTGAAAGGCCGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGCTTGGGTATTTTGACTACT
GGGGTCGGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 820)

BMS3h-37-203

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGGGTGGTATGAGATGCAGTGGGTCCGCCGGGCTCCAGGGAAGGGACTAGAGTGGGTCTCAGCGATTTCTGG
TGATGGTTATCGTACATACTACGCAGACTCCGTGAAAGGCCGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGCTGTCTACTTTGACTACT
GGGGTCGGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 821)

BMS3h-37-204

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGTGGTATGAGATGCAGTGGGTCCGCCGGGCTCCAGGGAAGGGACTAGAGTGGGTCTCAGCGATTTCTGG
TGATGGTTATCGTACATACTACGCAGACTCCGTGAAAGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGCTGGGGTCTTTGACTACT
GGGGTCGGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 822)

BMS3h-37-205

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGTGGTATGAGATGCAGTGGGTCCGCCGGGCTCCAGGGAAGGGACTAGAGTGGGTCTCAGCGATTTCTGG
TGATGGTTATCGTACATACTACGCAGACTCCGTGAAAGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGTTGGAGTATTTGACTACT
GGGGTCGGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 823)

BMS3h-37-206

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGTGGTATGAGATGCAGTGGGTCCGCCGGGCTCCAGGGAAGGGACTAGAGTGGGTCTCAGCGATTTCTGG
TGATGGTTATCGTACATACTACGCAGACTCCGTGAAAGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGGGTTGGAGTATTTGACTACT
GGGGTCGGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 824)

BMS3h-37-207

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGTGGTATGAGATGCAGTGGGTCCGCCGGGCTCCAGGGAAGGGACTAGAGTGGGTCTCAGCGATTTCTGG
TGATGGTTATCGTACATACTACGCAGACTCCGTGAAAGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGCTGGCCTTCTTTGACTACT
GGGGTCGGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 825)

BMS3h-37-208

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGTGGTATGAGATGCAGTGGGTCCGCCGGGCTCCAGGGAAGGGACTAGAGTGGGTCTCAGCGATTTCTGG
TGATGGTTATCGTACATACTACGCAGACTCCGTGAAAGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGCTCTTGACTTTGACTACT
GGGGTCGGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 826)

BMS3h-37-209

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGTGGTATGAGATGCAGTGGGTCCGCCGGGCTCCAGGGAAGGGACTAGAGTGGGTCTCAGCGATTTCTGG
TGATGGTTATCGTACATACTACGCAGACTCCGTGAAAGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGTTGGAGTCTTTGACTACT
GGGGTCGGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 827)

BMS3h-37-210

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGTGGTATGAGATGCAGTGGGTCCGCCGGGCTCCAGGGAAGGGACTAGAGTGGGTCTCAGCGATTTCTGG
TGATGGTTATCGTACATACTACGCAGACTCCGTGAAAGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGCTGCAGTCTTTGACTACT
GGGGTCGGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 828)

BMS3h-37-211

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGTGGTATGAGATGCAGTGGGTCCGCCGGGCTCCAGGGAAGGGACTAGAGTGGGTCTCAGCGATTTCTGG
TGATGGTTATCGTACATACTACGCAGACTCCGTGAAAGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGAGCTGCTTCTTTGACTACT
GGGGTCGGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 829)

BMS3h-37-212

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACGGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGTGGTATGAGATGCAGTGGGTCCGCCGGGCTCCAGGGAAGGGACTAGAGTGGGTCTCAGCGATTTCTGG
TGATGGTTATCGTACATACTACGCAGACTCCGTGAAAGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGAGTTGGAGTTCTTTGACTACT
GGGGTCGGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 830)

BMS3h-37-213

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGTGGTATGAGATGCAGTGGGTCCGCCGGGCTCCAGGGAAGGGACTAGAGTGGGTCTCAGCGATTTCTGG
TGATGGTTATCGTACATACTACGCAGACTCCGTGAAAGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGTTGCTCTTCTTTGACTACC
GGGGTCGGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 831)

BMS3h-37-214

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCATCTTTGAGTGGTATGAGATGCAGTGGGTCCGCCGGGCTCCAGGGAAGGGACTAGAGTGGGTCTCAGCGATTTCTGG
TGATGGTTATCGTACATACTACGCAGACTCCGTGAAAGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAAGTTGGAGTATTTTACTACT
GGGGTCGGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 832)

BMS3h-37-215

GAGGTGCGGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGTGGTATGAGATGCAGTGGGTCCGCCGGGCTCCAGGGAAGGGACTAGAGTGGGTCTCAGCGATTTCTGG
TGATGGTTATCGTACATACTACGCAGACTCCGTGAAAGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGTTGCAGTTCTTTGACTACT
GGGGTCGGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 833)

BMS3h-38-1

GAGGTGCAGCTGTTGGGCTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGGAGGAGGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAGTGG
TAGTGGTGGTAGCACATACTACGCAGACTCCGTGAAAGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTTGAAAGAGCCGTTTCGTTTACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 834)

BMS3h-38-2

GAGGTGCAGCTGTTGGCGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGCGCAGCCTCCGGAT
TCACCTTTGAGGAGGAGGAGATGATTTGGGTCCGTAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAGTGG
TAGTGGTGGTAGCACATACTACGCAGACTCCGTGAAAGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCGTTTCGTTATGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 835)

BMS3h-38-3

GAGGTGCAGCTGTTGGCGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGGAGGAGGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGATCTCAGCTATTAGTGG
AAGTGGTGGTAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCGTTTCGTTTTGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 836)

BMS3h-38-4

GAGGTGCAGCTGTTGGATCCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGGGAAGGAGGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCATCTATTAGTGG
TAGTGGTGGTAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAGGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCGTTTCGTTTTGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 837)

BMS3h-38-5

GAGGTGCAGCTGTTGGGGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGGAGGAGGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAGTGG
TAGTGGTGGTAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCGTTTCGTTTTGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 838)

BMS3h-38-6

GAGGTGCAGCTGTTGGAGCCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGGAGGAGGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAGTGG
TAGTGGTGGTAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCTAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTTGCAAAGAGCCGTTTCGTTTTGACTACT
GGGGTCAGGGAGCCCTGGTCACCGTCTCGAGC (SEQ ID NO: 839)

BMS3h-38-7

GAGGTGCAGCTGTTGGATCCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGGGAAGGAGGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCATCTATTAGTGG
TAGTGGTGGTAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGAGCCGTTACGTTTTGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 840)

BMS3h-38-8

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGGAGGAGGAGATGATCTGGGTCCGCCAGGCTCCTGGGAAGGGTCTAGAGTGGATCTCAGCTATTAGTGG
TAGTGGTGGTAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCCACCGCGACAATTCTAAGAACTCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTTGCAAAGAGCCGTTTCGTTTTGACTACA
GGGGTCTGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 841)

BMS3h-38-9

GAGGTGCAGCTGTTGGATCCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGGGAAGGAGGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCATCTATTAGTGG
TAGTGGTGGTAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGAGCCGTTACGTTTTGACTACT
GGGGTCAGGGGACCCTGGTCACCGTCTCGAGC (SEQ ID NO: 842)

BMS3h-38-10

GAGGTGCAGCTGTTGGATTCTGGGGGAGGCTTGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGGAGGAGGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGATCTCAGCTATTAGTGG
TAGTGGTGGTAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGAGCCGTTTCGTTTTGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 843)

BMS3h-38-11

GAGGTGCAGCTGTTGGATCCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGGAGGAGGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGATCTCAGCTATTAGTGG
TAGTGGTGGTAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATCCAATAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAGAGAGCCGTTTCGTTTTGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 844)

BMS3h-38-12

GAGGTGCGCTGTTGGAGTCTGGGGAAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGGAGGAGGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGTCTCAGCTATTAGTGG
TAGTGGTGGTAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCACGCGACAATCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCGTTTCGTTTTGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 845)

BMS3h-38-13

GAGGTGCAGCAGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGAGGAGGAGGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGTCTCAGCTATTAGTGG
TAGTGGTGGTAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCGTTTCGTTTTGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 846)

BMS3h-38-201

GAGGTGCAGCTGTTGGCGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGCGCAGCCTCCGGAT
TCACCTTTGAGGAGGAGGAGATGATTTGGGTCCGTGAGGCTCCAGGGAAGGGTCTAGAGTGGTCTCAGCTATTAGTGG
TAGTGGTGGTAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCGTTCTACTACGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 847)

BMS3h-38-202

GAGGTGCAGCTGTTGGCGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGCGCAGCCTCCGGAT
TCACCTTTGAGGAGGAGGAGATGATTTGGGTCCGTGAGGCTCCAGGGAAGGGTCTAGAGTGGTCTCAGCTATTAGTGG
TAGTGGTGGTAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCGTTCTACTACGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 848)

BMS3h-38-203

GAGGTGCAGCTGTTGGCGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGCGCAGCCTCCGGAT
TCACCTTTGAGGAGAAGGAGATGATTTGGGTCCGTGAGGCTCCAGGGAAGGGTCTAGAGTGGTCTCAGCTATTAGTGG
TAGTGGTGGTAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCGTTCTACTACGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 849)

BMS3h-38-204

GAGGTGCAGCTGTTGGCGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGCGCAGCCTCCGGAT
TCACCTTTCCCCAGGAGGAGATGATTTGGGTCCGTACGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAGTGG
TAGTGGTGGTAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCGTTTCGTTATGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 850)

BMS3h-38-205

GAGGTGCAGCTGTTGGCGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGCGCAGCCTCCGGAT
TCACCTTTTTCGCCGCCGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAGTGG
TAGTGGTGGTAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCGTTTCGTTATGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 851)

BMS3h-38-206

GAGGTGCAGCTGTTGGCGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGCGCAGCCTCCGGAT
TCACCTTTGAGGAGGAGGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAGTAG
GCCCGGTACGAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCGTTTCGTTATGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 852)

BMS3h-38-207

GAGGTGCAGCTGTTGGCGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGCGCAGCCTCCGGAT
TCACCTTTGAGGAGGAGGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAGTCG
GATGGGTTTCAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCGTTTCGTTATGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 853)

BMS3h-38-208

GAGGTGCAGCTGTTGGCGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGCGCAGCCTCCGGAT
TCACCTTTGAGGAGGAGGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAGTCG
GTGGGGTTCAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCGTTTCGTTATGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 854)

BMS3h-38-209

GAGGTGCAGCTGTTGGCGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGCGCAGCCTCCGGAT
TCACCTTTGAGGAGGAGGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAGTCG
CCTCGGTTGAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCGTTTCGTTATGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 855)

BMS3h-38-210

GAGGTGCAGCTGTTGGCGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGCGCAGCCTCCGGAT
TCACCTTTGAGGAGGAGGAGATGATTTGGGTCCGTACGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAGTCG
CTGGGGTGCCAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCGTTTCGTTATGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 856)

BMS3h-38-211

GAGGTGCAGCTGTTGGCGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGCGCAGCCTCCGGAT
TCACCTTTGAGGAGGAGGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAGTAG
GCAGGGTGGGAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGTGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCGTTTCGTTATGACTACT
GGGGTCAGGGAACCTTGGTCACCGTCTCGAGC (SEQ ID NO: 857)

BMS3h-38-212

GAGGTGCAGCTGTTGGCGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGCGCAGCCTCCGGAT
TCACCTTTGAGGAGGAGGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAGTGT
GTCCGGTTGGAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGTGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCGTTTCGTTATGACTACT
GGGGTCAGGGAACCTTGGTCACCGTCTCGAGC (SEQ ID NO: 858)

BMS3h-38-213

GAGGTGCAGCTGTTGGCGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGCGCAGCCTCCGGAT
TCACCTTTGAGGAGGAGGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAGTGT
GTGGGGTTGGAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGTGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCGTTTCGTTATGACTACT
GGGGTCAGGGAACCTTGGTCACCGTCTCGAGC (SEQ ID NO: 859)

BMS3h-38-214

GAGGTGCAGCTGTTGGCGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGCGCAGCCTCCGGAT
TCACCTTTGAGGAGGAGGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAGTGT
GAACGGTTGGAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGTGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCGTTTCGTTATGACTACT
GGGGTCAGGGAACCTTGGTCACCGTCTCGAGC (SEQ ID NO: 860)

BMS3h-38-215

GAGGTGCAGCTGTTGGCGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGCGCAGCCTCCGGAT
TCACCTTTGAGGAGGAGGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAGTGT
GCTGGGTGGAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGTGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCGTTTCGTTATGACTACT
GGGGTCAGGGAACCTTGGTCACCGTCTCGAGC (SEQ ID NO: 861)

BMS3h-38-216

GAGGTGCAGCTGTTGGCGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGCGCAGCCTCCGGAT
TCACCTTTGAGGAGGAGGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAGTGT
GTTGGGTGGAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGTGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCGTTTCGTTATGACTACT
GGGGTCAGGGAACCTTGGTCACCGTCTCGAGC (SEQ ID NO: 862)

BMS3h-38-217

GAGGTGCAGCTGTTGGCGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGCGCAGCCTCCGGAT
TCACCTTTGAGGAGGAGGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAGTGT
CAGGGGTTACAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGTGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCGTTTCGTTATGACTACT
GGGGTCAGGGAACCTTGGTCACCGTCTCGAGC (SEQ ID NO: 863)

BMS3h-38-218

GAGGTGCAGCTGTTGGCGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGCGCAGCCTCCGGAT
TCACCTTTGAGGAGGAGGAGATGATTTGGGTCCGTCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAGTAG
GCACGGTTGGAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCGTTTCGTTATGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 864)

BMS3h-38-219

GAGGTGCAGCTGTTGGCGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGCGCAGCCTCCGGAT
TCACCTTTGAGGAGGAGGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAGTAG
GAGTGGTGGTAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCGTTTCGTTATGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 865)

BMS3h-38-220

GAGGTGCAGCTGTTGGCGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGCGCAGCCTCCGGAT
TCACCTTTGAGGAGGAGGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAGTCG
GATCGGTAAACAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCGTTTCGTTATGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 866)

BMS3h-38-221

GAGGTGCAGCTGTTGGCGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGCGCAGCCTCCGGAT
TCACCTTTGAGGAGGAGGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAGTGG
GCACGGTTGGAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCGTTTCGTTATGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 867)

BMS3h-38-222

GAGGTGCAGCTGTTGGCGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGCGCAGCCTCCGGAT
TCACCTTTGAGGAGGAGGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTTCGAG
GTGGGGTGGTAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCGTTTCGTTATGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 868)

BMS3h-38-223

GAGGTGCAGCTGTTGGCGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGCGCAGCCTCCGGAT
TCACCTTTGAGGAGGAGGAGATGATTTGGGTCCGTCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAGTGG
TAGTGGTGGTAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCGTTTCATGTATGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 869)

BMS3h-38-224

GAGGTGCAGCTGTTGGCGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGCGCAGCCTCCGGAT
TCACCTTTGAGGAGGAGGAGATGATTTGGGTCCGTCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAGTGG
TAGTGGTGGTAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCGTTCCCGTACGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 870)

BMS3h-38-225

GAGGTGCAGCTGTTGGCGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGCGCAGCCTCCGGAT
TCACCTTTGAGGAGGAGGAGATGATTTGGGTCCGTCAAGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAGTGG
TAGTGGTGGTGGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCGTTTCGTTATGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 871)

BMS3h-38-226

GAGGTGCAGCTGTTGGCGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGCGCAGCCTCCGGAT
TCACCTTTGAGGAGGAGGAGATGATTTGGGTCCGTCAAGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAGTGG
TAGTGGTGGTGGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCGTTGTACTATGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 872)

BMS3h-38-227

GAGGTGCAGCTGTTGGCGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGCGCAGCCTCCGGAT
TCACCTTTGAGGAGGAGGAGATGATTTGGGTCCGTCAAGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAGTGG
TAGTGGTGGTAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCCATGTACTATGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 873)

BMS3h-38-228

GAGGTGCAGCTGTTGGCGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGCGCAGCCTCCGGAT
TCACCTTTGAGGAGGAGGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAGTAG
GAACGGTTTCAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCGTTTCGTTATGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 874)

BMS3h-38-229

GAGGTGCAGCTGTTGGCGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGCGCAGCCTCCGGAT
TCACCTTTGAGGAGGAGGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAGTCG
CACGGGTGGGAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCGTTTCGTTATGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 875)

BMS3h-38-230

GAGGTGCAGCTGTTGGCGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGCGCAGCCTCCGGAT
TCACCTTTGAGGAGGAGGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAGTCG
GGAGGGTGGGAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCGTTTCGTTATGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 876)

BMS3h-38-231

GAGGTGCAGCTGTTGGCGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGCGCAGCCTCCGGG
TCCCCCTTTGAGGAGGAGGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAGTCG
GCAGGGTTGGAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCGTTTCGTTATGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 877)

BMS3h-38-232

GAGGTGCAGCTGTTGGCGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGCGCAGCCTCCGGAT
TCACCTTTGAGGAGGAGGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAGTAG
GGGCGGTGGGAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCGTTTCGTTATGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 878)

BMS3h-38-233

GAGGTGCAGCTGTTGGCGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGCGCAGCCTCCGGAT
TCACCTTTGAGGAGGAGGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAGTCG
CACGGGTACAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCGTTTCGTTATGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 879)

BMS3h-38-234

GAGGTGCAGCTGTTGGCGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGCGCAGCCTCCGGAT
TCACCTTTGAGGAGGAGGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAGTAG
GAACGGTAGGAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCGTTTCGTTATGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 880)

BMS3h-38-235

GAGGTGCAGCTGTTGGCGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGCGCAGCCTCCGGAT
TCACCTTTGAGGAGGAGGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAGTAG
GAACGGTTACAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCGTTTCGTTATGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 881)

BMS3h-38-236

GAGGTGCAGCTGTTGGCGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGCGCAGCCTCCGGAT
TCACCTTTGAGGAGGAGGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAGTAG
GAAGGGTAGCAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCGTTTCGTTATGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 882)

BMS3h-38-237

GAGGTGCAGCTGTTGGCGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGCGCAGCCTCCGGAT
TCACCTTTGAGGAGGAGGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAGTCG
GGGCGGTGGGAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCGTTTCGTTATGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 883)

BMS3h-38-238

GAGGTGCAGCTGTTGGCGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGCGCAGCCTCCGGAT
TCACCTTTGAGGAGGAGGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAGTCG
CTCGGGTTACAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCGTTTCGTTATGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 884)

BMS3h-38-239

GAGGTGCAGCTGTTGGCGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGCGCAGCCTCCGGAT
TCACCTTTGAGGAGGAGGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAGTAG
GAACGGTATGAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCGTTTCGTTATGACTACT
GGGGTCAGGGAACCTTGGTCACCGTCTCGAGC (SEQ ID NO: 885)

BMS3h-38-240

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGCGCAGCCTCCGGAT
TCACCTTTGAGGAGGAGGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAGTAG
GAACGGTTACAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCGTTTCGTTATGACTACT
GGGGTCAGGGAACCTTGGTCACCGTCTCGAGC (SEQ ID NO: 886)

BMS3h-41-1

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTACTGAGCATGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTGGAGTGGGTCTCATCTATTTTCGGG
TAATGGTGCTAATACTACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGCCGTTAGGTTTGACTACT
GGGGCCAGGGAACCTTGGTCACCGTCTCGAGC (SEQ ID NO: 887)

BMS3h-41-2

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
CCACCTTTACTGAGTATGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTGGAGTGGATCTCATCTATTTTCGGG
TAATGGTGCTAATACTACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGCCGTTAGGTTTGACTACA
GGGGTCAGGGAACCTTGGTCACCGTCTCGAGC (SEQ ID NO: 888)

BMS3h-41-3

GAGGTGCAGCTGTTGGAGCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTACTGAGTATGAGATGATTTGGGTCCGCAAGGCTCCAGGGAAGGGTATGGAGTGGGTCTCATCTATTTTCGGG
TAATGGTGCTAATACTACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACATGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGCCGTTAGGTTTGCTACT
GGGGTCAGGGTACCCTGGTCACCGTCTCGAGC (SEQ ID NO: 889)

BMS3h-41-4

GAGGTGCAGCTGTTGGATTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCACTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTACTGAGTATGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTGGAGTGGGTCTCATCTATTTTCGGG
TAATGGTGCTAATACTACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTACAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGCCGTTAGGTTTGACTACT
GGGGTCGGGGAACCTTGGTCACCGTCTCGAGC (SEQ ID NO: 890)

BMS3h-41-5

GAGGTGCAGCTGTTGGGGTCAGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTACTGAGTATGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGAGTCTGGAGTGGGTCTCATCTATTTTCGGG
TAATGGTGCTAATACTACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGCCGTTAGGTATGACGACT
GGGGTCAGGGAACCTTGGTCACCGTCTCGAGC (SEQ ID NO: 891)

BMS3h-41-6

GAGGTGCAGCCGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTTCAGCCTCCGGAT
TCACCTTTAATGAGTATGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTGGAGTGGGTCTCATCTATTTTCGGG
TAATGGTGCTAATACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCGAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGCCGCTTAGGTTTGACTACT
GGGGTCAGGGAACCTTGGTCACCGTCTCGAGC (SEQ ID NO: 892)

BMS3h-41-7

GAGGTGCAGCTGTTGGAGTCTGGGGAAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGCTGAGTATGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTGGAGTGGGTCTCATCTATTTTCGGG
TAATGGTGCTAATACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCGAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGCCGCTTAGGTTTGACTACT
GGGGTCAGGGAACCTTGGTCACCGTCTCGAGC (SEQ ID NO: 893)

BMS3h-41-8

GAGGTGCAGCTGTTGGACCCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTACTGAGTCTGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTGGAGTGGGTCTCATCTATTTTCGGG
AAATGGTGCTAATACATACTACGCAGGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCGAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGCCGCTTAGGTTTGACTACT
GGGGTCAGGGAACCTTGGTCACCGTCTCGAGC (SEQ ID NO: 894)

BMS3h-41-9

GAGGTGCAGCTGTTGGAGCCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTACTGAGTATGAGATGATTTGGGTCCGCAAGGCTCCAGGGAAGGGTATGGAGTGGGTCTCATCTATTTTCGGG
TAATGGTGCTAATACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCGAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTCCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGCCGCTTAGGTTTGACGACT
GGGGTCAGGGAACCTTGGTCACCGTCTCGAGC (SEQ ID NO: 895)

BMS3h-41-10

GAGGTGCAGCTGTTGGAGTCTGGGGTAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTACTGAGTATGAGATGATTTGGGTCCGCAAGGCTCCAGGGAAGGGTCTGGAGTGGGTCTCATCTATTTTCGGG
TAATGGTGCTAATACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCGAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGCCGCTTAGGTTTGACAACT
GGGGTCAGGGAACCTTGGTCACCGTCTCGAGC (SEQ ID NO: 896)

BMS3h-41-11

GAGGTGCAGTTGTTGGAGTCTCGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTACTGAGCATGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTGGAGTGGGTCTCATCTATTTTCGGG
TAATGGTGCTAATACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCGAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGCCGCTTAGGTTTGACTACT
GGGGTCAGGGAACCTTGGTCACCGTCTCGAGC (SEQ ID NO: 897)

BMS3h-41-12

GAGGTGCAGCCGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCTGCCTCCGGAT
TCACCTTTACTGAGTATGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTGGAGTGGGTCTCATCTATTTTCGGG
TAATGGTGCTAATACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCGAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGCCGCTTAGGTTTGACTACT
GGGGTCAGGGAACCTTGGTCACCGTCTCGAGC (SEQ ID NO: 898)

BMS3h-41-13

GAGGTGCAGCTGTTGGAGTCTGCGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGCTGAGTATGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTGGAGTGGGTCTCATCAATTTTCGGG
TAATGGTGCTAATACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGCCGCTTAGGTTTGACTACT
GGGGTCAGGGAGCCCTGGTCACCGTCTCGAGC (SEQ ID NO: 899)

BMS3h-41-14

GAGGTGCAGCTGTTGGAGCCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCTGCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTACTGAGTATGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTGGAGTGGGTCTCATCTATTTTCGGG
TAATGGTGCTAATACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGCCGCTTAGGTTTGACAACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 900)

BMS3h-43-1

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCTCTGCGTCTCTCCTGTACAGCCTCCGGAT
TCACCTTTAATATGTATGAGATGTCGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGGTATTAGTAG
ACGTGGTTTTACTACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGAGCCGATTACGTATGATTGA
GGTATGCGCGTTTTGACTACTCGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 901)

BMS3h-43-2

GAGGAGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTACAGCCTCCGGAT
TCACCTTTAATATGTATGAGATGTCGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGGTATTAGTAG
ACGTGGTTTTACTACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGAGCCGATTACGTATGCTACGA
GGTATGCGCGTTTTGACTACTCGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 902)

BMS3h-43-3

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTACAGCCTCCGGAT
TCACCTTTAATATGTATGAGATGTCGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGGTATTAGTAG
GCGTGGTTTTACTACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGAGCCGATTACGTATGATATGA
GGTATGCGCGTTTTGACTACGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 903)

BMS3h-43-4

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTACAGCCTCCGGAT
TCACCTTTAATATGTATGAGATGTCGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGGTATTAGTAG
GCGTGGTTTTACTACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGAGCCGATTACGTATGATATGA
GGTATGCGCGTTTTGACAACTGGGGTCAGGGAACCTGGTCACCGTCTCGAAC (SEQ ID NO: 904)

BMS3h-43-5

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTACAGCCTCCGGAT
TCACCTTTAATACGTATGAGATGTCGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGGTATTGGTAG
GCGTGGTTTTACTACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGAGCCGATTACGTATGATTGA
GGTATGCGCGTTTTGACTACTCGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 905)

BMS3h-43-6

GAGGTGCAGCTGATGGAGTCAGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTACAGCCTCCGGAT
TCTCCTTTAATATGTATGAGATGTCGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGGTATTAGTAG
GCGTGGTTTATACTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGAGCCGATTACGTATGATATGA
GGTATGCGCGTTTTGACTACTGGGGTCGGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 906)

BMS3h-43-7

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTACAGCCTCCGGAT
TCGCCTTTAATATGTATGAGATGTCGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGGTATTAGTAG
GCATGGTTTTACTACGTAACGAGACTCCGTGAAGGGCCGGTTCACCGTCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGAGCCGATTACGTATGATATGA
GGTATGCGCGTTCTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 907)

BMS3h-43-8

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTACAGCCTCCGGAT
TCACCTTTAATATGTATGAGATGTCGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGGTATTAGTAG
GCGTGGTTTTACTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTCTGTGCGAAAGAGCCGATTACGTATGATATGA
GGTATGCGCGTTCTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 908)

BMS3h-43-9

GAGGTGCAGCTGTTGGAGTCTGGGGGGGCTTGGTTCAGCCTGGGGGGTCCCTGCGTCTCTCCTGTACAGCCTCCGGGT
TCACCTTTAATATGTATGAGATGTCGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGGTATTAGTAG
GCGTGGTTTTACTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGAGCCGATTACGTATTCTATGA
GGTATGCGCGTTTTGACTACTCGGGTCTGGGAACCATGGTCACCGTCTCGAGC (SEQ ID NO: 909)

BMS3h-43-10

GAGGTGCAGCTGCTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTTCGTCTCTCCTGTACAGCCTCCGGAT
TCACCTTTAATATGTATGAGATGTCGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGGTATTAGTAG
GCGTGGTTTTACTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGAGCCGATTACGTATGATATGA
GGTATGCGCGTTTTGACTACAGTGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 910)

BMS3h-43-11

GAGGTGCAGCTGTTGGAGTCTGGAGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTACAGCCTCCGGAT
TCACCTTTAATATGTATGAGATGTCGTGGGTCCGCAAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGGTATTAGTAG
GCATGGTTTTACTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGAGCCGATTACGTATGATATGA
GGTATGCGCGTTTTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 911)

BMS3h-43-12

GAGGTGCAGCTGTTTCAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTACAGCCTCCGGAT
TCACCTTTAATATGTATGAGATGTCGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGGTATTAGTAG
GCGTGGTTTTACTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAGGAGCCGATTACGTATGATATGA
GGTATGCGCGTTTTGACTACTGGGGTCGGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 912)

BMS3h-43-13

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGATCCCTGCGTCTCTCCTGTACAGCCTCCGGTT
TCACCTTTAATATGTATGAGATGTCGTGGGTCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGGTATTAGTAG
GCGTGGTTTTACTACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGAGCCGATTACGTATGATATGA
GGTATGCGCGTTTTGACTACTGGGGTCGGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 913)

BMS3h-43-14

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTCGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTACAGCCTCCGGAT
TCTCCTTTAATATGTATGAGATGTCGTGGGTCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGGTATTAGTAG
GCGTGGTTTTACTACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGAGCCGATTACGTATGATATGA
GGTATGCGCGTTTTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGGC (SEQ ID NO: 914)

BMS3h-43-15

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAACCTGGGGGGTCCCTGCGTCTCTCCTGTACAGCCTCCGGAT
TCACCTTTAATATGTATGAGATGTCGTGGGTCGCCAAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGGTATTAGTAG
GCGTGGTTTTACTACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGTGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGAGCCGATTACGTATGATATGA
GGTATGCGCGTTTTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 915)

BMS3h-56-1

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCCGGGATTATGAGATGTGGTGGGTCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGAGGACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 916)

BMS3h-56-2

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCCGGGATTATGAGATGTGGTGGGTCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGACGACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 917)

BMS3h-56-3

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCCGGGATTATGAGATGTGGTGGGTCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTATTTTGAATACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 918)

BMS3h-56-4

GAGGTGCAGCTGTTGGAGTCCGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCCGGGATTATGAGATGTGGTGGGTCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTATGTTTGACGACC
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 919)

BMS3h-56-5

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGATGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGACGACT
GGGGTCAGGGAACCTGGTCAACGTCTCGAGC (SEQ ID NO: 920)

BMS3h-56-6

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCTCCTTTCGGGATTATGAGATGTGGTGGTACC GCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTATTTTGGACAAC
GGGGTCAGGGAACCTGGTCAACGTCTCGAGC (SEQ ID NO: 921)

BMS3h-56-7

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCTCGGTATATCACTGTGCGAAACTTCCGTTTATTTTGGCGACT
GGGGTCCGGGAACCTGGTCAACGTCTCGAGC (SEQ ID NO: 922)

BMS3h-56-8

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGAGGACT
GGGGTCAGGGAACCTGGTCAACGTCTCGAGC (SEQ ID NO: 923)

BMS3h-56-9

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTATCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGATGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACTGCGGTATATTACTGTGCGAAACTTCCGTTTATGTTTGACGACC
GGGGTCAGGGAACCTGGTCAACGTCTCGAGC (SEQ ID NO: 924)

BMS3h-56-10

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACATGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACTGCGGTATATTACTGTGCGAAACTTCCGTTTATGTTTGACGACC
GGGGTCAGGGAACCTGGTCAACGTCTCGAGC (SEQ ID NO: 925)

BMS3h-56-11

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGAGCCGAGGATACTGCGGTATATTACTGTGCGAAACTTCCGTTTATGTTTGACGACC
GGGGTCAGGGAACCTGGTCAACGTCTCGAGC (SEQ ID NO: 926)

BMS3h-56-12

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGATACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTTTGAAACTTCCGTTTATTTTCGACTACT
GGGGTCAGGGAACCTGGTCAACGTCTCGAGC (SEQ ID NO: 927)

BMS3h-56-13

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGATACAGCCTGGGGGGTCCCTGCGTCTATCCTGTGCAGCCTCCGGAT
TCACCTTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTATGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGATGATACCGCGGTATATCACTGTACGAAACTTCCGTTTATTTTGACTACT
GGGGTCAGGGAACCTGGTCAACGTCTCGAGC (SEQ ID NO: 928)

BMS3h-56-14

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGATACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATCCAAGAACACGCTA
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTATTTTGACTCCA
GGGGTCAGGGAACCTGGTCAACGTCTCGAGC (SEQ ID NO: 929)

BMS3h-56-15

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGATACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGAGGACT
GGGGTCAGGGAACCTGGTCAACGTCTCGAGC (SEQ ID NO: 930)

BMS3h-56-16

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGATACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGATGGGCCGGTTACCATCTCCCGCGACAATCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGAGGACT
GGGGTCAGGGAACCTGGTCAACGTCTCGAGC (SEQ ID NO: 931)

BMS3h-56-17

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGATACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCTCCTTTTCGGGATTATGAGATGTGGTGGTACCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGAGGACT
GGGGTCAGGGAACCTGGTCAACGTCTCGAGC (SEQ ID NO: 932)

BMS3h-56-18

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGATACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATCCAAGAACATGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGAGGACT
GGGGTCAGGGAACCTGGTCAACGTCTCGAGC (SEQ ID NO: 933)

BMS3h-56-19

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATCACTGTGCGAAACTTCCGTTTACTTTTGAGGACT
GGGGTCAGGGAACCTGCTACCGTCTCGAGC (SEQ ID NO: 934)

BMS3h-56-20

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATCACTGTACGAAACTTCCGTTTACTTTTGAGGACT
GGGGTCAGGGAACCTGCTACCGTCTCGAGC (SEQ ID NO: 935)

BMS3h-56-21

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATCACTGTTGAAACTTCCGTTTACTTTTGAGGACT
GGGGTCAGGGAACCTGCTACCGTCTCGAGC (SEQ ID NO: 936)

BMS3h-56-22

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTATCCTGTGCAGCCTCCGGAT
TCACCTTTCCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTATGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATCACTGTACGAAACTTCCGTTTATTTTGAACTACT
GGGGTCAGGGAACCTGCTACCGTCTCGAGC (SEQ ID NO: 937)

BMS3h-56-23

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGATGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATCACTGTGCGAAAGAACCTTATAGTTTGTACTCCT
GGGGTCAGGGAACCTGCTACCGTCTCGAGC (SEQ ID NO: 938)

BMS3h-56-24

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGATGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATCACTGTGCGAAAGAACCTTATAGTTATGACTACT
GGGGTCAGGGAACCTGCTACCGTCTCGAGC (SEQ ID NO: 939)

BMS3h-56-25

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGATGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATCACTGTGCGAAACTTCCGTTTACTTTTGACGACT
GGGGTCAGGGAACCTGCTACCGTCTCGAGC (SEQ ID NO: 940)

BMS3h-56-26

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTATCCTGTGCAGCCTCCGGAT
TCACCTTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGATGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACTGCGGTATATTACTGTGCGAAACTTCCGTTTATGTTTGACGACC
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 941)

BMS3h-56-27

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTATCCTGTGCAGCCTCCGGAT
TCACCTTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGATGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACTGCGGTATATTACTGTGCGAAACTTCCGTTTATGTTTGACGACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 942)

BMS3h-56-28

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCGGGATTATGAGTGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGATGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACTGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGACGACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 943)

BMS3h-56-29

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCGGGATTATGAGTGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGATGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACTGCGGTATATTACTGTGCGAAACTTCCGTTTATGTTTGACGACC
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 944)

BMS3h-56-30

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCGGGATTATGAGATGTGGTGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGATGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACTGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGACGACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 945)

BMS3h-56-31

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCGGGATTATGAGATGTGGTGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGATGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACTGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGACGACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 946)

BMS3h-56-32

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCGGGATTATGAGATGTGGTGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGATGGGCCGGTTCACCATCTCCCGCACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACTGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGACGACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 947)

BMS3h-56-33

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTATCCTGTGCAGCCTCCGGAT
TCACCTTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGATGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACTGCGGTATATTACTGTGCGAAACTTCCGTTTATGTTTGACGACC
GGGGTCAGGGAACCCTGGTCACCGTCTCGAGC (SEQ ID NO: 948)

BMS3h-56-202

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACTTCCGACCTACTTTTCCGACC
GGGGTCAGGGAACCCTGGTCACCGTCTCGAGC (SEQ ID NO: 949)

BMS3h-56-203

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACTTCCGTTTCTTTGAGGAGT
GGGGTCAGGGAACCCTGGTCACCGTCTCGAGC (SEQ ID NO: 950)

BMS3h-56-204

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACTTCCGACGTACTTTAAGGACT
GGGGTCAGGGAACCCTGGTCACCGTCTCGAGC (SEQ ID NO: 951)

BMS3h-56-205

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTCCGAGT
GGGGTCAGGGAACCCTGGTCACCGTCTCGAGC (SEQ ID NO: 952)

BMS3h-56-206

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATCACTGTGCGAAACTTCCGATGTTCTTTGAGGACT
GGGGTCAGGGAACCCTGGTCACCGTCTCGAAC (SEQ ID NO: 953)

BMS3h-56-207

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACTTCCGTTTCCGTTTCCGAGT
GGGGTCAGGGAACCCTGGTCACCGTCTCGAGC (SEQ ID NO: 954)

BMS3h-56-208

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGGACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTCCGAGT
GGGGTCAGGGAACCTGGTCAACGTCTCGAGC (SEQ ID NO: 955)

BMS3h-56-209

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GTACGGTAACCTCACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGAGGACT
GGGGTCAGGGAACCTGGTCAACGTCTCGAGC (SEQ ID NO: 956)

BMS3h-56-210

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCCCCGTACCTTGACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGAGGACT
GGGGTCAGGGAACCTGGTCAACGTCTCGAGC (SEQ ID NO: 957)

BMS3h-56-211

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GTGGGGTGGCTTGACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGAGGACT
GGGGTCAGGGAACCTGGTCAACGTCTCGAGC (SEQ ID NO: 958)

BMS3h-56-212

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GATGGGTGGGTTCACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGAGGACT
GGGGTCAGGGAACCTGGTCAACGTCTCGAGC (SEQ ID NO: 959)

BMS3h-56-213

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GTGGGGTTCGCACACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGAGGACT
GGGGTCAGGGAACCTGGTCAACGTCTCGAGC (SEQ ID NO: 960)

BMS3h-56-214

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GTCCGGTGGGCTGACATACTACGCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGAGGACT
GGGGTCAGGGAACCTGGTCAACGTCTCGAGC (SEQ ID NO: 961)

BMS3h-56-215

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCACGGTTCGTTGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGACGACT
GGGGTCAGGGAACCTGCTACCGTCTCGAGC (SEQ ID NO: 962)

BMS3h-56-216

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GGCCGGTCGGTTGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGAGGACT
GGGGTCAGGGAACCTGCTACCGTCTCGAGC (SEQ ID NO: 963)

BMS3h-56-217

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GTGGGGTAGCTTGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGAGGACT
GGGGTCAGGGAACCTGCTACCGTCTCGAGC (SEQ ID NO: 964)

BMS3h-56-218

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGACGACT
GGGGTCAGGGAACCTGCTACCGTCTCGAGC (SEQ ID NO: 965)

BMS3h-56-219

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGACTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGAGGACT
GGGGTCAGGGAACCTGCTACCGTCTCGAGC (SEQ ID NO: 966)

BMS3h-56-220

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GTACGGTGGGCTGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGACGACT
GGGGTCAGGGAACCTGCTACCGTCTCGAGC (SEQ ID NO: 967)

BMS3h-56-221

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GTGGGGTAACCACACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGAGGACT
GGGGTCAGGGAACCTGCTACCGTCTCGAGC (SEQ ID NO: 968)

BMS3h-56-222

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCACGGTGGCTACACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGAGGACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 969)

BMS3h-56-223

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GTCCGGTGGCTACACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGAGGACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 970)

BMS3h-56-224

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GTCCGGTGGCTACACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGAGGACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 971)

BMS3h-56-225

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GTCCGGTGGCTACACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGAGGACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 972)

BMS3h-56-226

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GTCCGGTGGGTGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGAGGACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 973)

BMS3h-56-227

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GTCCGGTGGGTGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGAGGACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 974)

BMS3h-56-228

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GTCCGGTACGCTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGAGGACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 975)

BMS3h-56-229

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GTACGGTTCGTTGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGACGACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 976)

BMS3h-56-230

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GTGGGGTGGCTACACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGAGGACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 977)

BMS3h-56-231

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTGGGCTGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGAGGACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 978)

BMS3h-56-232

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GTGGGGTTCACACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGACGACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 979)

BMS3h-56-233

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GTGGGGTACCTTGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAGGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGACGACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 980)

BMS3h-56-234

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GAACGGTCCGCTGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGCGGACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 981)

BMS3h-56-235

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GTGGGGTCAGCTGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGACGACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 982)

BMS3h-56-236

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCACGGTGGCTTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGACGACT
GGGGTCAGGGAACCTTGGTCACCGTCTCGAGC (SEQ ID NO: 983)

BMS3h-56-237

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTGGAGCGGGTCTCAGCTATTAATCC
GGCAGGTATGTTGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGACGACT
GGGGTCAGGGAACCTTGGTCACCGTCTCGAGC (SEQ ID NO: 984)

BMS3h-56-238

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCACGGTACCTTGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGAGGACT
GGGGTCAGGGAACCTTGGTCACCGTCTCGAGC (SEQ ID NO: 985)

BMS3h-56-239

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GTGGGGTTCGTTGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGAGGACT
GGGGTCAGGGAACCTTGGTCACCGTCTCGAGC (SEQ ID NO: 986)

BMS3h-56-240

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GTACGGTGGCCTGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGAGGACT
GGGGTCAGGGAACCTTGGTCACCGTCTCGAGC (SEQ ID NO: 987)

BMS3h-56-241

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCGGGATTACGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GGCCGGTTTCTTGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGAGGACT
GGGGTCAGGGAACCTTGGTCACCGTCTCGAGC (SEQ ID NO: 988)

BMS3h-56-242

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTGGAGCGGGTCTCAGCTATTAATCC
GTACGGTGGCCTGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGAGGACT
GGGGTCAGGGAACCTTGGTCACCGTCTCGAGC (SEQ ID NO: 989)

BMS3h-56-243

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GTGGGGTGGGTTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGAGGACT
GGGGTCAGGGAACCTTGGTCACCGTCTCGAGC (SEQ ID NO: 990)

BMS3h-56-244

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GTGGGGTGGGTTGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGAGGACT
GGGGTCAGGGAACCTTGGTCACCGTCTCGAGC (SEQ ID NO: 991)

BMS3h-56-245

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GTACGGTGGGCTGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGAGGACT
GGGGTCAGGGAACCTTGGTCACCGTCTCGAGC (SEQ ID NO: 992)

BMS3h-56-246

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GTGGGGTACGTTGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGAGGACT
GGGGTCAGGGAACCTTGGTCACCGTCTCGAGC (SEQ ID NO: 993)

BMS3h-56-247

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GTGGGGTGGCTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGAGGACT
GGGGTCGGGGAACCTTGGTCACCGTCTCGAGC (SEQ ID NO: 994)

BMS3h-56-248

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GTACGGTAACCTGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGAGGACT
GGGGTCAGGGAACCTTGGTCACCGTCTCGAGC (SEQ ID NO: 995)

BMS3h-56-249

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCACGGTGGGTTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGAGGACT
GGGGTCAGGGAACCTTGGTCACCGTCTCGAGC (SEQ ID NO: 996)

BMS3h-56-250

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GGCCGGTTCACACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGACGACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 997)

BMS3h-56-251

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GGCCGGTTCACACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGACGACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 998)

BMS3h-56-252

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCGCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCACGGTTCCTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGAGGACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 999)

BMS3h-56-253

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGTGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GGCCGGTGGGTACACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTACTTTTGAGGACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 1000)

BMS3h-56-254

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACTTCCGTTTGGTTTACGGAGT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 1001)

BMS3h-56-255

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTGGTTTACGGAGT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 1002)

BMS3h-56-256

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACTTCCGTTTGGTTTACGGAGT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 1003)

BMS3h-56-257

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACTTCCGACGCGGTTTGAGGACT
GGGGTCAGGGAACCTTGGTCACCGTCTCGAGC (SEQ ID NO: 1004)

BMS3h-56-258

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACTTCCGTTTTACTTTCACGAGT
GGGGTCAGGGAACCTTGGTCACCGTCTCGAGC (SEQ ID NO: 1005)

BMS3h-56-259

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCGTTTCGTTATGACTACT
GGGGTCAGGGAACCTTGGTCACCGTCTCGAGC (SEQ ID NO: 1006)

BMS3h-56-260

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACTTCCGACGTTCTTTAAGGACT
GGGGTCAGGGAACCTTGGTCACCGTCTCGAGC (SEQ ID NO: 1007)

BMS3h-56-261

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACAGCTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTTCTTTAGGAGT
GGGGTCAGGGAACCTTGGTCACCGTCTCGAGC (SEQ ID NO: 1008)

BMS3h-56-262

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACTTCCGAGTTGTTTCACGACC
GGGGTCAGGGAACCTTGGTCACCGTCTCGAGC (SEQ ID NO: 1009)

BMS3h-56-263

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACTTCCGACGCTCTTTGAGGACT
GGGGTCAGGGAACCTTGGTCACCGTCTCGAGC (SEQ ID NO: 1010)

BMS3h-56-264

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATCACTGTGCGAACTTCCGTTTGGGTTTTCCGAGT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 1011)

BMS3h-56-265

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAACTTCCGCAAGTTGTTTCAGGACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 1012)

BMS3h-56-266

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAACTTCCGTTTTCTTTACAGAGT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 1013)

BMS3h-56-267

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAACTTCCGCACTACTTTAAGGACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 1014)

BMS3h-56-268

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGTCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAACTTCCGTTTTACTTTGAGGAGT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 1015)

BMS3h-56-269

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAACTTCCGTTTAGGTTTTCCGACC
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 1016)

BMS3h-56-270

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAACTTCCGACGCTGTTTCAGGACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 1017)

BMS3h-56-271

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACTTCCGTTTTACTTTCCGAGT
GGGGTCAGGGAACCTGGTCACCGTCTCGAAC (SEQ ID NO: 1018)

BMS3h-56-272

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACTTCCGTTTTGGTTTCAGGAGT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 1019)

BMS3h-56-273

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GTGGGGTTCGTTGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACTTCCGTTTTACTTTTCAGGAGT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 1020)

BMS3h-56-274

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GTGGGGTTCGTTGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGATGTTCTTTGAGGACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAAC (SEQ ID NO: 1021)

BMS3h-56-275

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GTGGGGTTCGTTGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACTTCCGTTTTACTTTTCAGGAGT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 1022)

BMS3h-56-276

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GTGGGGTTCGTTGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACTTCCGTTTTCTTTTCAGGAGT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 1023)

BMS3h-56-277

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GTGGGGTTCGTTGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACTTCCGTTTTCTTTTCAGGAGT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 1024)

BMS3h-56-278

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GTGGGGTGGGTTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTTACTTTTCAGGAGT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 1025)

BMS3h-56-279

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GTGGGGTGGGTTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGATGTTCTTTGAGGACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAAC (SEQ ID NO: 1026)

BMS3h-56-280

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GTGGGGTGGGTTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACTTCCGTTTTACTTTTCAGGAGT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 1027)

BMS3h-56-281

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GTGGGGTGGGTTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACTTCCGTTTTCTTTTCAGGAGT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 1028)

BMS3h-56-282

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GTGGGGTGGGTTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTTCTTTTCAGGAGT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 1029)

BMS3h-56-283

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GTGGGGTGGGTTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTTACTTTTCAGGAGT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 1030)

BMS3h-56-284

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GTGGGGTGGGTTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGATGTTCTTTGAGGACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAAC (SEQ ID NO: 1031)

BMS3h-56-285

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GTGGGGTGGGTTGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACTTCCGTTTTACTTTCACGAGT
GGGGTCAGGGAACCTGCTACCGTCTCGAGC (SEQ ID NO: 1032)

BMS3h-56-286

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GTGGGGTGGGTTGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTTCTTTCAGGAGT
GGGGTCAGGGAACCTGCTACCGTCTCGAGC (SEQ ID NO: 1033)

BMS3h-56-287

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GTGGGGTGGGTTGACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAACTTCCGTTTTCTTTCACGAGT
GGGGTCAGGGAACCTGCTACCGTCTCGAGC (SEQ ID NO: 1034)

BMS3h-56-288

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCC
GCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACTTCCGATGTTCTTTGAGGACT
GGGGTCAGGGAACCTGCTACCGTCTCCAGC (SEQ ID NO: 1035)

BMS3h-106-1

GAGGTGCAGCTGTTGGAGACTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCGACTTATCATATGCAGTGGGTCCGCCAGGCTCCAGGGAAGGGCTGGAGTGGGTCTCAATGATTGATGC
GGATGGTCTTGGGACATACTACGCAGACCCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAGACCGGGTCCGAGTTTGGTCAGT
TTGACTACTTGGGTGAGGGAACCTGGTACCGTCTCGAGC (SEQ ID NO: 1036)

BMS3h-106-2

GAGGTGCAGCTGTTTGGAGTCTGGGGGAGGCTTGGTACAGACTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTTCGACTTATCATATGCAGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTGGAGTGGGTCTCAATGATTGATGC
GGATGGTCTTGGGAAATACTACGCAGACCCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGTGAAACCGGGTCCGAGTTTGGTCAGT
ATGACTACTGGGGTCAGGGAACCTGGTACCGTCTCGAGC (SEQ ID NO: 1037)

BMS3h-107-1

GAGGTGCAGCTGTTGGAGTCAAGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGGCTCTCCTGTTGAGCTTCCGGAT
TCACCTTTTCGGGGTATGATATGCAGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAACGATTAGTGC
GTCGGGTGTTTATACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAATATCCTAATCGTTTTCGCGTTA
ATAGTTTTGACTACAGGGGTGGGGAACCTGGTACCGTCTCGAGC (SEQ ID NO: 1038)

BMS3h-107-2

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCTTCCGGAT
TCACCTTTTCGGGGTATGATATGCAGTGGGTCCGCCAGGCTCCAGGGAGGGGTCTAGAGTGGGTCTCAACGATTAGTGC
GTCGGGTGTTTATACATACTACACAGACTCCGTGAAGGGCCGGTTACCACCTCCCGGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTACGAAATATCCAAATCGTTTTGCGCGTA
ATAATTTTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 1039)

BMS3h-131-1

GACATCCTGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAATA
GTTCTATTTTGTGGGCGTTAGCTTGGTACCAGCAGAAACCAGGGAAAGCCCTAAGCTCCTGATCGAGAGTTCTTCCGG
TTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTGTTGAGAATGCGGTTTGGCTGGTACGTTACGCCAAGGGACCAAGGTGGAAA
TCAAACGG (SEQ ID NO: 1040)

BMS3h-131-2

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCGAGACA
GTTCTATTTTGTGGGCGTTAGCTTGGTACCAGCAGAAACCAGGGAAAGCCCTAAGCTCCTGATCGAGAGTTCTTCCGG
TTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTGTTGAGAATGCGGTTTGGCTGGTACGTTACGCCAAGGGACCAAGGTGGAAA
TCAAACGG (SEQ ID NO: 1041)

BMS3h-131-3

GACATCCAGATGACCGTGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCGAGATA
GTTCTATTTTGTGGGCGTTAGCTTGGTACCAGCAGAAACCAGGGAAAGCCCTAAGCTCCTGATCGAGAGTTCTTCCGG
ATTGCAAAGCGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTGTTGAGAATGCGGTTTGGCTGGTACGTTACGCCAAGGGACCAAGGTGGAAA
TCAAACGG (SEQ ID NO: 1042)

BMS3h-131-4

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAATA
GTTCTATTTTGTGGGCGTTAGCTTGGTACCAGCAGAAACCAGGGAAAGCCCTAAGCTCCTGATCGAGAGTTCTTCCGG
TTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTGTTGAGAATGCGGTTTGGCTGGTACGTTACGCCAAGGGACCAAGGTGGAAA
TCAAACGG (SEQ ID NO: 1043)

BMS3h-131-5

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAATA
GTTCTATTTTGTGGGCGTTAGCTTGGTACCAGCAGAAACCAGGGAAAGCCCTAAGCTCCTGATCGAGAGTTCTACCGG
TTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTGTTGAGAATGCGGTTTGGCTGGTACGTTACGCCAAGGGACCAAGGTGGAAA
TCAAACGG (SEQ ID NO: 1044)

BMS3h-131-6

GACATCCAGATGACCGTGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAATA
GTTCTATTTTGTGGGCGTTAGCTTGGTACCAGCAGAAACCAGGGAAAGCCCTAAGCTCCTGATCGAGAGTTCTTCCGG
ATTGCAAAGCGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTGTTGAGAATGCGGTTTGGCTGGTACGTTACGCCAAGGGACCAAGGTGGAAA
TCAAACGG (SEQ ID NO: 1045)

BMS3h-131-7

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAGATA
GTTCTATTTTGTGGGCGTTAGCTTGGTACCAGCAGAAACCAGGGAAAGCCCTAAGCTCCTGATCGAGAGTTCTTCCGG
TTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGTACGTACTACTGTGTTTCAAGATGCGGTTTGGCCTGGTACGTTTCGACCAAGGGACCAAGGTGGAAA
TCAAACGG (SEQ ID NO: 1046)

BMS3h-131-8

GACATCCAGATGACCCAGTCTCCATCCTCACTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAATA
GTTCTATTTTGTGGGCGTTAGCTTGGTACCAGCAGAAACCAGGGAAAGCCCTAAGCTCCTGATCGAGAGTTCTTCCGG
TCTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGTACGTACTACTGTGTTTCAAGATGCGGTTTGGCCTGGTACGTTTCGGCCAAGGGACCAAGGTGGAAA
TCAAACGG (SEQ ID NO: 1047)

BMS3h-131-9

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCGAATA
GTTCTATATTGTGGGCGTTGGCTTGGTACCAGCAGAAACCAGGGAAAGCCCTAAGCTCCTGATCGAGAGTTCTTCCGG
TTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGTACGTACTACTGTGTTTCAAGATGCGGTTTGGCCTGGTACGTTTCGGCCAAGGGACCAAGGTGGAAA
ACAAACGG (SEQ ID NO: 1048)

BMS3h-131-10

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAATA
GTTCTATTCTGTGGGCGTTAGCTTGGTACCAGCAGAAACCAGGGAAAGCCCTAAGCTCCTGATCGAGAGTTCTTCCGG
TTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCCAGAGATTTTGTACGTACTACTGTGTTTCAAGATGCGGTTTGGCCTGGTACGTTTCGGCCAAGGGACCAAGGTGGAAA
TCAAACGG (SEQ ID NO: 1049)

BMS3h-131-11

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCTTCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAATA
GTTCTATTTTGTGGGCGTTAGCTTGGTACCAGCAGAAACCAGGGAAAGCCCTAAGCTCCTGATCGAGAGTTCTTCCGG
TTTGCAAAGTGGGATCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGTACGTACTACTGTGTTTCAAGATGCGGTTTGGCCTGGTACGTTTCGGCCAAGGGACCAAGGTGGAAA
TCAAACGG (SEQ ID NO: 1050)

BMS3h-131-12

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTTGGAGACCGTGTACCATCACTTGCCGGGCAAATA
GTTCTATTTTGTGGGCGTTAGCTTGGTACCAGCAGAAACCAGGGAAAGCCCTAAGCTCCTGATCGAGAGTTCTTCCGG
ATTGCAAAGCGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGTACGTACTACTGTGTTTCAAGATGCGGTTTGGCCTGGTACGTTTCGGCCAAGGGACCAAGGTGGAAA
TCAAACGG (SEQ ID NO: 1051)

BMS3h-131-13

GACATCCTGTTGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAATA
GTTCTATTTTGTGGGCGTTAGCTTGGTACCAGCAGAAACCAGGGAAAGCCCTAAGCTCCTGATCGAGAGTTCTTCCGG
TTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGTACGTACTACTGTGTTTCAAGATGCGGTTTGGCCTGGTACGTTTCGGCCAAGGGACCAAGGTGGAAA
TCAAACGG (SEQ ID NO: 1052)

BMS3h-131-14

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAATA
GTTCTATTTTGTGGGCGTTAGCTTGGTACCAGCAGAAACCAGGGAAAGCCCTAAGCTCCTGATCGAGAGTTCTTCCGG
TTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGAAAGTGGAACTGGGACAGATTTCACTCTCACCATCAGCGGTCTGCAA
CCTGAAGATTTTGTACGTACTACTGTGTTTCAAGATGCGGTTTGGCTGGTACGTTTGACCAAGGGACCAAGGTGGAAA
TCAAACGG (SEQ ID NO: 1053)

BMS3h-131-15

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCCCTTGCCGGGCAAATA
GTTCTATTTTGTGGGCGTTAGCTTGGTACCAGCAGAAACCAGGGAAAGCCCTAAGCTCCTGATCGAGAGTTCTTCCGG
TTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGTACGTACTACTGTGTTTCAAGATGCGGTTTGGCTGGTACGTTTGCCCAAGGGACCAAGGTGGAGA
TCAAACGG (SEQ ID NO: 1054)

BMS3h-193-1

GACATCCAGATGGCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
AGACGATTGAGCGTCGTTTAAATTGGTATCAGCAGAAACCAGGGAAAGCCCTAAGCTCCTGATCTATCTTGCTTCCCG
TTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGTACGTACTACTGTATGCGAGTCCACCTTTGACGTTAGGCCAAGGGACCAAGGTGGAAA
TCAAACGG (SEQ ID NO: 1055)

BMS3h-193-2

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACAGTGTACCATCACTTGCCGGGCAAGTC
AGACGATTGAGCGTCGTTTAAATTGGTATCAGCAGAAACCAGGGAAAGCCCTAAGCTCCTGATCTATCTTGCTTCCCG
TTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGTACGTACTACTGCCATCAGTATGCGAGTCCACCTTTGACGTTTGCCCAAGGGACCAAGGTGGAAA
TCAAACGG (SEQ ID NO: 1056)

BMS3h-193-3

GACATCCAGATGACCCAGTCTCCATCCTCCCTATCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
AGACGATTGAGCGTCGTTTAAATTGGTATCAGCAGAAACCAGGGAAAGCCCTAAGCTCCTGATCTATCTTGCTTCCCG
TTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGTGCGTACTACTGTATCAGTACGAGATCCACCTTTGACGTTTGCCCAAGGGACCAAGGTGGAAA
TCAAACGG (SEQ ID NO: 1057)

BMS3h-193-4

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
GGACGATTGAGCGTCGTTTAAATTGGTATCAGCAGAAACCAGGGAAAGCCCTAAGCTCCTGATCTATCTTGCTTCCCG
TTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGTGCGTACTACTGTATCAGTACGAGATCCACCTTTGACGTTTGCCCAAGGGACCAAGGTGGAAA
TCAAACGG (SEQ ID NO: 1058)

BMS3h-193-5

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGAACGTGTACCATCACTTGCCGGGCAAGTC
AGACGATTGAGCGTCGTTTAAATTGGTATCAGCAGAAACCAGGGAAAGCCCTAAGCTCCTGATCTATCTTGCTTCCCG
TTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAATCTGCAA
CCTGAAGATTTGCTACGTACTACTGTATCAGTATGCGAGTCCACCTTTGACGTTAGGCCAAGGGACCAAGGTGGAAA
TCAAACGG (SEQ ID NO: 1059)

BMS3h-193-6

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGCC
AGACGATTGAGCGTCGTTTAAATTGGTATCAGCAGAAACCAGGGAAAGCCCCCTAAGCTCCTGATCTATCTTGCTTCCCG
TTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTATCAGTATGCGAGTCCACCTTTGACGTTAGGCCAAGGGACCAAAGTGGAAA
TCAAACGG (SEQ ID NO: 1060)

BMS3h-193-7

GACATCCAGATAACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
AGACGATTGAGCGTCGTTTAAATTGGTATCAGCAGAAACCAGGGAAAGCCCCCTAAGCTCCTGATCTATCTTGCTTCCCG
TTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTATCAGTATGAGAGTCCCTCTTTGACGTTGCGCCAAGGGACCAAAGTGGAAA
TCAAACGG (SEQ ID NO: 1061)

BMS3h-193-8

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
AGACGATTGAGCGTCGTTTAAATTGGTATCAGCAGAAACCAGGGAAAGCCCCCTAAGCTCCTGATCTATCTTGCTTCCCG
TTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTATCAGTATGAGAGTCCACCTTTGACGTTGCGCCAAGGGACCAAAGTGGAAA
TCAAATGG (SEQ ID NO: 1062)

BMS3h-193-9

GACATCCAGTTGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGAGTACCATCACTTGCCGGGCAAGTC
AGACGATTGAGCGTCGTTTAAATTGGTATCAGCAGAAACCAGGGAAAGCCCCCTAAGCTCCTGATCTATCTTGCTTCCCG
TTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGAAATTCACCTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTATCAGTATGAGAGTCCACCTTTGACGTTGCGCCAAGGGACCAAAGTGGAAA
TCAAACGG (SEQ ID NO: 1063)

BMS3h-193-10

GACATCCAGATGTCAGTCTCCATCCACCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
AGACGATTGAGCGTCGTTTAAATTGGTATCAGCAGAAACCAGGGAAAGCCCCCTAAGCTCCTGATCTATCTTGCTTCCCG
CTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTATCAGTATGAGAGTCCACCTTTGATGTTGCGCCAAGGGACCAAAGTGGAAA
TCAAACGG (SEQ ID NO: 1064)

BMS3h-193-11

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
AGACGATTGAGCGTCGTTTAAATTGGTATCAGCAGAAACCAGGGAAAGCCCCCTAAGCTCCTGATCTATCTTGCTTCCCG
TTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCAGAAGATTTTGCTACGTACTACTGTATCAGTATGAGAGTCCACCTTTGACGTTGCGCCAAGGGACCAAAGTGGAAA
TCAAACGG (SEQ ID NO: 1065)

BMS3h-193-12

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCCGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
AGACGATTGAGCGTCGTTTAAATTGGTATCAGCAGAAACCAGGGAAAGCCCCCTAAGCTCCTGATCTATCTTGCTTCCCG
TTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTATCAGTATGAGAGTCCACCTTTGACGTTGCGCCAAGGGACCAAAGTGGAAA
TCAAACGG (SEQ ID NO: 1066)

BMS3h-193-13

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTTTGCATCTGTAGGGGACCGTGTACCATCACTTGCCGGGCAAGTC
AGACGATTGAGCGTCGTTTAAATTGGTATCAGCAGAAACCAGGGAAAGCCCTAAGCTCCTGATCTATCTTGCTTCCCG
TTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTATCAGTATGAGAGTCCACCTTTGACGTTTCGGCCAAGGGACCAAAGTGAAAA
TCAAACGG (SEQ ID NO: 1067)

BMS3h-193-14

GACATCCAGATGACCCAGTATCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
AGTCGATTGAGCGTCGTTTAAATTGGTATCAGCAGAAACCAGGGAAAGCCCTAAGCTCCTGATCTATCTTGCTTCCCG
TTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTATCAGTATGAGAGTCCACCTTTGACGTTTCGGCCAAGGGACTAAAGTGAAAA
TCAAACGG (SEQ ID NO: 1068)

BMS3h-193-15

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
GGACGATTGAGCGTCGTTTAAATTGGTATCAGCAGAAACCAGGGAAAGCCCTAAGCTCCTGATCTATCTTGCTTCCCG
TTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTATCAGTATGAGAGTCCACCTTTGACGTTTCGGCCAAGGGACCAAAGTGAAAA
TCAAACGG (SEQ ID NO: 1069)

BMS3h-193-16

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
AGGCGATTGAGCGTCGTTTAAATTGGTATCAGCAGAAACCAGGGAAAGCCCTAAGCTCCTGATCTATCTTGCTTCCCG
TTTGCAAAGTGGGGTCCCATCTCGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCAGAAGATTTTGCTACGTACTACTGTATCAGTATGCGAGTCCACCTTTGACGCTCGGCCAAGGGACCAAAGTGAAAA
TCAAACGG (SEQ ID NO: 1070)

BMS3h-193-17

AACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
AGGCGATTGAGCGTCGTTTAAATTGGTATCAGCAGAAACCAGGGAAAGCCCTAAGCTCCTGATCTATCTTGCTTCCCG
TTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTATCAGTATGAGAGTCCACCTTTGACGTTTCGGCCAAGGGACCAAAGTGAAAA
TCAAACGG (SEQ ID NO: 1071)

BMS3h-193-18

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
AGACGATTGGGCGTCGTTTAAATTGGTATCAGCAGAAACCAGGGAAAGCCCTAAGCTCCTGATCTATCTTGCTTCCCG
TTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGTGAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTATCAGTATGAGAGTCCACCTTTGACGTTTCGGCCAAGGGACCAAAGTGAAAA
TCAAACGG (SEQ ID NO: 1072)

BMS3h-193-19

GACATCCAGATGACCCAGTCTCCATCCTCCCTTTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGAGCAAGTC
AGACGATTGAGCGTCGTTTAAATTGGTATCAGCAGAAACCAGGGAAAGCCCTAAGCTCCTGATCTATCTTGCTTCCCG
TTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGAATTTACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTATCAGTATGAGAGTCCACCTTTGACGTTTCGGCCAAGGGACCAAAGTGAAAA
TCAAACGG (SEQ ID NO: 1073)

BMS3h-193-20

GACATCCAGATGACCCAGACTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
AGACGATTGAGCGTCGTTTAAATTGGTATCAGCAGAAACCAGGGGAAGCCCCCTAAGCTCCTGATCTATCTTGCTTCCCG
TTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCCACGTACTACTGTATCAGTATGAGAGTCCACCTTTGACGTTTCGGCCAAGGGACCAAAGTGAAAA
TCAAACGG (SEQ ID NO: 1074)

BMS3h-193-21

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACAGTGTACCATCACTTGCCGGGCAAGTC
AGACGATTGAGCGTCGTTTAAATTGGTATCAGCAGAAACCAGGGGAAGCCCCCTAAGCTCCTGATCTATCTTGCTTCCCG
TTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCCGAAGATTTTGCTACGTACTACTGTATCAGTATGAGAGTCCACCTTTGACGTTTCGGCCAAGGGACCAAAGTGAAAA
TCAAACGG (SEQ ID NO: 1075)

BMS3h-193-22

CACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
AGACGATTGAGCGTCGTTTAAATTGGTATCAGCAGAAACCAGGGGAAGCCCCCTAAGCTCCTGATCTATCTTGCTTCCCG
TTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGCCATCAGTATGAGAGTCCACCTTTGACGTTTCGGCCAAGGGACCAAAGTGAAAA
TCAAACGG (SEQ ID NO: 1076)

BMS3h-193-23

GACGTCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
AGACGATTGAGCGTCGTTTAAATTGGTATCAGCAGAAACCAGGGGAAGCCCCCTAAGCTCCTGATCTATCTTACTTCCCG
TTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGTAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGCCATCAGTATGCGAGTCCACCTTTGACGTTTCGGCCAAGGGACCAAAGTGAAAA
TCAAACGG (SEQ ID NO: 1077)

BMS3h-193-24

GACATCCAGATGACCCAGTCGCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
AGACGATTGAGCGTCGTTTAAATTGGTATCAGCAGAAACCAGGGGAAGCCCCCTAAGCTCCTGATCTATCTTGCTTCCCG
TTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTACCAAGTATGAGAGTCCACCTTTGACGTTTCGGCCAAGGGACCAAAGTGGA
TCAAACGG (SEQ ID NO: 1078)

BMS3h-193-25

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGAGTACCATCACTTGCCGGGCAAGTC
AGACGATTGAGCGTCGTTTAAATTGGTATCAGCAGAAACCTGGGGAAGCCCCCTAGGCTCCTGATCTATCTTGCTACCCG
TTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTATCAGTATGAGAGTCCACCTTTGACGTTTCGGCCAAGGGACCAAAGTGGA
TCAAACGG (SEQ ID NO: 1079)

BMS3h-193-26

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
AGCCGATTGAGCGTCGTTTAAATTGGTATCAGCAGAAAGCCAGGGGAAGCCCCCTAAGCTCCTGATCTATCTTGCTTCCCG
TTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACATACTACTGTATCAGTATGAGAGTCCACCTTTGACGTTTCGGCCAAGGGACCAAAGTGGA
TCAAACGG (SEQ ID NO: 1080)

BMS3h-193-27

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
AGACGATTGGGCGTCGTTTAAATTGGTATCAGCAGAAACCAGGGAAAGCCCCTAAGCTCCTGATCTATCTTGCTTCCCG
TTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTATCAGTATGAGAGTCCACCTTTGACGTTTCGGCCAAGGGACCAAAGTGGAAA
TCAAACGG (SEQ ID NO: 1081)

BMS3h-193-28

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
AGACGATTGAGCGCCGTTTAAATTGGTATCAGCAGAAACCAGGGAAAGCCCCTAAGCTCCTGATCTATCTTGCTTCCCG
TTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTATCAGTATGAGAGTCCCTTTGACGTTTCGGCCAAGGGACCAAAGTGGAAA
TCATACGG (SEQ ID NO: 1082)

BMS3h-193-29

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGAGTCACCATCACTTGCCGGGCAAGTC
AGACGATTGAGCGTCGTTTAAATTGGTATCAGCAGAAACCAGGGAAAGCCCCTAAGCTCCTGATCTATCTTGCTACCCG
TTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTATCAGTATGAGAGTCCACCTTTGACGTTTCGGCCAAGGGACCAAAGTGGAAA
TCAAACGG (SEQ ID NO: 1083)

BMS3h-193-30

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
AGTCGATTGAGCGCCGTTTAAATTGGTATCAGCAGAAACCAGGGAAAGCCCCTAAGCTCCTGATCTATCTTGCTTCCCG
TTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTATCAGTATGAGAGTCCCTTTGACGTTTCGGCCAAGGGACCAAAGTGGAAA
TCAAACGG (SEQ ID NO: 1084)

BMS3h-193-2501

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGAGTCACCATCACTTGCCGGGCAAGTC
AGACGATTGAGCGTCGTTTAAATTGGTATCAGCAGAAACCAGGGAAAGCCCCTAGGCTCCTGATCTATCTTGCTACCCG
TTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTATCAGTTCGAGCACCCACCTTTGACGTTTCGGCCAAGGGACCAAAGTGGAAA
TCAAACGG (SEQ ID NO: 1085)

BMS3h-193-2502

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGAGTCACCATCACTTGCCGGGCAAGTT
TCCCCATTGACCGTCGTTTAAATTGGTATCAGCAGAAACCAGGGAAAGCCCCTAGGCTCCTGATCTATCTTGCTACCCG
TTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTATCAGTATGAGAGTCCACCTTTGACGTTTCGGCCAAGGGACCAAAGTGGAAA
TCAAACGG (SEQ ID NO: 1086)

BMS3h-193-2503

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGAGTCACCATCACTTGCCGGGCAAGTT
CCACCATTGGCCGTCGTTTAAATTGGTATCAGCAGAAACCAGGGAAAGCCCCTAGGCTCCTGATCTATCTTGCTACCCG
TTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTATCAGTATGAGAGTCCACCTTTGACGTTTCGGCCAAGGGACCAAAGTGGAAA
TCAAACGG (SEQ ID NO: 1087)

BMS3h-193-2504

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGAGTTACCATCACTTGCCGGGCAAGTT
CCCAGATTGGGCGTCGTTTAAATTGGTACCAGCAGAAACCAGGGAAAGCCCCCTAGGCTCCTGATCTATCTTGCTACCCG
TTTGCAAAGTGGGGTCCCATCACGCTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTCATCAGTATGAGAGTCCACCTTTGACGTTTCGGCCAAGGGACCAAAGTGGAAA
TCAAACGG (SEQ ID NO: 1088)

BMS3h-193-2505

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGAGTCACCATCACTTGCCGGGCAAGTG
AGCGGATTGGGCGTCGTTTAAATTGGTATCAGCAGAAACCAGGGAAAGCCCCCTAGGCTCCTGATCTATCTTGCTACCCG
TTTGCAAAGTGGGGTCCCATCACGCTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTCATCAGTATGAGAGTCCACCTTTGACGTTTCGGCCAAGGGACCAAAGTGGAAA
TCAAACGG (SEQ ID NO: 1089)

BMS3h-193-2506

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGAGTCACCATCACTTGCCGGGCAAGTC
AGCAGATTGGCCGCCGTTTAAATTGGTATCAGCAGAAACCAGGGAAAGCCCCCTAGGCTCCTGATCTATCTTGCTACCCG
TTTGCAAAGTGGGGTCCCATCACGCTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTCATCAGTATGAGAGTCCACCTTTGACGTTTCGGCCAAGGGACCAAAGTGGAAA
TCAAACGG (SEQ ID NO: 1090)

BMS3h-193-2507

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGAGTCACCATCACTTGCCGGGCAAGTC
AGCCGATTGGCCGGCGTTTAAATTGGTACCAGCAGAAACCAGGGAAAGCCCCCTAGGCTCCTGATCTATCTTGCTACCCG
TTTGCAAAGTGGGGTCCCATCACGCTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTCATCAGTATGAGAGTCCACCTTTGACGTTTCGGCCAAGGGACCAAAGTGGAAA
TCAAACGG (SEQ ID NO: 1091)

BMS3h-193-2508

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGAGTCACCATCACTTGCCGGGCAAGTG
GGAACATTGGCCGTCGTTTAAATTGGTACCAGCAGAAACCAGGGAAAGCCCCCTAGGCTCCTGATCTATCTTGCTACCCG
TTTGCAAAGTGGGGTCCCATCACGCTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTCATCAGTATGAGAGTCCACCTTTGACGTTTCGGCCAAGGGACCAAAGTGGAAA
TCAAGCGG (SEQ ID NO: 1092)

BMS3h-193-2509

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGAGTCACCATCACTTGCCGGGCAAGTC
GGAACATTGACCGTCGTTTAAATTGGTACCAGCAGAAACCAGGGAAAGCCCCCTAGGCTCCTGATCTATCTTGCTACCCG
TTTGCAAAGTGGGGTCCCATCACGCTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTCATCAGTATGAGAGTCCACCTTTGACGTTTCGGCCAAGGGACCAAAGTGGAAA
TCAAACGG (SEQ ID NO: 1093)

BMS3h-193-2510

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGAGTCACCATCACTTGCCGGGCAAGTC
AGAGCATTGGGCGTCGTTTAAATTGGTACCAGCAGAAACCAGGGAAAGCCCCCTAGGCTCCTGATCTATCTTGCTACCCG
TTTGCAAAGTGGGGTCCCATCACGCTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTCATCAGTATGAGAGTCCACCTTTGACGTTTCGGCCAAGGGACCAAAGTGGAAA
TCAAACGG (SEQ ID NO: 1094)

BMS3h-193-2511

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGAGTCACCATCACTTGCCGGGCAAGTC
AGAACATTGGGACGCGTTTAAATTGGTACCAGCAGAAACCAGGGAAAGCCCCTAGGCTCCTGATCTATCTTGCTACCCG
TTTGCAAAGTGGGGTCCCATCACGCTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTCTCATCAGTATGAGAGTCCACCTTTGACGTTTCGGCCAAGGGACCAAAGTGGA
TCAAACGG (SEQ ID NO: 1095)

BMS3h-193-2512

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGAGTCACCATCACTTGCCGGGCAAGTG
AGGTCATTGGGCGTCGTTTAAATTGGTACCAGCAGAAACCAGGGAAAGCCCCTAGGCTCCTGATCTATCTTGCTACCCG
TTTGCAAAGTGGGGTCCCATCACGCTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTCTCATCAGTATGAGAGTCCACCTTTGACGTTTCGGCCAAGGGACCAAAGTGGA
TCAAACGG (SEQ ID NO: 1096)

BMS3h-193-2513

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGAGTCACCATCACTTGCCGGGCAAGTG
AGGCGATTGGGCGTCGTTTAAATTGGTATCAGCAGAAACCAGGGAAAGCCCCTAGGCTCCTGATCTATCTTGCTACCCG
TTTGCAAAGTGGGGTCCCATCACGCTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTCTCATCAGTATGAGAGTCCACCTTTGACGTTTCGGCCAAGGGACCAAAGTGGA
TCAAACGG (SEQ ID NO: 1097)

BMS3h-193-2514

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGAGTCACCATCACTTGCCGGGCAAGTA
CCAGCATTGGGCGTCGTTTAAATTGGTATCAGCAGAAACCAGGGAAAGCCCCTAGGCTCCTGATCTATCTTGCTACCCG
TTTGCAAAGTGGGGTCCCATCACGCTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTCTCATCAGTATGAGAGTCCACCTTTGACGTTTCGGCCAAGGGACCAAAGTGGA
TCAAACGG (SEQ ID NO: 1098)

BMS3h-193-2515

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGAGTCACCATCACTTGCCGGGCAAGTT
TGAACATTGGGCGTCGTTTAAATTGGTACCAGCAGAAACCAGGGAAAGCCCCTAGGCTCCTGATCTATCTTGCTACCCG
TTTGCAAAGTGGGGTCCCATCACGCTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTCTCATCAGTATGAGAGTCCACCTTTGACGTTTCGGCCAAGGGACCAAAGTGGA
TCAAACGG (SEQ ID NO: 1099)

BMS3h-193-2516

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGAGTCACCATCACTTGCCGGGCAAGTC
AGACGATTGAGCGTCGTTTAAATTGGTACCAGCAGAAACCAGGGAAAGCCCCTAGGCTCCTGATCTATCTTTGCTCGAA
GTTGCAAAGTGGGGTCCCATCACGCTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTCTCATCAGTATGAGAGTCCACCTTTGACGTTTCGGCCAAGGGACCAAAGTGGA
TCAAACGG (SEQ ID NO: 1100)

BMS3h-198-1

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGTTTCAGCCTGGGGGGTCCCTGCGTCTCTCTGTGCAGCCTCCGGAT
CCACCATTGCTGGGTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAAGGGTCTAGAGCGTGTCTCAGCTATTAGTGG
TAGTGGTGGTAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGAGACGATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAGAGATCCTTATAGTTTTGACTACT
GGGGTCAGGGAAACCCTGGTCACCGTCTCGAGC (SEQ ID NO: 1101)

BMS3h-198-2

GAGGTGCAGCCGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGCTGGGTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAGCGG
TAGTGGTGGTAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACGATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAGAGATCCTTATAGTTTTGACTACT
GGGGTCAGGGAACCCCTGGTCACCGTCTCGAGC (SEQ ID NO: 1102)

BMS3h-198-3

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTCGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCACCGGAT
CCACCTTTGCTGGGTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAGTGG
TAGTGGTGGTAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACGATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAGAGATCCTTACAGTTATGACTACT
GGGGTCAGGGAACCCCTGGTCTCCGTCTCGAGC (SEQ ID NO: 1103)

BMS3h-198-4

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAC
TCACCTTTGCTGGGTATGAGATGTGGTGGGTCCGCCAGGACACAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAGTGG
TAGTGGTGGTAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACGATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCAGTATATCACTGTGCGAGAGATCCTTATAGTTTTGACTACT
GGGGTCAGGGAACCCCTGGTCACCGTCTCGAGC (SEQ ID NO: 1104)

BMS3h-198-5

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGCTGGGTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAGTGG
TAGTGGTGGTAGCACATACTACGCAGACTCTGTGAAGGGCCGGTTCACCATCTCCCGCGACGATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATCACTGTGCGAAAGAACCTTATAGTTTATGACTACT
GGGGTCAGGGAACCCCTGGTCACCGTCTCGAGC (SEQ ID NO: 1105)

BMS3h-198-6

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
CCACCTTTGCTGGGTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAGTGG
TAGTGGTGGTAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACGATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGAAGATCCTTATAGTTTTGACTACT
GGGGTCAGGGAACCCCTGGTCACCGTCTCGAGC (SEQ ID NO: 1106)

BMS3h-198-7

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
CCACCATTTGCCGGGTATGAGATGTGGTGGGTCCGCCAGGCTCCGGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAGTGG
TAGTGGTGGTAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACGATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAGAGATCCTTATAGTTTTGACTACT
GGGGTCAGGGAACCCCGGTACCGTCTCGAGC (SEQ ID NO: 1107)

BMS3h-198-8

GAGGTGCAGCTGATGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
CCACCTTTGCTGGGTATGAGATGTGGTGGTACCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAGTGG
AAGTGGTAGAAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACGATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGATCCTTATAGTTTTGACTACT
GGGGTCAGGGAACCCCTGGTCACCGTCTCGAGC (SEQ ID NO: 1108)

BMS3h-198-9

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGCTGGGTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAGTGG
TAGTGGTGGTAGCACGTAACGACAGCTCCGTGAAGGGCCGGTTCACCATCTCCCGGACGATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCAGTATATTACTGTGCGAAAGAACCCTATAGTTTTGACTACT
GGGGTCAGGGAACCCTGGTCAACGCTCTCGAGC (SEQ ID NO: 1109)

BMS3h-198-10

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
CCACCATTTGCTGGGTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAGTGG
TAGTGGTGGTAGCACATACTACGACAGCTCCGTGAAGGGCCGGTTCACCATCTCCCGGACGATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGATCCATATAGTTTTGACTACT
GGGGTCAGGGAACCCTGGTCAACGCTCTCGAGC (SEQ ID NO: 1110)

BMS3h-198-11

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGCTGGGTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAGTGG
TAGTGGTGGTAGCACATACTACGACAGCTCCGTGAAGGGCCGGTTCACCATCTCCCGGACGATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAGAGACCCTATAGTTTTGACTACT
GGGGTCAGGGAACCCTGGTCAACGCTCTCGAGC (SEQ ID NO: 1111)

BMS3h-198-12

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCATTTGCTGGGTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCCGCTATTAGTGG
TAGTGGTGGTAGCACATACTACGACAGCTCCGTGAAGGGCCGGTTCACCATCTCCCGGACGATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGATCCTATAGTTTTGACTACT
GGGGTCAGGGAACCCTGGTCAACGCTCTCGAGC (SEQ ID NO: 1112)

BMS3h-198-13

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGCTGGGTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGTCTCAGCTATTAGTGG
TAGTGGTGGTAGCACATACTACGACAGCTCCGTGAAGGGCCGGTTCACCATCACCCGCGACGATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGATCCTATAGTTTTGACTACT
GGGGTCAGGGAACCCTGGTCAACGCTCTCGAGC (SEQ ID NO: 1113)

BMS3h-198-14

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGCTGGGTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAGTGG
TAGTGGTGGTAGCACATACTACGACAGCTCCGTGAAGGGCCGGTTCACCATCTCCCGGACGATACCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGATCCTATAGTTTTGACTACT
GGCGTCAGGGAACCCTGGTCAACGCTCTCGAGC (SEQ ID NO: 1114)

BMS3h-198-15

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
CCACCTTTGCTGGGTATGAGGTGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTGGAGCGGGTCTCAGCTATTAGTGG
TAGTGGTGGTAGCACATACTACGACAGCTCCGTGAAGGGCCGGTTCACCATCTCCCGGACGATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAGAGATCCTATAGTTTTGACTACT
GGGGTCAGGGAACCCTGGTCAACGCTCTCGAGC (SEQ ID NO: 1115)

BMS3h-198-16

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
CCACCTTTGCTGGGTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGATCTCAGCTATTAGTGG
TAGTGGTGGTAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACGATTCCAAGAACACGCTG
TATCTGAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGATCCTTATAGTTTTGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 1116)

BMS3h-198-17

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGCTGGGTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAGTGG
TAGTGGTGGTAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACGATTCCAAGAACACGCTG
TATCTGAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAGAGATCCTTATAGTTTTGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 1117)

BMS3h-198-18

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAC
TCACCTTTGCTGGGTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAGTGG
TAGTGGTGGTAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACGATTCCAAGAACACGCTG
TATCTGAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAGAGATCCTTATAGTTTTGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 1118)

BMS3h-198-19

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGCTGGGTATGAGATTGTGGTGGGTCCGCCAGGCCCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAGTGG
AAGTGGTGGTAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACGATTCCAAGAACACGCTG
TATCTGAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAGAGATCCTTATAGTTTTGACTACC
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 1119)

BMS3h-198-20

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCCCGGAT
TCACCTTAGCTGGGTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAGTGG
TAGTGGTGGTAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACGATTCCAAGAACACGCTG
TATCTGAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGAACCTTATAGTTTTGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 1120)

BMS3h-198-21

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAC
TCACCTTTGCTGGGTATGAGATGTGGTGGGTCCGTCCGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAGTGG
TAGTGGTGGTAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCACCTCCCGCGACGATTCCAAGAACACGCTG
TATCTGAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAGAGATCCTTATAGTTTTGACTACT
GGGGTCGGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 1121)

BMS3h-198-22

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCCGGGGGTCCCTGCGTCTCTCCTGTGCCGCCTCCGGAT
TCACCTTTGCTGGGTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAGTGG
TAGCGGTGGTAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACGATTCCAAGAACACGCTG
TATCTGAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGAACCTTATAGTTATGACTACT
GGGGTCATGGAACCTGGTTACTGTCTCGAGC (SEQ ID NO: 1122)

BMS3h-198-23

GAGGTGCAGCCGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGCTGGGTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAGTGG
TAGTGGTGGTAACACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCAGGATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGGGTATATTACTGTGCGAGAGATCCTTATAGTTTTGACTACT
GGGGTCAGGGTACCCTGGTCACCGTCTCGAGC (SEQ ID NO: 1123)

BMS3h-198-24

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGCTGGGTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAGTGG
TAGTGGTGGTAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCAGGATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGGGTATATTACTGTGCGAAAGAACCTTATAGTTTTGACTCCT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 1124)

BMS3h-198-25

GAGGCGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TAACCTTCGCTGGGTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGTCTCAGCTATTAGTGG
TAGTGGTGGTAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCAGGATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGGGTATATTACTGTGCGAGAGATCCTTATAGTTTTGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 1125)

BMS3h-198-26

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
CCACCTTTGCTGGGTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAGTGG
TAGTGGTGGTAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCAGGATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGGGTATATTACTGTGCGAAAGAACCTTATAGTTTTGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 1126)

BMS3h-198-27

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
CCACCTTTGCTGGGTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAGTGG
TAGTGGTGGTAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCAGGATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGGGTATATTACTGTGCGAGAGATCCTTATAGTTTTGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 1127)

BMS3h-198-28

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGCTGGGTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAGTGG
TAGTGGTGGTAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCAGGATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGGGTATATTACTGTGCGAAAGATCCTTATAGTTTTGACAACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 1128)

BMS3h-198-29

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTAGAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGCTGGGTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAGTGG
TAGTGGTGGTAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCAGGATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGGGTATATTACTGTGCGAAAGAACCTTATAGTTTTGACCACC
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 1129)

BMS3h-198-30

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
ACACCTTTGCTGGGTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAGTGG
TAGTGGTGGTAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACGATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGAACCCTTATAGTTTTGACCACC
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 1130)

BMS3h-198-31

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGCTGGGTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAGTGG
TAGTGGTGGTAGCACATACTACGCAGACTCTGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGAACCCTTATAGTTATGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 1131)

BMS3h-198-32

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGCTGGGTATGAGATGTGGTGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAGTGG
TAGTGGTGGTAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGATCCTTATAGTTTTGACAACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 1132)

BMS3h-198-33

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGCTGGGTATGAGATGTGGTGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAGTGG
TAGTGGTGGTAGCACATACTACGCAGACTCTGTGAAGGGCCGGTTCACCATCTCCCGCGACGATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGAACCCTTATAGTTATGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 1133)

BMS3h-198-34

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGCTGGGTATGAGATGTGGTGGTCCGCCAGGCTCCCGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAGTGG
TAGTGGTGGTAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACGATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGATCCTTATAGTTTGTGACAACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 1134)

BMS3h-198-35

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGCTGGGTATGAGATGTGGTGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAGTGG
TAGTGGTGGTAGCACATACTACGCAGACTCTGTGAAGGGCCGGTTCACCATCTCCCGCGACGATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGAACCCTTATAGTTATGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 1135)

BMS3h-198-36

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGCTGGGTATGAGATGTGGTGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAGTGG
TAGTGGTGGTAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACGATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGATCCTTATAGTTTGTGACAACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 1136)

BMS3h-198-37

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGCTGGGTATGAGTTGTGGTGGGTCCGCCAGGCCCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAGTGG
AAGTGGTGGTAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCAGCATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAAAGATCCTTATAGTTTTGACTACC
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 1137)

BMS3h-198-38

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTGCTGGGTATGAGTTGTGGTGGGTCCGCCAGGCCCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAGTGG
AAGTGGTGGTAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCAGCATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGCGAGAGATCCTTATAGTTTTGACTACT
GGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 1138)

BMS3h-202-1

GAGGTGCAGCTGTTGGAGTCTGGGGGGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCCGACTGCTGAGATGCTGTGGGTCCGCAAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCATCTATTTTCGGC
TAGTGGTGGTTCTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCAGCAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGCCGGTGAGTTATGTGGCGA
CGTTTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 1139)

BMS3h-202-2

GAGGTGCAGCTGTTGGTGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCCGACTGCTGAGATGTTGTGGGTCCGCCAGGCTCCAGGGAAGGGTCCAGAGTGGGTCTCATCAATTTTCGGC
TAGTGGTGGTTCTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCAGCAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGCCGGTGAGTTATGTGGCGA
CGTTTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 1140)

BMS3h-202-3

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCCGACTGCCGAGATGGTGTGGGTCCGCAAGGCTCCAGGGATGGGTCTAGAGTGGGTCTCATCTATTTTCGGC
TAGTGGTGGTTATACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCAGCAATTCCAAGAACATGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGCCGGTGAGTTATGTGGCGA
CGTTTGACTACTGGGGTCAGGGAGCCCTGGTCACCGTCTCGAGC (SEQ ID NO: 1141)

BMS3h-202-4

GAGGTGCAGCTGTTGGTGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCCGACTGCTGAGATGGTGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCATCTATTTTCGGC
TAGTGGTGGTTCTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCAGCATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGCCGGTGAGTTATGTGGCGA
CGTTTGACTACTGGGGTCATGGAGCCCTGGTCACCGTCTCGAGC (SEQ ID NO: 1142)

BMS3h-202-5

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACATTTCCGACTGCTGAGATGTTGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCATCTATTTTCGGC
TAGTGGTGGTTCTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCAGCAATTCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGAGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGCCGGTGAGTTATGTGGCAA
CGTTTGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 1143)

BMS3h-202-6

GAGGCGCAGCTGTTGGAGTCTGGGGGTGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCCGACTGCTGAGATGTTGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGATCTCATCTATTTCCGGC
TAGTGGTGGTTCTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATCCAAGAACACGCTG
TATCTGCAATTGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGCCGGTGAGTTATGTGGCGA
CGTTTGACTACTGGGGTCCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 1144)

BMS3h-202-7

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACATTTCCGACTGCTGAGATGTTGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCATCTATTTCCGGC
TAGTGGTGGTTCTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATCCAAGAGCACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGCCGGTGAGTTATGTGGCGA
CGTTTGACTACTGGGGTCCAGGAGCCCTGGTCACCGTCTCGAGC (SEQ ID NO: 1145)

BMS3h-202-8

GAGGTGCAGCTGTTGGAGTCCGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCCGACTGCTGAGATGCTGTGGGTCCGCAAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCATCTATTTCCGGC
TAGTGGTGGTTCTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATCCAAGAACACGCTG
TTTCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGCCGGTGAGTTATGTGGCGA
CGTTTGACTACTGGGGTCCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 1146)

BMS3h-202-9

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACATTTCCGACTGCTGAGATGTTGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCATCTATTTCCGGC
TAGTGGTGGTTCTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGCCGGTGAGTTATGTGGCGA
CGTTTGACTACTGGGGTCCAGGAGCCCTGGTCACCGTCTCGAGC (SEQ ID NO: 1147)

BMS3h-202-10

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCCGACTGCTGAGATGCTGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCATCTATTTCCGGC
TAGTGGTGGTTCTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATCCAAGAACACGCTG
TATTTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGCCGGTGATTATGTGGCGA
CGTTTGACTACTGGGGTCCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 1148)

BMS3h-202-11

GAGGTGCAGCTGTTGGAGTCCGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGAT
TCACCTTTCCGACTGCTGAGATGCTGTGGGTCCGCAAGGCTCCAGGGAAGGGTCTAGAGTGGGTCTCATCTATTTCCGGC
TAGTGGTGGTTCTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATCCAAGAACACGCTG
TATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAAGAGCCGGTGATTATGTGGCGA
CGTTTGACTACTGGGGTCCAGGGAACCTGGTCACCGTCTCGAGC (SEQ ID NO: 1149)

BMS3h-217-1

AACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ATTTTATTGGTACTCTGTAACTTGGTACCAGCATAAACCAGGGAAAGCCCCTAAGCTCCTGATCACTTATGGTTCCTT
GTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACCTCTACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTGGTCAGGGGGTCTGTGGCCTGCGACGTTCCGGCAAGGGACCAAGTGGA
TCAACCG (SEQ ID NO: 1150)

BMS3h-217-2

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ATTTTATTGGTACTCTGTTATCTTGGTACCAGCAGAAACACGGAAAGCCCTAAACTCCTGATCACTTATGGTTCCTT
GTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAAT
CCTGAAGATTTTGTACGTACTACTGTGGTCAGGGGGTGTGTGGCCTCCGACGTTTCGGTCAAGGGACCAAGGTGGAAA
TCAAACGG (SEQ ID NO: 1151)

BMS3h-217-3

GACATCCAGATGACCCAGTCTCCGTCCTCCCTGACTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ATTTTATTGGTACTCTGTTATCTTGGTACCAGCAGAAACACGGGAAAGCCCTAAGCTCCTGGTCACTTATGGTTCCTT
GTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAATCTGCAA
CCTGAAGATTTTGTACGTACTACTGTGGTCAGGGGGTGTGTGGCCTCTACGTTTCGGCCAAGGGACCAAGGTGGAAA
ACATACGG (SEQ ID NO: 1152)

BMS3h-217-4

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ATTTTATTGCTACTCTGTTATCTTGGTACCAGCAGAAACACGGGAAAGCCCTAAGCTCCTGATCACTTATGGTTCCTT
GTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGTACGTACTACTGTGGTCAGGGGGTGTGTGGCCTCCGACGTTTCGGCCAAGGGACCAAGGTGGAAA
TCAAACGG (SEQ ID NO: 1153)

BMS3h-217-5

GACATCCAGATGACCCAGTCTCCATCCTTCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ATTTTATTGCTACTCTGTTATCTTGGTACCAGCAGAAACACGGGAAAGCCCTAAGCTCCTGATCACTTATGGTTCCTT
GTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGTACGTACTACTGTGGTCAGGGGGTGTGTGGCCTCCGACGTTTCGGCCAAGGGACCAAGGTGGAAA
TCAAACGG (SEQ ID NO: 1154)

BMS3h-217-6

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ATTTTATTGGTACTCTGTTATCTTGGTACCAGCAGAAACACGGGAAAGCCCTAAGCTCCTGATCACTTATGGTTCCTT
GTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGTACGTACTACTGTGGTCAGGGGGTGTGTGGCCTCCGACGTTTCGGCCAAGGGACCAAGGTGGAAA
TCAAACGT (SEQ ID NO: 1155)

BMS3h-217-7

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ATTTTATTGGTCTCTGTTATCTTGGTACCAGCAGATAAACACGGGAAAGCCCTAAGCTCCTGATCACTTATGGTTCCTT
GTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGTACGTACTACTGTGGTCAGGGGGTGTGTGGCCTGCGACGTTTCGGCCAAGGGACCAAGGTGGAAA
TCAAACGG (SEQ ID NO: 1156)

BMS3h-217-8

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ATTTTATTGGTACTCTGTTATCTTGGTACCAGCAGATAAACACGGGAAAGCCCTAAGCTCCTGATCACTTATGGTTCCTT
GTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGTACGTACTACTGTGGTCAGGGGGTGTGTGGCCTGCGACGTTTCGGCCAAGGGACCAAGGTGGAAA
TCAAACGG (SEQ ID NO: 1157)

BMS3h-217-9

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ATTTTATTGGTACTCTGTTATCTTGGTACCAGCATAAACCAGGGAAAGCCCCCTAAGCTCCTGATCACTTATGGTTCCAT
GTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGTCAACGTACTACTGTGGTCAGGGGGTGTGTGGCTGCGACGTTTCGGCCAAGGGACCAAGGTGGAAA
TCAAACGG (SEQ ID NO: 1158)

BMS3h-217-10

GACATCCAGATGACTCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGAGTCACCATCACTTGCCGGGCAAGTC
ATTTTATTGGTACTCTGTTATCTTGGTACCAGCATAAACCAGGGAAAGCCCCCTAAGCTCCTGATCACTTATGGTTCCCT
GTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGAATTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGTACGTACTACTGTGGTCAGGGAGTGTGTGGCTGCGACGTTTCGGCCAAGGGACCAAGGTGGAAA
TCAAACGG (SEQ ID NO: 1159)

BMS3h-217-11

GACATCCAGATGACCCAGTCTCCATCCTCCCTGACTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ATTTTATTGGTACTCTGTTATCTTGGTACCAGCATAAACCAGGGAAAGCCCCCTAAGCTCCTGATCACTTATGGTTCCCT
GTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGAATTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGTACGTACTACTGTGGTCAGGGGGTGTGTGGCTGCGACGTTTCGGCCAAGGGACCAAGGTGGAAA
TCAAACGG (SEQ ID NO: 1160)

BMS3h-217-12

AACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ATTTTATTGGTACTCTGTTATCTTGGTACCAGCATAAACCAGGGAAAGCCCCCTAAGCTCCTGATCACTTATGGTTCCCT
GTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGTACGTACTACTGTGGTCAGGGGGTGTGTGGCTGCGACGTTTCGGCCAAGGGACCAAGGTGGAAA
TCAAACGG (SEQ ID NO: 1161)

BMS3h-217-13

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCAATTGCCGGGCAAGTC
ATTTTATTGGTACTCTGTTATCTTGGTACCAGCATAAACCAGGGAAAGCCCCCTAAGCTCCTGATCACTTATGGTTCCCT
GTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGTACGTACTACTGTGGTCAGGGGGTGTGTGGCTGCGACGTTTCGGCCAAGGGACCAAGGTGGAAA
TCAAACGG (SEQ ID NO: 1162)

BMS3h-217-14

GACATCCAGTTGACCCAGTCACCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ATTTTATTGGTACTCTGTTATCTTGGTACCAGCAGAAACCAGGGAAAGCCCTAAGCTCCTGATCACTTATGGTTCCCT
GTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGTACGTACTACTGTGGTCAGGGGGTGTGTGGCTCCGACGTTTCGGCCAAGGGACCAAGGTGGAAA
TCAAACGG (SEQ ID NO: 1163)

BMS3h-217-15

GACATCCAGATGACACAGTCTCCATCCTCCCTGTATGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGTAAGTC
ATTTTATTGGTACTCTGTTATCTTGGTACCAGCAGAAACCAGGGAAAGCCCCCTAAGCTCCTGATCACTTATGGTTCCCT
GTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCAGCATCAGCAGTCTGCAA
CCTGAAGATTTTGTACGTACTACTGTGGTCAGGGGGTGTGTGGCCCCGACGTTTCGGACAAGGGACCAAGGTGGAAA
TCAAACAG (SEQ ID NO: 1164)

BMS3h-217-16

GACATTCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ATTTTATTGGTACTCTGTTATCTTGGTACCAGCAGAAACCAAGGAAAGCCCCAAGCTCCTGATCACTTATGGTTCCTT
GTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTGGTCAGGGGGTGTGTGGCCTCCGACGTTTCGGCCAAGGGACCAAGGTGGAAA
TCAAACGG (SEQ ID NO: 1165)

BMS3h-217-17

GACATCCAGATTATCCAGTCTCCATCCTCCCTTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ATTTTATTGGTACTCTGTTATCTTGGTACCAGCAGAAACCAAGGAAAGCCCCAAGCTCCTGATCACTTATGGTTCCTT
GTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTGGTCAGGGGGTGTGTGGCCTCCGACGTTTCGGCCAAGGGACCAAGGTGGAAA
TCAAACGG (SEQ ID NO: 1166)

BMS3h-217-18

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ATTTTATTGGTACTCTGTTATCTTGGTACCAGCTGAAACCAAGGAAAGCCCCAAGCTCCTGATCACTTATGGTTCCTT
GTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTGGTCAGGGGGTGTGTGGCCTCCGACGTTTCGGCCAAGGGACCAAGGTGGAAA
TCAAACGG (SEQ ID NO: 1167)

BMS3h-217-19

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ATTTTATTGGTACTCTGTTATCTTGGTACCAGCTGAAACCAAGGAAAGCCCCAAGCTCCTGATCACTTATGGTTCCTT
GTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTGGTCAGGGGGTGTGTGGCCTCCGACGTTTCGGCCAAGGGACCAAGGTAGAAA
ACAAACGG (SEQ ID NO: 1168)

BMS3h-217-20

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ATTTTATTGGTACTCTGTTATCTTGGTACCAGCTTAAACCAAGGAAAGCCCCAAGCTCCTGATCACTTATGGTTCCTT
GTTGCAACGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTGGTCAGGGGGTGTGTGGCCTCCGACGTTTCGGCCAAGGGACCAAGGTGGAAA
TCAAACGG (SEQ ID NO: 1169)

BMS3h-217-21

GACATCCAGATGACCCAGGCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ATTTTATTGGTACTCTGTTATCTTGGTACCAGCTGAAACCAAGGAAAGCCCCAAGCTCCTGATCACTTATGGTTCCTT
GTTGCAGAGTGGGGTCCCATCACGTTTCAGTGGTAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTGGTCAGGGGGTGTGTGGCCTCCGACGTTTCGGCCAAGGGACCAAGGTTGAAA
ACAAACGG (SEQ ID NO: 1170)

BMS3h-217-22

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ATTTTATTGGTTCCTCTGTTATCTTGGTACCAGCAGAAACCAAGGAAAGCCCCAAGCTCCTGATCACTTATGGTTCCTT
GTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTGCTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTGGTCAGGGGGTGTGTGGCCTCCGACGTTTCGGCCAAGGGACCAAGGTGGAAA
TCAAACGG (SEQ ID NO: 1171)

BMS3h-217-23

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ATTTTATTGGTAGTCTGTTATCTTGGTACCAGGTGAAACCAGGGAAAGCCCCTAAGCTCCTGATCACTTATGGTTCCTT
GTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTGGTCAGGGGGTGTGTGGCCTGCGACGTTTCGGCCAAGGGACCAACGGTGGAAA
TCAAACGG (SEQ ID NO: 1172)

BMS3h-217-24

GACATCCTGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ATTTTATTGGTAGTCTGTTATCTTGGTACCAGCAGAAACCAGGGAAAGCCCCTAAGCTCCTGATCACTTATGGTTCCTT
GTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTGGTCAGGGGGTGTGTGGCCTGCGACGTTTCGGCCAAGGGACCAAGGTGGAAA
TCAAACGG (SEQ ID NO: 1173)

BMS3h-217-25

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ATTTTATTGGTACTCTGGTATCTTGGTACCAGCAGAAACCAGGGAAAGCCCCTAAGCTCCTGATCACTTATGGTTCCTT
GTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTGGTCAGGGGGTGTGTGGCCTGCGACGTACGGCCAAGGGACCAAGGTGGAAA
TCAAACGG (SEQ ID NO: 1174)

BMS3h-217-26

GACATCCAGATGACCCAGTCTCCATCCTCTCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ATTTTATTGGTACTCTGGTATCTTGGTACCAGCAGAAACCAGGGAAAGCCCCTAAGCTCCTGATCACTTATGGTTCCTT
GTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTGGTCAGGGGGTGTGTGGCCTGCGACGTTTCGGCCAAGGGACCAAGGTGGAAA
ACAAACGG (SEQ ID NO: 1175)

BMS3h-217-27

GACATCAAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCGAGTC
ATTTTATTGGTACTCTGGTATCTTGGTACCAGCAGAAACCAGGGAAAGCCCCAAAGCTCCTGATCACTTATGGTTCAT
GTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTGGTCAGGGGGTGTGTGGCCTGCGACGTTTCGGCCAAGGGACCAAGGTGGAAA
TCAAACGG (SEQ ID NO: 1176)

BMS3h-217-28

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCAGGCAAGTC
ATTTTATTGGTACTCTGGTATCCTGGTACCAGCAGAAACCAGGGAAAGCCCCTAAGCTCCTGATCACTTATGGTTCCTT
GTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTGGTCAGGGGGTGTGTGGCCCGCGACGTTTCGGCCAAGGGACCAAGGTGGAAA
TCAAACGG (SEQ ID NO: 1177)

BMS3h-217-29

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ATTTTATTGGTACTCTGTTATCTTGGTACCAGCAGAAACCAGGGAAAGCCCCTAAGCTCCTGATCACTTATGGTTCCTG
GTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTGGTCAGGGGGTGTGTGGCCTGCGACGTTTCGGCCAAGGGACCAAGGTGGAAA
TCAAACGG (SEQ ID NO: 1178)

BMS3h-217-30

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTTGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ATTTTATTGGTACTCTGTTATCTTGGTACCAGCTGAAACCAGGGAAAGCCCTAAGCTCCTGATCACTTATGGTTCCTG
GTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTGGTCAGGGGGTGTGTGGCTGCGACGTTTCGGCCAAGGGACCAAGGTGGAAA
TCAAACGG (SEQ ID NO: 1179)

BMS3h-217-31

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ATTTTATTGGTACTCTGTTATCTTGGTACCAGCAGAAACCAGGGAAAGCCCTAAGCTCCTGATCACTTATGGTTCCTT
GTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATTTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTGGTCAGGAGGTGTGTGGCTGCGACGTTTCGGCCAAGGGACTAAGGTGGAAA
TCAAACGG (SEQ ID NO: 1180)

BMS3h-217-32

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTCTCCATCACTTGCCGAGCAAGTC
ATTTTATTGGTACTCTGTTATCTTGGTACCAGCAGAAACCAGGGAAAGCCCTAAGCTCCTGATCACTTATGGTTCCTT
GTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATTTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATCTTGCTACGTACTACTGTGGTCAGGAGGTGTGTGGCTGCGACGTTTCGGCCAAGGGACCAAGGTGGAAA
TCAAACGG (SEQ ID NO: 1181)

BMS3h-217-33

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCAGGCAAGTC
ATTTTATTGGTACTCTGTTATCTTGGTACCAGCAGAAACCAGGGAAAGCCCTAAGCTCCTGATCACTTATGGTTCCTT
GTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATTTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCCGAAGATTTTGCTACGTACTACTGTGGTCAGGAGGTGTGTGGCTGCGACGTTTCGGCCAAGGGACCAAGGTGGAAA
TCAAACGG (SEQ ID NO: 1182)

BMS3h-217-34

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCAGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ATTTTATTGGTACTCTGTTATCTTGGTACCAGCAGAAACCAGGGAAAGCCCTAAGCTCCTGATCACTTATGGTTCCTT
GTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATTTGGGACAGATTTCACTCTCACCATCGGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTGGTCAGGGGGTGTGTGGCTGCGACGTTTCGGCCAAGGGACCAAGGTGGAAA
TCAAACGG (SEQ ID NO: 1183)

BMS3h-217-35

GACATCCAGATGACCCAGTCAACATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ATTTTATTGGTACTCTGTTATCTTGGTACCAGCAGAAACCAGGGAAAGCCCTAAGCTCCTGATCACTTATGGTTCCTT
GTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTGGTCAGGGGGTGTGTGGCTCCGACGTTTCGGCCAAGGGACCAAGGTGGAAA
TCAAACGG (SEQ ID NO: 1184)

BMS3h-217-2301

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ACTTCATTGCCAGTCTGTTATCTTGGTACCAGGTGAAACCAGGGAAAGCCCTAAGCTCCTGATCACTTATGGTTCCTT
GTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTGGTCAGGGGGTGTGTGGCTGCGACGTTTCGGCCAAGGGACAACGGTGGAAA
TCAAACGG (SEQ ID NO: 1185)

BMS3h-217-2302

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ATTTTCATTGCCCAGCTGTTATCTTGGTACCAGGTGAAACCAGGGAAAGCCCCCTAAGCTCCTGATCACTTATGGTTCCTT
GTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTGGTCAGGGGGTGTGTGGCTGCGACGTTTCGGCCAAGGGACAACGGTGAAAA
TCAAACGG (SEQ ID NO: 1186)

BMS3h-217-2303

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ATTTTCATTGCCCAGCTGTTATCTTGGTACCAGGTGAAACCAGGGAAAGCCCCCTAAGCTCCTGATCACTTATGGTTCCTT
GTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTGGTCAGGGGGTGTGTGGCTGCGACGTTTCGGCCAAGGGACAACGGTGAAAA
TCAGACGG (SEQ ID NO: 1187)

BMS3h-217-2304

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ATTACATTGCCCTCCTGTTATCTTGGTACCAGGTGAAACCAGGGAAAGCCCCCTAAGCTCCTGATCACTTATGGTTCCTT
GTTGCAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTGGTCAGGGGGTGTGTGGCTGCGACGTTTCGGCCAAGGGACAACGGTGAAAA
TCAAACGG (SEQ ID NO: 1188)

BMS3h-217-2305

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ATTTTATTGGTAGTCTGTTATCTTGGTACCAGGTGAAACCAGGGAAAGCCCCCTAAGCTCCTGATCACTTGGGCTCCTA
CTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTGGTCAGGGGGTGTGTGGCTGCGACGTTTCGGCCAAGGGACAACGGTGAAAA
TCAAACGG (SEQ ID NO: 1189)

BMS3h-217-2306

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ATTTTATTGGTAGTCTGTTATCTTGGTACCAGGTGAAACCAGGGAAAGCCCCCTAAGCTCCTGATCACTTGGACGTCCTA
CTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTGGTCAGGGGGTGTGTGGCTGCGACGTTTCGGCCAAGGGACAACGGTGAAAA
TCAAACGG (SEQ ID NO: 1190)

BMS3h-217-2307

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ATTTTATTGGTAGTCTGTTATCTTGGTACCAGGTGAAACCAGGGAAAGCCCCCTAAGCTCCTGATCACTTGGTCGTCCTA
CTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTGGTCAGGGGGTGTGTGGCTGCGACGTTTCGGCCAAGGGACAACGGTGAAAA
TCAAACGG (SEQ ID NO: 1191)

BMS3h-217-2308

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ATTTTATTGGTAGTCTGTTATCTTGGTACCAGGTGAAACCAGGGAAAGCCCCCTAAGCTCCTGATCACTTGGGGTCTG
GTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTGGTCAGGGGGTGTGTGGCTGCGACGTTTCGGCCAAGGGACAACGGTGAAAA
TCAAACGG (SEQ ID NO: 1192)

BMS3h-217-2309

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ATTTTATTGGTAGTCTGTTATCTTGGTACCAGGTGAAACCAGGGAAAGCCCTAAGCTCCTGATCACTTGGGCTCCTG
GTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACCTCTACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTGGTCAGGGGGTGCTGTGGCCTGCGACGTTTCGGCCAAGGGACAACGGTGGAAA
TCAAACGG (SEQ ID NO: 1193)

BMS3h-217-2310

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ATTTTATTGGTAGTCTGTTATCTTGGTACCAGGTGAAACCAGGGAAAGCCCTAAGCTCCTGATCACTTGGAGCTCCTG
GTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACCTCTACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTGGTCAGGGGGTGCTGTGGCCTGCGACGTTTCGGCCAAGGGACAACGGTGGAAA
TCAAACGG (SEQ ID NO: 1194)

BMS3h-217-2311

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ATTGGATTGCCAGCTGTTATCTTGGTACCAGGTGAAACCAGGGAAAGCCCTAAGCTCCTGATCACTTATGGTTCCTT
GTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACCTCTACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTGGTCAGGGGGTGCTGTGGCCTGCGACGTTTCGGCCAAGGGACAACGGTGGAAA
TCAAACGG (SEQ ID NO: 1195)

BMS3h-217-2312

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ATTTTATTGGTTCGCTCTTACGCTGGTACCAGGTGAAACCAGGGAAAGCCCTAAGCTCCTGATCACTTATGGTTCCTT
GTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACCTCTACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTGGTCAGGGGGTGCTGTGGCCTGCGACGTTTCGGCCAAGGGACAACGGTGGAAA
TCAAACGG (SEQ ID NO: 1196)

BMS3h-217-2313

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ATCGGATTGCCAGCTGTTATCTTGGTACCAGGTGAAACCAGGGAAAGCCCTAAGCTCCTGATCACTTATGGTTCCTT
GTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACCTCTACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTGGTCAGGGGGTGCTGTGGCCTGCGACGTTTCGGCCAAGGGACAACGGTGGAAA
TCAAACGG (SEQ ID NO: 1197)

BMS3h-217-2314

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ATTACATTGCCTCCCTGTTATCTTGGTACCAGGTGAAACCAGGGAAAGCCCTAAGCTCCTGATCACTTATGGTTCCTT
GTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACCTCTACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTGGTCAGGGGGTGCTGTGGCCTGCGACGTTTCGGCCAAGGGACAACGGTGGAAA
TCAAACGG (SEQ ID NO: 1198)

BMS3h-217-2315

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ATTTTATTGGTAGTCTGTTATCTTGGTACCAGGTGAAACCAGGGAAAGCCCTAAGCTCCTGATCCGGTTCGGTCTCTT
GTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACCTCTACCATCAGCAGTCTGCAA
CCTGAAGATTTTGCTACGTACTACTGTGGTCAGGGGGTGCTGTGGCCTGCGACGTTTCGGCCAAGGGACAACGGTGGAAA
TCAAACGG (SEQ ID NO: 1199)

BMS3h-217-2316

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ATTTTATTGGTAGTCTGTTATCTTGGTACCAGGTGAAACCAGGGAAAGCCCCCTAAGCTCCTGATCACTTACAAGTCCTA
CTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGTACGTACTACTGTGGTCAGGGGGTGTGTGGCTGCGACGTTTCGGCCAAGGGACAACGGTGGAAA
TCAAACGG (SEQ ID NO: 1200)

BMS3h-217-2317

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ATTTTATTGGTAGTCTGTTATCTTGGTACCAGGTGAAACCAGGGAAAGCCCCCTAAGCTCCTGATCACTTGGGGCTCCTA
CTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGTACGTACTACTGTGGTCAGGGGGTGTGTGGCTGCGACGTTTCGGCCAAGGGACAACGGTGGAAA
TCAAACGG (SEQ ID NO: 1201)

BMS3h-217-2318

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ATTTTATTTGGGGGCCCTTATCTTGGTACCAGGTGAAACCAGGGAAAGCCCCCTAAGCTCCTGATCACTTATGGTTCCTT
GTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTCTGTACGTACTACTGTGGTCAGGGGGTGTGTGGCTGCGACGTTTCGGCCAAGGGACAACGGTGGAAA
TCAAACGG (SEQ ID NO: 1202)

BMS3h-217-2319

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ATTGGATTGCCACCTGTTATCTTGGTACCAGGTGAAACCAGGGAAAGCCCCCTAAGCTCCTGATCACTTATGGTTCCTT
GTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGTACGTACTACTGTGGTCAGGGGGTGTGTGGCTGCGACGTTTCGGCCAAGGGACAACGGTGGAAA
TCAAACGG (SEQ ID NO: 1203)

BMS3h-217-2320

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ATTTTATTTGGGGGCCCTTATCTTGGTACCAGGTGAAACCAGGGAAAGCCCCCTAAGCTCCTGATCACTTATGGTTCCTT
GTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGTACGTACTACTGTGGTCAGGGGGTGTGTGGCTGCGACGTTTCGGCCAAGGGACAACGGTGGAAA
TCAAACGG (SEQ ID NO: 1204)

BMS3h-217-2321

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ATTTTATTGGTAGCTCTTAACTGGTACCAGGTGAAACCAGGGAAAGCCCCCTAAGCTCCTGATCACTTATGGTTCCTT
GTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGTACGTACTACTGTGGTCAGGGGGTGTGTGGCTGCGACGTTTCGGCCAAGGGACAACGGTGGAAA
TCAAACGG (SEQ ID NO: 1205)

BMS3h-217-2322

GGCATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTC
ATTTTATTGGTAGTCTGTTATCTTGGTACCAGGTGAAACCAGGGAAAGCCCCCTAAGCTCCTGATCACTTACGGGTCTG
GTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAA
CCTGAAGATTTTGTACGTACTACTGTGGTCAGGGGGTGTGTGGCTGCGACGTTTCGGCCAAGGGACAACGGTGGAAA
TCAAACGG (SEQ ID NO: 1206)

實例1

經由BMS3h-225產生人類抗CD40可變域BMS3h-1

以下實例描述經由BMS3h-225產生一系列命名為BMS3h-1之抗人類CD40可變域。在噬菌體表面上重組表現單一免疫球蛋白可變域譜系之後，藉由使噬菌體譜系與固定目標抗原接觸，洗滌以移除未結合之噬菌體且傳播結合之噬菌體來進行選擇。此方法通常稱為「淘選」。其適用於篩檢單一免疫球蛋白可變域以及可在呈現文庫上表現

之其他抗體片段，例如scFv、Fab及Fab'。或者，可藉由針對僅藉由摺疊成員結合之固定通用配位體(例如蛋白質A或蛋白質L)淘選來預先選擇表現適當摺疊之成員變異體之噬菌體。此有如下優勢：降低非功能成員之比例，由此增加可能結合目標抗原之成員的比例。舉例而言，WO 99/20749中教示用通用配位體進行預先選擇。舉例而言，Harrison等人，*Meth. Enzymol.* 267: 83-109 (1996)大體描述了噬菌體抗體文庫之篩檢。

篩檢通常使用固定於固體支撐物(例如塑膠管或孔)或層析基質(例如Sepharose™ (Pharmacia))上之純化抗原來執行。篩檢或選擇亦可在諸如細胞表面之複合抗原上執行(Marks等人，*BioTechnology* 11: 1145 (1993)；de Kruif等人，*Proc. Natl. Acad. Sci. USA* 92: 3938 (1995))。另一替代方法涉及藉由結合溶液中之經生物素標記之抗原來選擇，隨後捕捉於塗佈抗生蛋白鏈菌素之珠粒上。

純系BMS3h-1至BMS3h-69：

使用遞減濃度之抗原(第1輪100 nM；第2輪10 nM；第3輪1 nM)針對經生物素標記之人類CD40單體(由BMS供應，每莫耳CD40 1.5莫耳生物素)與經生物素標記之人類CD40-Ig (由BMS供應，每莫耳CD40-Ig 3.3莫耳生物素)並行進行三輪選擇。在起始選擇之前，如下組合來自未處理4G及6G Domantis dAb文庫之噬菌體：

- 1) 4G+6G VH CDR3長度在7至9個胺基酸之間。
- 2) 4G+6G VH CDR3長度在10至12個胺基酸之間。
- 3) 4G+6G VH CDR3長度在13至15個胺基酸之間。
- 4) 4G VK
- 5) 6G VK

各輪選擇涉及將所要濃度之抗原添加至750 µl來自未處理文庫池之一之噬菌體或後續選擇輸出之噬菌體與750 µl PBS+2% Marvel (含

有2% (w/v) Marvel [Premier Foods, UK]之磷酸鹽緩衝鹽水)之混合物中且在室溫下藉由翻滾混合來培育1小時。接著藉由添加100 μ l再懸浮 Dynabeads® M-280抗生蛋白鏈菌素[Invitrogen, UK]來捕捉經生物素標記之抗原噬菌體複合物，且在室溫下藉由翻滾混合來培育5分鐘。接著使用 KingFisher磁力分離器[Thermo Fisher Scientific, UK]回收 Dynabeads®且用7 $\times$ 1 ml PBS+0.1%吐溫20 (含有0.1% (v/v)聚氧乙烯脫水山梨糖醇單月桂酸酯[Sigma-Aldrich, UK]之PBS, PBST)，隨後用1 $\times$ 1 ml PBS洗滌。藉由與500 μ l胰蛋白酶-PBS (50 μ l溶解於50 mM Tris-HCl(pH 7.4)、1 mM CaCl_2 中之10 mg/ml胰蛋白酶[Sigma-Aldrich, UK]添加至450 μ l PBS中)一起培育來溶離保留在經洗滌Dynabeads®上之結合噬菌體。回收含有噬菌體之溶液，且在37°C下使用250 μ l感染1.75 ml對數生長期大腸桿菌(*E. coli*) TG1 (OD_{600} 為0.4)30分鐘。在微量離心機中在11,600 g下離心大腸桿菌TG1噬菌體感染之培養物1分鐘。使所得細胞集結粒再懸浮於1 ml 2xTY (1公升中有16 g胰蛋白胍、10 g酵母萃取物及5 g NaCl，在121°C下用高壓釜處理15分鐘)中且接種於含有補充有15 μ g/ml四環素之TY的9 cm皮式培養皿(Petri dish)上。在37°C下培育培養盤隔夜。接著將2 ml補充有15%甘油之2xTY添加至各培養盤中，並用玻璃散佈器分散該等細胞且充分混合。使用50 μ l刮落細菌接種50 ml補充有15 μ g/ml四環素之2xTY，且在37°C下在250 rpm振盪下生長隔夜。在3,300 g下離心隔夜培養物15分鐘以集結細菌。為了沈澱析出噬菌體，將10 ml PEG/NaCl (20%聚乙二醇8000，2.5 M NaCl)添加至40 ml上清液中。混合噬菌體/PEG溶液且靜置於冰上1小時，接著在4°C下在3,300 g下離心30分鐘，且去除上清液。使集結粒再懸浮於2 ml PBS中且在微量離心機中在11,600 g下離心10分鐘，移除剩餘細菌碎片。含有噬菌體之所得上清液接著用於下一輪針對適當經生物素標記之CD40抗原之選擇。

在第2輪及第3輪選擇之後，進行單株噬菌體ELISA。使用3次250 μ l PBST之洗滌，隨後3次250 μ l PBS之洗滌執行所有洗滌。在4°C下，用每孔50 μ l 1 μ g/ml中性鏈親和素(Thermo Scientific, UK)於0.2 M碳酸鹽-碳酸氫鹽緩衝液(pH 9.4)中之混合物塗佈培養盤隔夜。洗滌培養盤，且接著在室溫下用2% MPBS (含2% w/v Marvel脫脂奶粉[Premier Foods]之PBS)阻斷1小時。接著洗滌培養盤且與每孔50 μ l 0.7 μ g/ml經生物素標記之人類CD40於2% MPBS中之混合物一起培育。洗滌培養盤，且將噬菌體上清液添加至等體積之2% MPBS中。接著在室溫下培育培養盤1小時。洗滌培養盤且用2% MPBS以1:5000稀釋之抗M13-HRP結合物(GE Healthcare, UK)偵測結合噬菌體，且在室溫下培育1小時。洗滌培養盤，且使用SureBlue單組分TMB MicroWell過氧化酶溶液(KPL Inc, USA)進行ELISA顯色。藉由與塗有中性鏈親和素但無生物素標記CD40之培養盤相比較來鑑別特異性噬菌體。使用MidiPrep自pDOM4(Domantis)第2輪及第3輪輸出分離dAb V-基因，且選殖至pDOM5 (Domantis)中。WO 2007/085815中所揭示之pDOM4為Fd噬菌體載體之衍生物，其中基因III信號肽序列經酵母醯脂錨定表面蛋白(yeast glycolipid anchored surface protein, GAS)信號肽置換(WO 2005/093074)。pDOM4亦在前導序列與基因III之間含有c-myc標籤，此將基因III放回框架中。

如下鑑別結合dAb。在37°C下，在Costar 96孔細胞培養集群(Corning Incorporated, USA)中在250 rpm振盪下自各輸出選取96個個別菌落(於pDOM5中)至200 μ L含有OnEx自體誘導介質(Novagen, UK)之Terrific培養液中隔夜。離心培養物以集結細胞，且藉由CD40結合dAb之抗原結合ELISA分析上清液。在4°C下用每孔50 μ l 1 μ g/ml中性鏈親和素於0.2 M碳酸鹽-碳酸氫鹽緩衝液(pH 9.4)中之混合物塗佈MaxiSorp 96孔免疫培養盤(Nunc, USA)隔夜。所有洗滌係如噬菌體

ELISA所述。在室溫下用200 μ l含有1%吐溫20之PBS阻斷培養盤1小時。接著洗滌培養盤且與每孔50 μ l 0.7 μ g/ml經生物素標記之人類CD40於0.1% MPBS中之混合物一起培育。將澄清之含有dAb之培養物上清液添加至具有等體積0.1% PBS之TELISA培養盤中。在室溫下培育培養盤1小時且接著洗滌。使用兩步方法偵測結合dAb：首先在室溫下添加用0.1% PBST以1:2000稀釋之9E10 (抗myc IgG, Sigma-Aldrich, UK)持續1小時，接著洗滌，隨後在室溫下添加用0.1% PBST以1:2000稀釋之抗小鼠Fc-HRP (Sigma-Aldrich, UK)持續1小時。洗滌培養盤，且使用SureBlue單組分TMB MicroWell過氧化酶溶液(KPL Inc, USA)進行ELISA顯色。允許顯色，且藉由添加等體積1 M HCl中止比色反應。在450 nm下讀取ELISA培養盤。藉由與塗有中性鏈親和素但無生物素標記CD40之培養盤相比較來鑑別特異性噬菌體。

在基於珠粒或基於ELISA之受體結合分析(receptor-binding assay, RBA)中測試對CD40具特異性之純系以評估CD40配位體結合之抑制。在B細胞增殖分析中，且接著在多種其他活體外細胞分析中測試在RBA中顯示抑制作用之域抗體。下文更詳細描述此等分析。

BMS3h-106至BMS3h-225：

BMS3h-106至BMS3h-225係自針對如關於BMS3h-1至BMS3h-69所述但具有以下修飾之生物素標記CD40或生物素標記CD40-Fc之選擇來分離。在起始選擇之前，如下組合來自未處理4G及6G文庫之噬菌體：

- 6) 4G VH CDR3長度在7至9個胺基酸之間。
- 7) 4G VH CDR3長度在10至12個胺基酸之間。
- 8) 4G VH CDR3長度在13至15個胺基酸之間。
- 9) 6G VH CDR3長度在7至9個胺基酸之間。
- 10) 6G VH CDR3長度在10至12個胺基酸之間。

11) 6G VH CDR3長度在13至15個胺基酸之間。

12) 4G VK

13) 6G VK

對於CD40-Fc在160 nM之抗原濃度下執行第1輪，且對於CD40在100 nM下執行。輸出效價在 2.0×10^4 至 9.0×10^7 TU/ml之範圍內(功能病毒效價)。

對於第2輪，來自第1輪之富集噬菌體在用於選擇之前被成對組合：

1) 4G+6G VH CDR3長度在7至9個胺基酸之間(來自第1輪之池1+池4)。

2) 4G+6G VH CDR3長度在10至12個胺基酸之間(來自第1輪之池2+池5)。

3) 4G+6G VH CDR3長度在13至15個胺基酸之間(來自第1輪之池3+池6)。

4) 4G+6G VK (來自第1輪之池7+池8)

在100 nM之抗原濃度下進行選擇，且使用與中性鏈親和素(Thermo Fisher Scientific, UK)偶合之M-280 甲苯磺醯基活化Dynabeads® (Invitrogen)捕捉抗原-噬菌體複合物。輸出效價在 6.5×10^7 TU/ml至 7.5×10^8 TU/ml之範圍內。

在20 nM之抗原濃度下且在CD40-Fc選擇之情況下，在6.7 μ M游離人類Fc尾(BMS)存在下執行第3輪。輸出效價在 4.3×10^7 TU/ml至 1.6×10^9 TU/ml之範圍內。

如關於第2輪所述但在2 nM之抗原濃度下且在存在及不存在500倍過量未標記CD40-Fc之情況下執行第4輪。在最初使噬菌體與生物素標記抗原一起培育1小時之後添加此競爭劑，且接著如前所述培育混合物隔夜。包括此競爭步驟，目的在於增強對具有較慢解離速率之

dAb之選擇。在無競爭之情況下輸出效價在 1.8×10^7 TU/ml 至 4.4×10^7 TU/ml 之範圍內，且在有競爭之情況下在 1.8×10^6 TU/ml 至 2.3×10^7 TU/ml 之範圍內。

為了監測選擇之進展，在第2輪及第3輪之後進行單株噬菌體 ELISA。如關於 BMS3h-1 至 BMS3h-69 所述執行此等操作。如關於 BMS3h-1 至 BMS3h-69 所述鑑別結合 dAb，其中例外為在 VK 文庫篩檢之情況下，包括最終濃度為 $0.8 \mu\text{g/ml}$ 之蛋白質 L。添加蛋白質 L 會藉由使 dAb 交聯而增加信號強度。

BMS3h-70 至 BMS3h-105：

BMS3h-70 至 BMS3h-105 係自針對已被動吸附至免疫管之抗原的選擇來分離。在起始選擇之前，如下組合來自未處理 4G 及 6G Domantis dAb 文庫之噬菌體：

- 1) 4G VH CDR3 長度在 7 至 9 個胺基酸之間。
- 2) 4G VH CDR3 長度在 10 至 12 個胺基酸之間。
- 3) 4G VH CDR3 長度在 13 至 15 個胺基酸之間。
- 4) 6G VH CDR3 長度在 7 至 9 個胺基酸之間。
- 5) 6G VH CDR3 長度在 10 至 12 個胺基酸之間。
- 6) 6G VH CDR3 長度在 13 至 15 個胺基酸之間。
- 7) 4G VK
- 8) 6G VK

對於第一輪選擇，將 1 ml $10 \mu\text{g/ml}$ 人類 CD40-Fc 融合物 (BMS) 於 0.2 M 碳酸鹽-碳酸氫鹽緩衝液 (pH 9.4) 中之混合物添加至 Nunc MaxiSorp 免疫管中且接著在 4°C 下，在滾動下培育隔夜。接著排空該管且用磷酸鹽緩衝鹽水 (PBS) 洗滌三次。接著藉由用 MPBS 填充至滿且在室溫下培育 1 小時來阻斷該管。接著排空該管且用 PBS 洗滌三次。將含文庫噬菌體之 4 ml MPBS 添加至該管中且在室溫下，在旋轉翻滾

下培育1小時。

排空該管且用PBST (具有0.1% (v/v)吐溫20之PBS)洗滌10次。在室溫下，藉由在旋轉翻滾下與500 μ l胰蛋白酶-PBS (50 μ l溶解於50 mM Tris-HCl (pH 7.4)、1 mM CaCl_2 中之10 mg/ml胰蛋白酶[Sigma-Aldrich, UK]添加至450 μ l PBS中)一起培育10 min來溶離保留在經洗滌管上之結合噬菌體。回收含有噬菌體之溶液，且在37°C下使用250 μ l感染1.75 ml對數生長期大腸桿菌TG1 (OD_{600} 為0.4)30分鐘。在微量離心機中在11,600 g下離心大腸桿菌TG1噬菌體感染之培養物1分鐘，且使所得細胞集結粒再懸浮於1 ml 2xTY (1公升中有16 g胰蛋白胍、10 g酵母萃取物及5 g NaCl，該懸浮液在121°C下以高壓釜處理15分鐘)中且接種於含有補充有15 μ g/ml四環素之LB瓊脂之9 cm皮式培養皿中。在37°C下培育培養盤隔夜。接著將2 ml補充有15%甘油之2xTY添加至各培養盤中，且用玻璃散佈器分散該等細胞且充分混合。

使用50 μ l刮落細菌接種50 ml補充有15 μ g/ml四環素之2xTY，且在37°C下在250 rpm振盪下生長隔夜。在3,300 g下離心隔夜培養物15分鐘以集結細菌。為了沈澱析出噬菌體，將10 ml PEG/NaCl (20%聚乙二醇8000，2.5 M NaCl)添加至40 ml上清液中。混合噬菌體/PEG溶液且靜置於冰上1小時。接著在4°C下在3,300 g下離心溶液30分鐘，且去除上清液。使集結粒再懸浮於2 ml PBS中且在微量離心機中在11,600 g下離心10分鐘，移除剩餘細菌碎片。含有噬菌體之所得上清液接著用於下一輪針對CD40-Fc抗原之選擇。第1輪之輸出效價在 7.5×10^4 TU/ml至 1.5×10^7 TU/ml之範圍內(每毫升之感染單位)。

使用自第一輪選擇回收之富集噬菌體執行第二輪選擇。如上所述精確執行此操作且輸出效價在 2.5×10^7 TU/ml至 1.2×10^8 TU/ml之範圍內。

使用自第二輪選擇回收之富集噬菌體執行第三輪選擇。如上所述

但在1 $\mu\text{g/ml}$ 之抗原濃度下執行此等操作。輸出效價在 5.1×10^7 TU/ml至 7.5×10^8 TU/ml之範圍內。

為了監測選擇之進展，在第2輪及第3輪之後進行單株噬菌體ELISA。將個別菌落之樣品選取至200 μL 補充有15 $\mu\text{g/ml}$ 四環素之2xTY中，且在37 $^{\circ}\text{C}$ 下，在Costar 96孔細胞培養集群(Corning Incorporated, USA)中在250 rpm振盪下培育隔夜。離心培養物以集結細胞，且藉由CD40結合噬菌體dAb之抗原結合ELISA分析上清液。使用3次250 μl PBST之洗滌，隨後3次250 μl PBS之洗滌執行所有洗滌。在4 $^{\circ}\text{C}$ 下用每孔50 μl 0.5 $\mu\text{g/ml}$ CD40-Fc (BMS)於0.2 M碳酸鹽-碳酸氫鹽緩衝液(pH 9.4)中之混合物塗佈MaxiSorp 96孔免疫培養盤(Nunc, USA)隔夜。洗滌培養盤，且接著在室溫下用250 μl 2% MPBS阻斷1小時。洗滌培養盤，且將噬菌體上清液添加至等體積2% MPBS中且在室溫下培育1小時。洗滌培養盤且用2% MPBS以1:5000稀釋之抗M13-HRP結合物(GE Healthcare, UK)偵測結合噬菌體，且在室溫下培育1小時。洗滌培養盤，且使用SureBlue單組分TMB MicroWell過氧化酶溶液(KPL Inc, USA)進行ELISA顯色。藉由與塗有游離Fc之培養盤相比較來鑑別特異性噬菌體dAb。

將來自以上第2輪及第3輪選擇輸出中之每一者之dAb基因以池形式次選殖至大腸桿菌菌株HB2151中之可溶性表現載體pDOM5中。此載體允許在大腸桿菌中表現具有c-myc標籤之游離dAb(Roche Diagnostics GmbH)且分泌至上清液中。

如下鑑別來自被動選擇之CD40結合dAb。在37 $^{\circ}\text{C}$ 下，在Costar 96孔細胞培養集群(Corning Incorporated, USA)中在250 rpm振盪下自各輸出選取96個個別菌落(於pDOM5中)至200 μL 含有OnEx自體誘導介質(Novagen, UK)之Terrific培養液中隔夜。離心培養物以集結細胞，且藉由CD40結合dAb之抗原結合ELISA分析上清液。在4 $^{\circ}\text{C}$ 下用每孔

50 μ l 0.5 μ g/ml CD40-Fc (BMS)於0.2 M碳酸鹽-碳酸氫鹽緩衝液(pH 9.4)中之混合物塗佈MaxiSorp 96孔免疫培養盤(Nunc, USA)隔夜。所有洗滌係如噬菌體ELISA所述。在室溫下用250 μ l含有1%吐溫20之PBS (PBST)阻斷培養盤1小時。將澄清之含有dAb之培養物上清液添加至具有等體積0.1% PBST之ELISA培養盤中。在室溫下培育培養盤1小時且接著洗滌。使用兩步方法偵測結合dAb：首先在室溫下添加用0.1% PBST以1:5000稀釋之生物素標記9E10 (抗myc IgG, Sigma-Aldrich, UK)持續1小時，接著洗滌，隨後在室溫下添加用0.1% PBST以1:5000稀釋之抗生蛋白鏈菌素-HRP (Bender MedSystems, Austria)持續1小時。洗滌培養盤且使用SureBlue單組分TMB進行ELISA顯色。藉由與塗有游離Fc之培養盤相比較來鑑別特異性dAb。

在基於珠粒或基於ELISA之受體結合分析(RBA)中測試對CD40具特異性之純系以評估CD40配位體結合之抑制。表5中給出自RBA獲得之效能量測(初步篩檢工作)。在B細胞增殖分析中，且接著在多種其他活體外細胞分析中測試在RBA中顯示抑制作用之域抗體。

BMS3h-210至BMS3h-225

BMS3h-210至BMS3h-225係自針對完整細胞之選擇來分離。在起始選擇之前，如下組合來自未處理4G及6G Domantis dAb文庫之噬菌體：

- 1) 4G+6G VH CDR3長度在7至9個胺基酸之間。
- 2) 4G+6G VH CDR3長度在10至12個胺基酸之間。
- 3) 4G+6G VH CDR3長度在13至15個胺基酸之間。
- 4) 4G and 6G VK

在第1輪中，將用細胞表面表現之人類CD40 (由BMS供應)穩定轉染之DG44 CHO細胞株用作抗原。在針對此等細胞作選擇之前，使上文所述之文庫池與未經轉染之CHO細胞一起培育以去除其對除CD40

以外之細胞表面抗原具特異性之噬菌體呈現dAb。藉由在評估存活力之前與凡爾生(Versene)(Invitrogen)一起培育來收集兩種類型之細胞。使六百萬個活的未經轉染之CHO細胞再懸浮於4 ml具有2% (w/v)BSA之PBS (PBS/BSA)中且在4°C下旋轉翻滾1小時以進行阻斷。除非另外說明，否則在4°C下執行所有後續步驟。在185 g下離心細胞5分鐘，且將含有經去除之文庫噬菌體之上清液轉移至新鮮管中。向此管中添加含 6×10^6 個活CHO-CD40細胞之1 ml PBS/BSA，且旋轉混合物1小時。接著藉由在185 g下離心5分鐘來洗滌該等細胞5次，且再懸浮於10 ml PBS/BSA中。在最終洗滌後，如先前集結細胞且接著再懸浮於0.5 ml 1 mg/ml牛胰腺之XIII型胰蛋白酶(Sigma Aldrich, UK)於補充有5 mM Tris-HCl (pH 7.4)、0.1 mM CaCl_2 之PBS中的混合物中，且轉移至微量離心管中。在室溫下旋轉細胞10分鐘，隨後在16000 g下離心5分鐘。使用上清液中之溶離之噬菌體感染大腸桿菌，且輸出噬菌體效價經測定在 5.1×10^5 TU/ml與 2.7×10^6 TU/ml(每毫升之感染單位)之間。

使用自第一輪選擇回收之富集噬菌體執行第二輪選擇。如上所述但無初始去除(去選擇)步驟且使用RAMOS人類B細胞(ATCC)替代CHO-CD40來執行此等操作。輸出效價在 2.3×10^5 TU/ml至 7.5×10^5 TU/ml之範圍內。

如第二輪般執行第三輪選擇。輸出效價在 1.9×10^8 TU/ml至 3.5×10^8 TU/ml之範圍內。

將來自以上第2輪及第3輪選擇輸出中之每一者之dAb基因以池形式次選殖至大腸桿菌菌株HB2151中之可溶性表現載體pDOM5中。此載體允許在大腸桿菌中表現具有c-myc標籤之游離dAb且分泌至上清液中。

在CHO細胞受體結合分析(RBA)中測試對CD40具特異性之純系以評估CD40配位體結合之抑制。在B細胞增殖分析中，且接著在多種其

他活體外細胞分析中測試在RBA中顯示抑制作用之域抗體。

藉由易錯PCR進行親和力成熟

構築13個在下文實例6中所述之B細胞增殖分析中顯示中和活性之BMS3h dAb的易錯噬菌體文庫(參見表17)。此係藉由使用Mutazyme II聚合酶(來自Agilent Technologies之GeneMorph II套組之一部分)在擴增期間藉由聚合酶鏈反應(PCR)將錯誤任意引入dAb基因中來執行。在GAS1前導序列控制下將突變dAb基因以與fd噬菌體基因III蛋白質之基因融合物形式選殖至pDOM4載體中，該載體含有為產生感染性噬菌體粒子所必需之所有fd基因。此等文庫之尺寸為約 1×10^8 個CFU (菌落形成單位)，每個dAb基因之錯誤率為2至5個胺基酸。

使由此等文庫產生之噬菌體經受三輪針對可溶性生物素標記人類CD40之選擇。第一輪噬菌體選擇係藉由將噬菌體文庫與2% MPBS (補充有2% (w/v) Marvel乾脫脂奶粉之磷酸鹽緩衝鹽水)預混合且添加生物素標記人類CD40 (BMS)至最終濃度為於1 ml之最終體積中20 nM來執行。在室溫下，在翻滾混合下培育混合物至少1小時。接著使用50 μ l M-280抗生蛋白鏈菌素Dynabeads® (Invitrogen)捕捉抗原-噬菌體複合物且用1 ml PBST洗滌7次，隨後用1 ml PBS洗滌一次。藉由與0.5 ml 1 mg/ml來自牛胰腺之XIII型胰蛋白酶(Sigma Aldrich, UK)於補充有5 mM Tris-HCl (pH 7.4)、0.1 mM CaCl_2 之PBS中的混合物一起培育而自抗原/珠粒複合物溶離洗滌之噬菌體。使用溶離之噬菌體感染大腸桿菌，且輸出噬菌體效價經測定在 2×10^5 TU/ml與 9×10^7 TU/ml(每毫升之感染單位)之間。

使用自第一輪選擇回收之富集噬菌體用最終濃度之2 nM生物素標記CD40執行第二輪選擇，隨後如上所述使用抗生蛋白鏈菌素珠粒捕捉。輸出效價在 3×10^4 TU/ml至 5×10^6 TU/ml之範圍內。

使用2 nM生物素標記CD40進行第三輪選擇，隨後使用抗生蛋白

鏈菌素珠粒捕捉。溶離之噬菌體效價在 8×10^4 TU/ml至 4×10^6 TU/ml之範圍內。

***BIAcore™* 篩檢**

將來自以上第3輪選擇輸出各自之dAb基因以池形式次選殖至大腸桿菌HB2151中之可溶性表現載體pDOM13 (Domantis)中。pDOM13載體亦稱為pDOM33且揭示於WO/2008/149143中。此載體允許在大腸桿菌中表現游離dAb且分泌至上清液中。在37°C下，在Costar 96孔細胞培養集群(Corning Incorporated, USA)中在250 rpm振盪下自各輸出選取47個個別菌落且在200 μ l含有Novagen隔夜表現自體誘導介質(Merck Chemicals, UK)之Terrific培養液(TB)中表現隔夜。在相同培養盤中，用表現適當親本(野生型) dAb之大腸桿菌接種單一孔。離心培養物以集結細胞，且用BIAcore™ 3000儀器(GE Healthcare)篩檢上清液與親本dAb相比「解離速率」(亦即解離速率常數， k_d)之改良。

將約1600個反應單位(RU)之生物素標記人類CD40 (BMS)固定於抗生蛋白鏈菌素(SA) BIAcore™晶片之一個流槽上。將未固定有任何配位體之第二流槽用作參比流槽進行線內參比。用HBS-EP緩衝液(具有0.15 M NaCl、3 mM EDTA及0.005% v/v界面活性劑P20之0.01 M HEPES (pH 7.4)，GE Healthcare)以1:3稀釋各待分析之dAb上清液。使用儀器之KINJECT功能將10微升各dAb上清液注射於串聯之固定CD40之流槽及參比流槽上，線內減去來自參比槽之信號。在25°C及10 μ l/min之HBS-EP流速下執行實驗。各注射完成後，允許在緩衝液中自配位體解離dAb 120秒，隨後由注射5 μ l 10 mM甘胺酸(pH 2.0)而再生。使用BIAevaluation 4.1軟體(GE Healthcare)自各分析物跡線減去參比流槽跡線。使用同一軟體來近似擬合分析物跡線之解離階段的1:1 (朗繆爾(Langmuir))動力學模型。此模型產生各純系之近似解離速率常數(「解離速率」或 k_d)且允許與野生型dAb進行相對比較。

鑑別除BMS3h-129及BMS3h-197外之所有譜系的解離速率改良之純系。如上所述，在基於珠粒或基於ELISA之受體結合分析(RBA)中測試解離速率改良之純系以對效能之改良進行評估。在標註為「易錯成熟之純系」的表中給出由RBA獲得之效能量測結果。隨後在B細胞增殖分析中測試在RBA中更有效之純系以評估生物效能之提高，且表17中給出所獲得之此等量測結果。亦在多種其他活體外細胞分析中測試在B細胞增殖分析中效能改良之域抗體。

藉由三聯體掃描多樣化進行親和力成熟

選擇自易錯成熟分離的5種效能改良之dAb，亦即BMS3h-37-2、BMS3h-38-2、BMS3h-56-2、BMS3h-193-25及BMS3h-217-23，以藉由三重掃描多樣化進一步親和力成熟。基於如上針對易錯文庫所述之此等親本構築噬菌體文庫，其中例外為替代使用易錯PCR，使用一系列重疊簡併三聯寡核苷酸來多樣化各dAb之互補決定(CDR)區。對於待親和力成熟之各dAb，使用含有NNS密碼子三聯體之寡核苷酸(參見Arkin等人(1992) *Proc. Nat'l Acad. Sci. USA* 89:7811-7815)藉由重疊延伸拼接(slicing by overlap extension, SOE) PCR製得各CDR之許多文庫。利用寡核苷酸針對兩個密碼子重疊之既定CDR使三聯體多樣化，每個CDR產生2至4個文庫。BMS3h-37-2文庫中多樣化之胺基酸殘基在位置30、31、32、33、35、50、52、53、55、56、95、96、97及98(Kabat編號)。BMS3h-38-2文庫中多樣化之殘基如同BMS3h-37-2一般，但添加了位置100。BMS3h-56-2文庫中多樣化之殘基如同BMS3h-37-2一般，但添加了位置100及101。BMS3h-193-25及BMS3h-217-23文庫中多樣化之殘基在位置27、28、30、31、32、34、49、50、51、53、89、91、92、93、94及96。

由此等文庫產生之噬菌體藉由CDR混合且如上所述執行選擇，其中例外為對於BMS3h-37-2、BMS3h-38-2、BMS3h-56-2及BMS3h-193-

25，第1輪、第2輪及第3輪所用抗原之濃度分別為10 nM、1 nM及0.1 nM。對於BMS3h-217-23，第1輪、第2輪及第3輪之所用抗原之濃度分別為20 nM、2 nM及0.2 nM。對於對獼猴CD40具交叉反應性之BMS3h-193-25，亦並行地針對獼猴CD40執行選擇。另外，分別在存在或不存在100倍或1000倍過量之未標記CD40之情況下執行第2輪及第3輪選擇。在最初使噬菌體與生物素標記抗原一起培育1小時之後添加此競爭劑，且接著如前所述再培育混合物1小時。包括此競爭步驟，目的在於增強對具有較慢解離速率之dAb之選擇。第1輪效價在 1.4×10^6 至 1.4×10^9 之範圍內。在無競爭之情況下第2輪之效價為 1.3×10^5 至 4.0×10^8 ，且在無競爭之情況下第3輪中之效價為 1.2×10^5 至 1.9×10^8 ，且在無競爭之情況下為 6.0×10^5 至 1.2×10^8 。

如關於易錯親和力成熟所述次選殖且篩檢此等選擇輸出。鑑別除BMS3h-193-25外之所有譜系的解離速率改良之純系。在ELISA受體結合分析(RBA)中測試解離速率改良之純系以對效能改良進行評估。在標註為「進一步成熟之純系」的表中給出由RBA獲得之效能量測結果。隨後在B細胞增殖分析中測試在RBA中更有效之純系以評估生物效能之提高，且表17中給出所獲得之此等量測結果。亦在多種其他活體外細胞分析中測試在B細胞增殖分析中效能改良之域抗體。

實例2

使用受體結合分析(RBA)進行篩檢

使用若干活體外受體結合分析(RBA)測定實例1中產生之抗人類CD40可變域胺基酸序列之CD40親和力。使用三種RBA格式：(1)珠粒RBA、(2) ELISA RBA及(3) CHO細胞RBA。

珠粒RBA：

經磷酸鹽緩衝鹽水(PBS)洗滌之Sphero抗生蛋白鏈菌素聚苯乙烯

粒子(Saxon Europe, UK)用0.5 $\mu\text{g/ml}$ 生物素標記人類IZ-CD40L (BMS)塗佈。塗佈之後，用PBS洗滌生物素標記CD40L粒子且用含0.1% (w/v)胎牛血清白蛋白(BSA) (Sigma-Aldrich, UK)之PBS分析緩衝液以1:10稀釋。在384孔透明底黑色壁培養盤(Applied Biosystems)中，等量組合稀釋範圍之純化dAb、0.25 $\mu\text{g/ml}$ 人類CD40 (BMS, CY24FEB06-01)、1/5000小鼠抗人類IgG (Fc) mAb純系GG-7 (Sigma-Aldrich, UK)、0.25 $\mu\text{g/ml}$ 山羊抗小鼠ALEXA Fluor 647 (Invitrogen, Molecular probes, UK)及生物素標記CD40L聚苯乙烯粒子且在無光存在下在室溫下培育6小時。培育之後，使用相對螢光用AB8200細胞偵測機制(Applied Biosystems)評估dAb相對於人類CD40與生物素標記CD40L粒子之競爭性結合。

ELISA RBA :

在4°C下用25 μl 1 $\mu\text{g/ml}$ 中性鏈親和素於0.2 M碳酸鹽碳酸氫鹽緩衝液(pH 9.4)中之混合物塗佈透明壁高結合384孔培養盤(Corning, UK)隔夜。第二天，用0.1% (v/v)吐溫PBS緩衝液洗滌分析培養盤，在室溫下用含1% (w/v) BSA之PBS阻斷1小時且再次洗滌。在移除過量洗滌緩衝液之後，在室溫下使25 μl 1 $\mu\text{g/ml}$ 生物素標記人類IZ-CD40L (BMS)與該等分析培養盤一起培育1小時。同時，稀釋範圍之純化dAb與1 $\mu\text{g/ml}$ 人類CD40 (BMS, CY24FEB06-01)以1:1之比率複合。在洗滌分析培養盤之後，在室溫下，在輕微攪動下，在分析培養盤中培育dAb:人類CD40複合物2小時。在1/5000小鼠抗人類IgG (Fc) mAb純系GG-7 (Sigma-Aldrich, UK)，隨後1/10,000辣根過氧化物酶(horse radish peroxidase, HRP)結合之山羊抗小鼠IgG (Fc)第二偵測抗體(Sigma-Aldrich, UK)相繼培育下，偵測dAb相對於人類CD40與生物素標記CD40L之競爭性結合。在用1M HCl溶液中和之後，使用SpectraMax M5[®]培養盤讀取器(Molecular Devices)在450 nm下量測吸

光度信號。

細胞分析：CD40 CHO細胞RBA：

使用凡爾生(Invitrogen)自細胞培養燒瓶分離穩定轉染之表現人類CD40之CHO-DG44細胞或天然CHO-DG44細胞(皆為BMS)。將每孔4萬個細胞於具有稀釋範圍之dAb、0.25 $\mu\text{g/ml}$ 生物素標記人類IZ-CD40L (BMS)及0.25 $\mu\text{g/ml}$ 抗生蛋白鏈菌素 Alexa Fluor 647 (Invitrogen, Molecular probes, UK)之0.1% (w/v) BSA PBS分析緩衝液中接種至96孔高結合黑色壁透明底培養盤(Corning, UK)中。在無光存在下培育混合物6小時。培育之後，使用相對螢光用AB8200細胞偵測機制(Applied Biosystems)評估dAb相對於人類CD40 CHO細胞與可溶性生物素標記IZ-CD40L之競爭性結合。

表5至表7分別顯示測試之抗人類CD40 dAb之初步篩檢工作(「未處理純系」)及後續各輪親和力成熟(「易錯成熟之純系」及「進一步成熟之純系」)的結果。

表5

初步篩檢工作：

未處理純系	珠粒RBA之 EC ₅₀ (nM)	ELISA RBA之 EC ₅₀ (nM)	細胞RBA (CHO-CD40) 之EC ₅₀ (nM)
BMS3h-37	100、200		
BMS3h-38	600、650		>10000
BMS3h-41	2000、1600		>10000
BMS3h-43	100、50、50		5000
BMS3h-56	1000、500		
BMS3h-106	300、1000、500、400		>10000
BMS3h-129	5000		
BMS3h-131	500、>1000		
BMS3h-193	1000		
BMS3h-197	30		

未處理純系	珠粒RBA之 EC ₅₀ (nM)	ELISA RBA之 EC ₅₀ (nM)	細胞RBA (CHO-CD40) 之EC ₅₀ (nM)
BMS3h-198	80		600
BMS3h-202	3000、3700		>10000
BMS3h-217	800		1400
BMS3h-231		670、870	
BMS3h-233		2770	
BMS3h-257		3210、1340	
BMS3h-242		390、210	
BMS3h-262		1770、1160	
BMS3h-263		3130	
BMS3h-271		370、210	
BMS3h-285		168、258	
BMS3h-287		>10000、6758	
BMS3h-289		2390、>10000	

表6

易錯成熟之純系：

純系	ELISA RBA之EC ₅₀ (nM)	細胞RBA (CHO-CD40)之EC ₅₀ (nM)
BMS3h-37-2		32
BMS3h-37-4		45
BMS3h-37-11		27
BMS3h-38-5		1000
BMS3h-38-8		2800
BMS3h-41-3		200
BMS3h-41-10		4300
BMS3h-43-3		320
BMS3h-43-5		90
BMS3h-56-1	7.1	
BMS3h-56-2	17.0	
BMS3h-56-5	4.9、7.5、4.7	18、28
BMS3h-56-7	5.5	
BMS3h-56-8	6.2	
BMS3h-56-9	4.4、5.5	

純系	ELISA RBA之EC ₅₀ (nM)	細胞RBA (CHO-CD40)之EC ₅₀ (nM)
BMS3h-56-16	7.0	
BMS3h-56-17	66	
BMS3h-56-18	6.5	
BMS3h-56-19	5.5、5.1	
BMS3h-56-20	6.8	
BMS3h-56-21	6.5、6.2	
BMS3h-56-22	6.5	
BMS3h-56-23	24.5	
BMS3h-56-24	11.7	
BMS3h-56-25	5.5	
BMS3h-56-26	5.0	
BMS3h-56-27	16.3	
BMS3h-56-28	8.9	
BMS3h-56-29	9.7	
BMS3h-56-30	24.2	
BMS3h-56-31	61.0	
BMS3h-193-5	>300	
BMS3h-193-7	300	
BMS3h-193-10	200	
BMS3h-193-11	300	
BMS3h-193-12	200	
BMS3h-193-15		300
BMS3h-193-18	100	
BMS3h-193-19	100	
BMS3h-193-25	140	
BMS3h-193-26	100	
BMS3h-193-27	100	
BMS3h-193-29	360、114	
BMS3h-193-30	290、116	
BMS3h-198-1	12	70
BMS3h-198-2		115
BMS3h-198-3		330
BMS3h-198-9	20	
BMS3h-198-10	35	

純系	ELISA RBA之EC ₅₀ (nM)	細胞RBA (CHO-CD40)之EC ₅₀ (nM)
BMS3h-198-11	20	
BMS3h-198-14	9	
BMS3h-198-17	20	
BMS3h-198-19	7.9	
BMS3h-198-22	10	
BMS3h-198-31	6.1	
BMS3h-198-32	24.7	
BMS3h-198-33	8.7	
BMS3h-198-34	32.6	
BMS3h-198-37	15.1	
BMS3h-198-38	7.2	
BMS3h-202-10		7200
BMS3h-202-11		8300
BMS3h-217-1	23	
BMS3h-217-2	78	
BMS3h-217-3	32	
BMS3h-217-4	部分、15	
BMS3h-217-5	65	
BMS3h-217-6	26	
BMS3h-217-7	39	
BMS3h-217-8	6	
BMS3h-217-9	53	
BMS3h-217-14	8	
BMS3h-217-15	21	
BMS3h-217-16	9	
BMS3h-217-17	60	
BMS3h-217-23	16	

表7

進一步成熟之純系：

純系	ELISA RBA之 EC ₅₀ (nM)	ICAM1細胞分 析之EC ₅₀ (nM)	細胞RBA (CHO- CD40)之EC ₅₀ (nM)
BMS3h-37-202	4.1、35		

純系	ELISA RBA之 EC ₅₀ (nM)	ICAM1細胞分 析之EC ₅₀ (nM)	細胞RBA (CHO- CD40)之EC ₅₀ (nM)
BMS3h-37-205	3.1、4.4		
BMS3h-37-206	3.2、8.9		
BMS3h-37-207	2.5、6.6		
BMS3h-37-212	24		
BMS3h-37-213	16		
BMS3h-38-201	3.4、非活性		
BMS3h-38-202	4.8		
BMS3h-38-203	5.5		
BMS3h-38-204	4.8		
BMS3h-38-205	4.5、11.1		
BMS3h-38-209	10.2		
BMS3h-38-211	2.3、13.8		
BMS3h-38-215	2.3、3.6		
BMS3h-38-217	1.8、2.2		
BMS3h-38-218	3.0		
BMS3h-38-219	1.8、7.1		
BMS3h-38-223	5.7		
BMS3h-38-224	6.3		
BMS3h-38-225	8.8		
BMS3h-38-226	18.1		
BMS3h-38-228	4		
BMS3h-38-231	4.4		
BMS3h-38-235	1.5		
BMS3h-38-237	2		
BMS3h-38-238	5.1		
BMS3h-56-201	3.7、2.3	10.0	
BMS3h-56-202	3.4、3.2	80.0	
BMS3h-56-203	5.2、4.3	70.0	
BMS3h-56-204	4.5		
BMS3h-56-205	9.0		
BMS3h-56-206	2.9、2.3	5.0	
BMS3h-56-207	7.3		
BMS3h-56-215	3.2、4.6	40.0	

純系	ELISA RBA之 EC ₅₀ (nM)	ICAM1細胞分 析之EC ₅₀ (nM)	細胞RBA (CHO- CD40)之EC ₅₀ (nM)
BMS3h-56-217	2.1、12.6		
BMS3h-56-220	4.2		
BMS3h-56-223	5.0		
BMS3h-56-224	2.1、4.2		
BMS3h-56-225	2.9		
BMS3h-56-229	4.1		
BMS3h-56-232	2.8、3.7		
BMS3h-56-239	2.7		
BMS3h-56-243	9.9		
BMS3h-56-244	6.0		
BMS3h-56-246	11.1		
BMS3h-56-248	0.7		
BMS3h-56-253	1.3		
BMS3h-56-258	5.2	23.0	15
BMS3h-56-261	5.7	42.4	17
BMS3h-56-262	4.0	135.0	42
BMS3h-56-265	18.8	289.0	88
BMS3h-56-266	3.8	31.9	27
BMS3h-56-269	3.3	34.2	24
BMS3h-56-270	11.3	93.8	91
BMS3h-193-2501	114		
BMS3h-193-2502	170		
BMS3h-193-2503	3000		
BMS3h-193-2504	140		
BMS3h-193-2505	500		
BMS3h-193-2506	180		
BMS3h-193-2507	160		
BMS3h-193-2510	170		
BMS3h-193-2511	270		
BMS3h-193-2512	600		
BMS3h-193-2513	130		
BMS3h-193-2514	525		
BMS3h-193-2515	100		

純系	ELISA RBA之 EC ₅₀ (nM)	ICAM1細胞分 析之EC ₅₀ (nM)	細胞RBA (CHO- CD40)之EC ₅₀ (nM)
BMS3h-193-2516	100		

實例3

CD40結合動力學

測定初步篩檢工作(「未處理純系」)及後續各輪親和力成熟(「易錯成熟之純系」)中所鑑別之抗人類CD40 dAb的結合動力學。所用之方法直接量測dAb對CD40之親和力。

使用BIAcore™ 3000儀器(GE Healthcare)分析CD40特異性dAb與CD40之結合動力學。將約600個反應單位(RU)之生物素標記人類CD40 (BMS)固定於抗生蛋白鏈菌素(SA) BIAcore™晶片之一個流槽上。將未固定有任何配位體之第二流槽用作參比流槽進行線內參比。用HBS-EP緩衝液(具有0.15 M NaCl、3 mM EDTA及0.005% v/v界面活性劑P20之0.01 M HEPES (pH 7.4), GE Healthcare)製備一系列適當二倍稀釋之各待分析之dAb。使用儀器之KINJECT功能一式兩份注射180 µl各dAb。將各dAb注射於串聯之固定CD40之流槽及參比流槽上,線內減去來自參比槽之信號。在25℃及30 µl/min之HBS-EP流速下執行實驗。在各注射完成後,允許在緩衝液中自配位體解離dAb 300秒,隨後由注射10 µl 10 mM甘胺酸(pH 2.0)而再生。亦在相同條件下注射HBS-EP緩衝液空白參比注射劑(不包含分析物),以用作自各分析物跡線減去之第二參比。使用BIAevaluation 4.1軟體(GE Healthcare)自各分析物跡線減去參比流槽跡線與緩衝液空白跡線。使用同一軟體同時整體擬合分析物稀釋液系列跡線之締合及解離階段的1:1 (朗繆爾)動力學模型。此模型產生相互作用之締合及解離速率常數(分別為 k_a 及 k_d)及平衡解離常數(K_D);此等常數詳示於表8及表9中。

表8

未處理純系：

純系	BIACore™ k_a (M ⁻¹ s ⁻¹)	BIACore™ k_d (s ⁻¹)	BIACore™ K_D (M)
BMS3h-37	1.9E+04	3.6E-03	1.9E-07
BMS3h-38	2.1E+04	6.2E-03	3.0E-07
BMS3h-41	9.9E+03	8.3E-03	8.4E-07
BMS3h-43	1.4E+03	3.1E-03	2.1E-06
BMS3h-56	2.3E+04	4.0E-03	1.8E-07
BMS3h-106	1.3E+05	4.6E-02	3.5E-07
BMS3h-107	2.0E+05	1.7E-01	8.5E-07
BMS3h-129	4.7E+05	5.1E-01	1.1E-06
BMS3h-131	2.4E+04	2.2E-02	9.3E-07
BMS3h-197	8.1E+04	1.4E-02	1.8E-07
BMS3h-198	1.6E+03	3.8E-04	2.4E-07
BMS3h-202	1.7E+03	3.5E-03	2.0E-06

表9

易錯成熟之純系：

純系	BIACore™ k_a (M ⁻¹ s ⁻¹)	BIACore™ k_d (s ⁻¹)	BIACore™ K_D (M)
BMS3h-37-2	1.0E+05	4.1E-04	4.0E-09
BMS3h-37-5	3.9E+04	2.2E-04	5.5E-09
BMS3h-37-9	1.5E+04	1.8E-04	1.2E-08
BMS3h-38-1	3.2E+04	1.1E-03	3.3E-08
BMS3h-38-2	6.1E+04	7.5E-04	1.2E-08
BMS3h-38-3	7.5E+04	4.1E-04	5.5E-09
BMS3h-41-1	5.1E+04	5.6E-04	1.1E-08
BMS3h-43-1	4.4E+03	6.3E-04	1.4E-07
BMS3h-43-3	3.1E+04	5.9E-04	1.9E-08
BMS3h-56-1	9.8E+04	5.4E-04	5.5E-09
BMS3h-56-2	1.1E+05	6.0E-04	5.3E-09
BMS3h-56-5	1.1E+05	6.3E-04	5.9E-09
BMS3h-56-7	1.3E+05	4.7E-04	3.5E-09

BMS3h-56-9	1.5E+05	3.9E-04	2.6E-09
BMS3h-131-2	7.9E+04	1.7E-03	2.1E-08
BMS3h-193-25	4.6E+05	3.7E-02	8.1E-08
BMS3h-198-1	1.5E+04	1.8E-04	1.3E-08
BMS3h-202-5	4.4E+03	1.3E-03	3.0E-07

實例4

生物物理表徵

藉由生物物理參數之分析進一步表徵初步篩檢工作(「未處理純系」)及後續各輪親和力成熟(「易錯成熟之純系」及「進一步成熟之純系」)中所鑑別之抗人類CD40 dAb。為了量測dAb之相對穩定性，藉由差示掃描熱量測定法(differential scanning calorimetry, DSC)測定其熔點。具有較高熔融溫度之dAb更穩定。為了測定dAb是否在溶液中形成多聚聚集體，藉由尺寸排阻層析法/多角雷射光散射(size exclusion chromatography/multiangle laser light scattering, SEC-MALLS)分析dAb。結果示於表10至表12中。

表10

未處理純系：

純系	DSC (Tm/ °C)	SEC-MALS溶液狀態
BMS3h-38	59	單體及二聚體(<5%)
BMS3h-41	59	單體及單體-二聚體平衡(<5%)
BMS3h-43		二聚體及三聚體
BMS3h-56	57	單體及二聚體(<10%)
BMS3h-106		單體
BMS3h-107	63	單體
BMS3h-129	59	單體
BMS3h-193	56	單體
BMS3h-197	62 & 53	單體及二聚體(<5%)
BMS3h-198	61	單體
BMS3h-202	60	單體及單體-二聚體平衡(<2%)

純系	DSC (Tm/ °C)	SEC-MALS溶液狀態
BMS3h-207		二聚體及四聚體
BMS3h-208		單體及二聚體
BMS3h-217	57	二聚體
BMS3h-233		單體
BMS3h-242		單體及單體-二聚體
BMS3h-262		單體
BMS3h-265		二聚體
BMS3h-271		二聚體
BMS3h-285		單體

表11

易錯成熟之純系：

純系	DSC Tm/ °C	SEC-MALS溶液狀態
BMS3h-37-1	57.2	
BMS3h-37-2	56.2	
BMS3h-37-9	59.7	
BMS3h-37-11	60.0	
BMS3h-56-1	49.6	單體
BMS3h-56-2	63.0	單體及二聚體(<2%)
BMS3h-56-3	64.0	單體(>98%)
BMS3h-56-5	51.2	
BMS3h-41-1	56	單體(約99%)
BMS3h-41-2	53.4	
BMS3h-41-3	51.8	
BMS3h-41-9	61	單體及單體/二聚體快速平衡(<2%)
BMS3h-41-12	49.8	單體/二聚體
BMS3h-41-13		單體/二聚體
BMS3h-43-1	53	單體(約99%)
BMS3h-43-3	51.2	
BMS3h-43-5	48.2	單體/二聚體
BMS3h-43-10	51.8	

純系	DSC Tm/ ℃	SEC-MALS溶液狀態
BMS3h-43-11	54.8	
BMS3h-43-12		二聚體(60%)及單體(40%)
BMS3h-56-1	59.2	單體/二聚體
BMS3h-56-2	60.1	單體/二聚體
BMS3h-56-5	57	單體(>95%)
BMS3h-56-6	57.5	單體/二聚體
BMS3h-56-7	61	單體+單體/二聚體快速平衡(<5%)
BMS3h-56-8	58	單體(>98%)
BMS3h-56-9	61	單體+二聚體(<5%)
BMS3h-56-14	60.1	單體
BMS3h-193-8	60	
BMS3h-193-12	52	
BMS3h-193-16	54.5 & 65.7	單體
BMS3h-193-19	56.8	單體
BMS3h-193-25	55.8	單體
BMS3h-193-29	60	單體
BMS3h-193-30	58	
BMS3h-198-1	52.5	單體
BMS3h-198-2		單體
BMS3h-198-3	59	
BMS3h-198-5	55.6	
BMS3h-198-19	60.7	
BMS3h-198-24	59.9	單體
BMS3h-198-28	60.3	單體
BMS3h-202-1	56.8	單體
BMS3h-202-5	55.5	三聚體(60%)及單體/二聚體(40%)
BMS3h-202-10	58.3	三聚體(60%)及單體/二聚體(40%)
BMS3h-217-1		單體/二聚體
BMS3h-217-2		二聚體
BMS3h-217-3		二聚體
BMS3h-217-4		單體/二聚體
BMS3h-217-5		二聚體

純系	DSC T _m / °C	SEC-MALS溶液狀態
BMS3h-217-6		二聚體
BMS3h-217-8		二聚體
BMS3h-217-14		單體/二聚體
BMS3h-217-15		二聚體
BMS3h-217-16		二聚體
BMS3h-217-17		單體/二聚體
BMS3h-217-23		二聚體

表 12

進一步成熟之純系：

純系	DSC T _m /°C	SEC-MALS溶解狀態
BMS3h-37-206		單體(73%)及二聚體(20%)+HMW
BMS3h-37-212		二聚體
BMS3h-38-201		單體(75%)及二聚體(15%)
BMS3h-38-228		單體(90%)及三聚體(10%)
BMS3h-38-231		單體(90%)及二聚體(10%)
BMS3h-38-235		單體(90%)及三聚體-二聚體
BMS3h-38-237		單體(90%)及四聚體(10%)
BMS3h-38-238		單體(95%)及二聚體-單體
BMS3h-56-201	57.4+61.8	單體及二聚體(15%)
BMS3h-56-202		單體
BMS3h-56-203		單體及三聚體
BMS3h-56-206		單體
BMS3h-56-215		單體、二聚體(2%)及三聚體(9%)
BMS3h-56-217	52.8+54.6	
BMS3h-56-232	51.0+56.1	單體(95%)及二聚體(5%)
BMS3h-56-239	53.5	單體
BMS3h-56-243	51.9	單體及五聚體
BMS3h-56-244		單體(90%)及三聚體(10%)
BMS3h-56-248		單體(60%)、二聚體及四聚體
BMS3h-56-253		單體
BMS3h-56-258	62.5+57.5	

純系	DSC T _m /°C	SEC-MALS溶解狀態
BMS3h-56-261	58.6+61.5	
BMS3h-56-266	61.3+62.3	
BMS3h-56-269	64.5+67.2	

實例5

競爭分析

使用BIAcore™ 3000儀器(GE Healthcare)分析CD40特異性dAb是否結合相同CD40抗原決定基。將約600個反應單位(RU)之生物素標記人類CD40 (BMS)固定於抗生蛋白鏈菌素(SA) BIAcore™晶片之一個流槽上。將未固定有任何配位體之第二流槽用作參比流槽進行線內參比。用HBS-EP緩衝液(具有0.15 M NaCl、3 mM EDTA及0.005% v/v界面活性劑P20之0.01 M HEPES (pH 7.4)，GE Healthcare)製備適當稀釋之各待分析之dAb或Fab。所選稀釋液為在如下文所述注射時對於特定抑制劑(典型地為1 μM至10 μM)產生>80%之最大可能結合RU的稀釋液。接著，製備與上文(在相同最終濃度下)相同之dAb或Fab與待進行競爭分析之第二dAb或Fab的混合物。使用儀器之COINJECT功能將60 μl單一抑制劑稀釋液注射於串聯之固定CD40之流槽及參比流槽上，隨後立即注射60 μl兩抑制劑混合物。藉由儀器之控制軟體線內減去來自參比槽之信號。在25℃及30 μl/min之HBS-EP流速下執行實驗。各次共注射完成後，允許在緩衝液中自配位體解離抑制劑60秒，隨後由注射10 μl 10 mM甘胺酸(pH 2.0)而再生。記下獲得之第二注射劑(兩抑制劑之混合物)之最大RU且表示為單獨注射時獲得之相同抑制劑的RU之百分比。

若第二抑制劑保留在單獨注射其時通常結合之RU的至少100%，則此表示兩種抑制劑結合至個別抗原決定基。若觀測到第二抑制劑之結合小於100%，則此指示兩種抑制劑之間結合至CD40的競爭。此競爭存在若干可能原因：兩種抑制劑可結合至同一或重疊抗原決定基，

可能存在結合之空間抑制，或第一抑制劑之結合可能誘發能阻止或減少第二抑制劑結合之抗原構形變化。

測試來自各譜系之實例純系(BMS3h-217除外)與重疊群組中之其他dAb之競爭。如表13及表14中所示，所有所測試之dAb似乎會彼此競爭結合於CD40。此資料表明所有選自由譜系BMS3h-37、BMS3h-38、BMS3h-41、BMS3h-43、BMS3h-56、BMS3h-131、BMS3h-198及BMS3h-202組成之群的抗體多肽應與來自任一此等譜系之dAb與人類CD40的結合競爭。

表13

競爭BIAcore™：

第一注射劑	第一單獨dAb之RU	第二注射劑(單一dAb RU之百分比)				
		<i>BMS3h-56-5</i>	<i>BMS3h-37-11</i>	<i>BMS3h-131-2</i>	<i>BMS3h-198-1</i>	<i>BMS3h-202-11</i>
<i>BMS3h-56-5</i>	245		-15	17	0.6	7.3
<i>BMS3h-37-11</i>	158	15		25	16	0.3
<i>BMS3h-131-2</i>	220	22	-3.7		23.2	10.3
<i>BMS3h-198-1</i>	176	28	6.4	41		18
<i>BMS3h-202-11</i>	124	50	42	57	39	

表14

第一注射劑	第一單獨dAb之RU	第二注射劑(單一dAb RU之百分比)			
		<i>BMS3h-38-2</i>	<i>BMS3h-41-9</i>	<i>BMS3h-43-1</i>	<i>BMS3h-56-5</i>
<i>BMS3h-38-2</i>	170		11	29	29

<i>BMS3h-41-9</i>	150	27		44	47
<i>BMS3h-43-1</i>	210	20	19		39
<i>BMS3h-56-5</i>	190	4	0	22	

類似地，如表15及表16中所示，測試各種dAb與Chi220 Fab'之競爭。在此情況下，所有dAb不與Chi220 Fab'競爭，其中例外為BMS3h-217，其顯示競爭。在結合之Chi220或G28-5 Fab'存在下，BMS3h-56-5及BMS3h-193-12 dAb以至少100%之單一dAb RU結合，從而表明Fab'結合與dAb不同之抗原決定基。Chi220 Fab'顯示在G28-5存在下結合RU降低。在相反次序之結合中觀測到相同之結果。此表明G28-5 Fab'結合與Chi220 Fab'相同之抗原決定基。

表15

第一注射劑	第一單獨 dAb/Fab 之RU	第二注射劑(單一dAb/Fab RU之百分比)			
		<i>BMS3h-56-5</i>	<i>Chi220 Fab</i>	<i>G28-5 Fab</i>	<i>BMS3h-193-12</i>
<i>BMS3h-56-5</i>	193		98	94	64
<i>Chi220 Fab</i>	1089	105		11	109
<i>G28-5 Fab</i>	730	125	39		116
<i>BMS3h-193-12</i>	282	44	98	93	

表16

純系名稱	所測試dAb或Fab之 μ M	單一dAb之 RU	單一dAb RU之百分比 (Chi220+dAb)
BMS3h-38-2	5	156	121
BMS3h-41-13	5	162	109
BMS3h-43-3	5	300	101
BMS3h-38-2	5	175	114
BMS3h-56-5	5	193	105
BMS3h-106	10	165	111
BMS3h-107	10	35	146

BMS3h-129	10	156	121
BMS3h-193-12	5	282	98
BMS3h-197	1	177	116
BMS3h-217	10	85	25
G28-5 Fab	1	730	11

實例6

CD40活性分析

功能上分析抗人類CD40 dAb拮抗CD40活性之能力。所測試之CD40活性為藉由hCD40L驅動之初級人類單核細胞衍生之樹突狀細胞(dendritic cells, DC)活化進行之B細胞增殖及細胞激素產生。除非另外說明，否則所有分析均在補充有10%胎牛血清(fetal calf serum, FCS)之RPMI培養基中執行。使用各種分析得到之結果示於表17中。

可溶性IZ-hCD40L驅動之初級人類B細胞增殖：

在96孔圓底培養盤中以每孔200 μ l之最終體積用0.6 μ g/ml IZ-hCD40L以及不同滴定量之抗體多肽培育 1×10^5 個扁桃體人類B細胞。在37°C下培育培養盤72小時，接著添加胸腺嘧啶核苷(3 H; 0.5 μ ci/孔) 6小時。基於胸腺嘧啶核苷併入法定量B細胞增殖。

CHO-hCD40L驅動之初級人類B細胞增殖：

用人類CD40L轉染CHO細胞以產生以較高CD40L表現程度表現於細胞表面上之穩定細胞株。以10,000拉德(Rad)照射CHO-CD40L細胞，隨後用人類B細胞培育。在96孔圓底培養盤中以每孔200 μ l之最終體積用 1×10^3 個CHO-CD40L細胞(CHO-CD40L:人類B細胞之比率為1:100)以及不同滴定量之抗體多肽培育 1×10^5 個扁桃體人類B細胞。在37°C下培育培養盤72小時，隨後添加 3 H-胸腺嘧啶核苷(0.5 μ ci/孔) 6小時。基於胸腺嘧啶核苷併入法定量B細胞增殖。

可溶性IZ-hCD40L驅動之獼猴脾人類B細胞增殖：

在96孔圓底培養盤中以每孔200 μ l之最終體積用0.5 μ g/ml IZ-

hCD40L以及不同滴定量之抗體多肽培育 1×10^5 個獼猴脾B細胞。在37℃下培育培養盤72小時，隨後添加 ^3H -胸腺嘧啶核苷($0.5 \mu\text{Ci}/\text{孔}$) 6小時。基於胸腺嘧啶核苷併入法定量B細胞增殖。

初級T細胞驅動之人類B細胞增殖：

自人類周邊血液單核細胞(peripheral blood mononuclear cells, PBMC)分離T細胞且使用綿羊紅血球(sheep red blood cell, SRBC)花結法富集。藉由將扁桃體組織均質化於單細胞懸浮液中分離人類扁桃體B細胞。藉由菲科爾分離(ficoll separation)獲得白血球，接著使用SRBC花結法被動選擇B細胞且藉由去除花結細胞來富集。

在37℃下用PM-LCL (EBV轉化B細胞株；以10,000拉德照射)以5:1之比率(T:LCL)培養富集人類T細胞6天以產生同種異體T細胞群。在第6天，分離擴增之T細胞且以3000拉德照射，且接著在塗有抗CD3 mAb (OKT3)之96孔平底培養盤中，用初級人類扁桃體B細胞(每孔 1×10^5 個B細胞)以1:2之比率培養(每孔 5×10^4 個T細胞)。將不同滴定量之抗體多肽添加至各孔中；各孔之最終體積為200 μl 。在37℃下培育測試培養盤3天。在最後18小時內經由添加 ^3H -胸腺嘧啶核苷($0.5 \mu\text{Ci}/\text{孔}$)至培養物中測定人類B細胞增殖。

CHO-hCD40L驅動之初級人類單核細胞衍生之樹突狀細胞(DC)活化：

藉由經由SRBC花結法去除T細胞來使人類PBMC富集單核細胞。在37℃，下在6孔培養盤中用10 ng/ml GM-CSF及5 ng/ml IL-4培養富集單核細胞之PBMC 6天。在第2天及第5天用新鮮培養基(具有GM-CSF及IL-4)補充所培養之培養盤。在細胞分析中在第6天使用未成熟樹突狀細胞(DC)。在96孔平底培養盤中，用 4×10^3 個CHO-hCD40L細胞(以10,000拉德照射)以及不同滴定量之抗體多肽培養 8×10^4 個未成熟DC。24小時後，收集上清液且測試各種細胞激素(IL-12、TNF、IL-

23)之存在。DC活化藉由細胞激素之產生量來測定。

表17

純系	hIZCD40L驅 動之人類B細 胞增殖 EC ₅₀ (nM)	hIZCD40L驅 動之獼猴B細 胞增殖 EC ₅₀ (nM)	CHO- hCD40L驅動 之人類B細胞 增殖 EC ₅₀ (nM)	T-B細胞MLR EC ₅₀ (nM)	CHO- hCD40L驅動 之DC活化 IL-12 EC ₅₀ (nM)
3h-5	>7000		>7000		
3h-8	>7000		>7000		
3h-28	>7000		>7000		
3h-33	>7000		>7000		
3h-48	>7000		>7000		
3h-52	>7000		>7000		
3h-57	>7000		>7000		
3h-61	>7000		>7000		
3h-88	>7000				
3h-102	>7000				
3h-106	437.0 ± 214.0	>7000			
3h-107	>7000	>7000			
3h-112	>7000				
3h-129	2100.0 ± 1000.0				
3h-197	360.0 ± 500.0	>7000			
3h-207	>7000				
3h-208	>7000				
3h-37	3400.0 ± 2900.0	>7000			
3h-37-1	250.0 ± 100.0				
3h-37-2	5.0 ± 2.0	>7000		198 ± 35	13.0 ± 7.3
3h-37-202	0.6 ± 0.2			83 ± 18	10.0
3h-37-205	2.0 ± 1.0				6.6
3h-37-206	5.0 ± 0.8				23.0
3h-37-207	4.0 ± 2.0				15.5 ± 8.0

純系	hIZCD40L驅 動之人類B細 胞增殖 EC ₅₀ (nM)	hIZCD40L驅 動之獼猴B細 胞增殖 EC ₅₀ (nM)	CHO- hCD40L驅動 之人類B細胞 增殖 EC ₅₀ (nM)	T-B細胞MLR EC ₅₀ (nM)	CHO- hCD40L驅動 之DC活化 IL-12 EC ₅₀ (nM)
3h-37-212	1.0 ± 0.05				
3h-37-213	0.7 ± 0.2				
3h-37-11	8.0 ± 7.0				
3h-38	2800.0 ± 400.0	>7000			
3h-38-1	142.0 ± 86.0				
3h-38-2	10.0 ± 6.0	>7000	723.0 ± 185.0	986 ± 383	289.0 ± 315.0
3h-38-201	>70.0		>7000		>800.0
3h-38-205	4.0 ± 2.0		1100.0 ± 141.0		29.0
3h-38-211	2.0 ± 1.0		82.0 ± 4.0	200 ± 1	18.0 ± 19.0
3h-38-215	1.0 ± 0.0		65.0 ± 1.0	163 ± 14	6.0 ± 4.0
3h-38-217	0.8 ± 0.2		34.0 ± 6.0	74 ± 22	1.7 ± 0.4
3h-38-219	2.0 ± 0.5		93.0 ± 26.0	164 ± 3	9.0 ± 5.0
3h-38-228	0.7 ± 0.05				
3h-38-231	0.66 ± 0.2				
3h-38-235	0.4 ± 0.2				
3h-38-237	0.4 ± 0.2				
3h-38-238	0.7 ± 0.03				
3h-38-3	10.0 ± 7.0				
3h-41	>7000				
3h-41-1	104.0 ± 56.0				
3h-41-2	47.0 ± 67.0				
3h-41-3	12.0 ± 7.0	>7000			
3h-41-9	148.0 ± 98.0				
3h-41-12	104.0 ± 50.0				
3h-41-13	208.0 ± 90.0				
3h-43	83.0 ± 40.0	>7000			
3h-43-1	53.0 ± 20.0				

純系	hIZCD40L驅 動之人類B細 胞增殖 EC ₅₀ (nM)	hIZCD40L驅 動之獼猴B細 胞增殖 EC ₅₀ (nM)	CHO- hCD40L驅動 之人類B細胞 增殖 EC ₅₀ (nM)	T-B細胞MLR EC ₅₀ (nM)	CHO- hCD40L驅動 之DC活化 IL-12 EC ₅₀ (nM)
3h-43-3	87.0 ± 19.0				
3h-43-5	180.0 ± 130.0				
3h-43-10	143.0 ± 131.0				
3h-43-11	30.0 ± 19.0				
3h-43-12	12.0 ± 6.0				
3h-56	713.0 ± 133.0	>7000			
3h-56-1	7.0 ± 5.0				
3h-56-2	3.0 ± 1.0		326.0 ± 79.0	276 ± 29	444.0, >2000.0
3h-56-201	0.12 ± 0.04		11.0 ± 6.0	7.25 ± 0.96	0.93 ± 0.7
3h-56-202	0.6 ± 0.2		39.0 ± 16.0	50 ± 9.8	2.9 ± 2.6
3h-56-203	0.45 ± 0.1		51.0 ± 29.0	52 ± 23	3.7 ± 4.0
3h-56-206	0.1 ± 0.01		6.0 ± 2.0	5.25 ± 0.5	0.7 ± 0.4
3h-56-215	0.2 ± 0.03		41.0 ± 15.0	31 ± 7	11.0 ± 12.0
3h-56-217	0.1 ± 0.04		13.0 ± 5.0	16 ± 6.7	9.4 ± 8.0
3h-56-224	0.5 ± 0.2		26.0 ± 5.0	47 ± 11	18.0 ± 22.0
3h-56-232	0.27 ± 0.1		37.0 ± 0.7	42 ± 10	7.3 ± 6.6
3h-56-239	0.11 ± 0.0		18.0 ± 4.0	13.5 ± 4.76	5.8 ± 6.5
3h-56-243	0.15 ± 0.007		13.5 ± 2.0	14.2 ± 4.6	8.8 ± 10.0
3h-56-244	0.17 ± 0.02		26.0 ± 3.0	21 ± 4.1	12.6 ± 16.0
3h-56-246	0.24 ± 0.06		34.0 ± 14.0	23.8 ± 6.2	23.2 ± 22.0
3h-56-248	0.36 ± 0.1				
3h-56-253	0.4 ± 0.2				
3h-56-258	0.079 ± 0.003		11.0 ± 3.0	8.7 ± 1.9	1.52 ± 1.6
3h-56-261	0.17 ± 0.09		25.5 ± 6.0	17 ± 5.4	3.0 ± 1.8
3h-56-262	0.31 ± 0.007				
3h-56-265	0.36 ± 0.06				
3h-56-266	0.19 ± 0.04		19.5 ± 6.0	13.8 ± 2.4	2.8 ± 2.3
3h-56-269	0.14 ± 0.02		15.0 ± 5.0	9.7 ± 1.9	1.8 ± 1.2

純系	hIZCD40L驅動之人類B細胞增殖 EC ₅₀ (nM)	hIZCD40L驅動之獼猴B細胞增殖 EC ₅₀ (nM)	CHO-hCD40L驅動之人類B細胞增殖 EC ₅₀ (nM)	T-B細胞MLR EC ₅₀ (nM)	CHO-hCD40L驅動之DC活化 IL-12 EC ₅₀ (nM)
3h-56-270	0.31 ± 0.1				
3h-56-5	6.0 ± 4.0	>7000			
3h-56-6	4.0 ± 3.0				
3h-56-7	8.0 ± 6.0				
3h-56-8	5.0 ± 2.0				
3h-56-9	3.0 ± 0.6				
3h-56-15	2.0 ± 0.9				
3h-56-19	3.0 ± 2.0				
3h-56-21	2.0 ± 1.0				
3h-131	2700.0 ± 1000.0	>7000			
3h-131-2	55.0 ± 53.0	>7000			
3h-131-6	141.0 ± 37.0				
3h-131-14	24.0 ± 4.0				
3h-193	>7000				
3h-193-12	277.0 ± 167.0				
3h-193-16	387.0 ± 173.0				
3h-193-19	233.0 ± 110.0				
3h-193-25	303.0 ± 214.0	2200.0 ± 1200.0			
3h-193-29	1380.0 ± 721.0				
3h-198	554.0 ± 186.0	>7000			
3h-198-1	64.0 ± 47.0				
3h-198-2	207.0 ± 158.0				
3h-198-5	9.0 ± 6.0				
3h-198-19	19.0 ± 14.0				
3h-198-24	34.0 ± 37.0				
3h-198-28	20.0 ± 9.0				

純系	hIZCD40L驅 動之人類B細 胞增殖 EC ₅₀ (nM)	hIZCD40L驅 動之獼猴B細 胞增殖 EC ₅₀ (nM)	CHO- hCD40L驅動 之人類B細胞 增殖 EC ₅₀ (nM)	T-B細胞MLR EC ₅₀ (nM)	CHO- hCD40L驅動 之DC活化 IL-12 EC ₅₀ (nM)
3h-202	6400.0 ± 1300.0	>7000			
3h-202-1	192.0 ± 77.0	>7000			
3h-202-5	6500.0 ± 1000.0				
3h-202-10	289.0 ± 158.0				
3h-202-11	201.0 ± 103.0				
3h-217	3200.0 ± 2030.0	>7000, 5300, 1690			
3h-217-1	45.0 ± 26.0	35.0 ± 8.0			
3h-217-2	8.0 ± 4.0	7.0			335.0
3h-217-4	61.0 ± 20.0	27.0			
3h-217-5	13.0 ± 5.0	15.0			
3h-217-6	11.0 ± 3.0	10.0			
3h-217-7	220.0 ± 20.0				
3h-217-8	33.0 ± 10.0	14.0			
3h-217-9	380.0 ± 170.0				
3h-217-14	26.0 ± 10.0	8.0			
3h-217-15	47.0 ± 21.0	20.0			
3h-217-16	5.0 ± 2.0	7.0			1125.0
3h-217-17	1950.0 ± 110.0				
3h-217-23	16.0 ± 6.0	15.0			
3h-217- 2305	11.0 ± 4.0				
3h-217-30	80.0 ± 9.0				>7700
3h-217-31	>700.0				
3h-231	328.0 ± 144.0	>7000			
3h-233	184.0 ± 75.0	>7000			1492.0, >2000
3h-240	>7000	>7000			

純系	hIZCD40L驅 動之人類B細 胞增殖 EC ₅₀ (nM)	hIZCD40L驅 動之獼猴B細 胞增殖 EC ₅₀ (nM)	CHO- hCD40L驅動 之人類B細胞 增殖 EC ₅₀ (nM)	T-B細胞MLR EC ₅₀ (nM)	CHO- hCD40L驅動 之DC活化 IL-12 EC ₅₀ (nM)
3h-242	219.0 ± 53.0	435.0 ± 62.0			2050.0
3h-257	135.0 ± 28.0	>7000			704.0 ± 445.0
3h-262	548.0 ± 121.0	>700			998.0
3h-263	>700.0	>700			
3h-264	1200.0 ± 400.0	>7000			>2000
3h-265	2400.0 ± 1000.0	>7000			>2000
3h-271	295.0 ± 92.0	446.0			>2000
3h-274	1200, >7000	>7000			
3h-275	157.0 ± 11.0	>7000			
3h-285	49.0 ± 0.7	155.0			
3h-287	287.0 ± 156.0	918.0			
3h-289	2300.0 ± 1200.0	4300.0			
3h-290	>7000	5650.0			
3h-294	>7000	>7000			
3h-295	>7000	>7000			
3h-296	306.0 ± 55.0	>7000			
3h-309	648.0 ± 268.0	838.0			
3h-312	1100.0 ± 346.0	>7000			

實例7

結合CD40及血清白蛋白之雙特異性dAb

構築特異性結合CD40及人類血清白蛋白(HSA)或獼猴血清白蛋白(CSA)之雙特異性dAb且在基於細胞之分析中測試其活性。白蛋白特異性dAb稱為「AlbudAb」。在此實例中，AlbudAb融合物包含結合CD40之BMS3h dAb及識別HSA之另一域抗體DOM7h。將兩種dAb在

框架中融合至胺基酸連接子之胺基及羧基末端以形成串聯融合(inline fusion, ILF)多肽。ILF多肽以重組方式表現為單一融合蛋白。表明 AlbudAb ILF之活性的RBA描述於下文，且結果示於表18中。表19概述所測試AlbudAb ILF中所用之連接子序列。藉由BIAcore™分析測定之動力學結合資料示於表20中。

在上清液中偵測dAb之人類CD40 CHO細胞ELISA：

使用0.25%胰蛋白酶EDTA自細胞培養燒瓶分離穩定轉染之表現人類CD40之CHO-DG44細胞或天然CHO-DG44細胞(皆為BMS)，且將每孔100,000個細胞於生長培養基中接種至96孔組織培養物處理之培養盤(NUNC)中。在37℃、5% CO₂下，在濕潤氛圍中使細胞黏附隔夜。分析當天，用PBS洗滌細胞片，隨後用2%三聚甲醛(Sigma-Aldrich)固定20分鐘。固定之後，再用PBS洗滌細胞片，隨後用含15%胎牛血清(FBS, PAA)之PBS阻斷1小時。再洗滌培養盤一次，隨後添加每孔100 µl dAb上清液且在室溫下培育2小時。用細胞培育dAb上清液之後，洗滌培養盤且視dAb為V_H或V_L域而定由培育辣根過氧化物酶(HRP)結合物抗蛋白質A或L來偵測dAb結合。在用1M HCl中和之後，使用SpectraMax M5^e培養盤讀取器(Molecular Devices)在450 nm下量測吸光度信號。

ICAM-1上調細胞分析：

使用凡爾生(Invitrogen)自細胞培養燒瓶分離穩定轉染之表現人類CD40L之COS細胞。將每孔20,000個細胞於分析緩衝液(無酚紅(Sigma-Aldrich, UK)+1%青黴素/鏈黴素+ 10% FBS Gold (皆來自PAA Laboratories, UK)之RPMI 1640)中接種至96孔高結合黑壁透明底培養盤(Corning, UK)中。在37℃及5% CO₂下，在濕潤氛圍中使細胞黏附隔夜。第二天，用100 µl新鮮分析緩衝液補充含有非附著細胞之廢分析緩衝液。為此，除稀釋範圍之dAb之外，在分析緩衝液中添加每孔

20,000個RAMOS細胞。將分析培養盤再放回37℃及5% CO₂下之濕潤氛圍中24小時。對於陰性對照孔，不添加RAMOS細胞。dAb抑制RAMOS細胞之細胞表面上的ICAM-1響應暴露於COS細胞之細胞表面上的CD40L而上調之能力藉由添加0.5 µg/ml小鼠抗人類ICAM-1抗體(R&D systems)及0.2 µg/ml山羊抗小鼠ALEXA flour 647 (Invitrogen, Molecular probes, UK)來評估。在無燈存在下3小時培育期之後，如由AB8200細胞偵測平台(Applied Biosystems)所量測來偵測相對螢光。

結合至血清白蛋白之串聯融合(ILF)動力學分析

使用BIAcore™ 3000儀器(GE Healthcare)分析抗CD40- AlbuAb ILF對人類及獼猴血清白蛋白之結合動力學。使用胺偶合套組(GE Healthcare)將約400反應單位(RU)之人類血清白蛋白(HSA)或獼猴血清白蛋白(CSA)固定於CM5 BIAcore™晶片之流槽上。將未固定有任何配位體之第二流槽用作參比流槽進行線內參比。用HBS-EP緩衝液(具有0.15 M NaCl、3 mM EDTA及0.005% v/v界面活性劑P20之0.01 M HEPES (pH 7.4)，GE Healthcare)製備一系列適當二倍稀釋之各待分析之dAb。使用儀器之KINJECT功能一式兩份注射兩種100微升各ILF。在串聯之固定血清白蛋白之流槽及參比流槽上進行注射，線內減去來自參比槽之信號。在25℃及40 µl/min之HBS-EP流速下執行實驗。各注射完成後，允許在緩衝液中自配位體解離dAb 120秒，隨後由注射10 µl 10 mM甘胺酸(pH 2.0)而再生。亦在相同條件下注射HBS-EP緩衝液空白參比注射劑(不包含分析物)，以用作自各分析物跡線減去之第二參比。使用BIAevaluation 4.1軟體(GE Healthcare)自各分析物跡線減去參比流槽跡線與緩衝液空白跡線。使用同一軟體同時整體擬合分析物稀釋液系列跡線之締合及解離階段的1:1 (朗繆爾)動力學模型。此模型產生相互作用之締合及解離速率常數(分別為 k_a 及 k_d)及平衡解離常數(K_D)。參數值示於表20中。

表 18

活性分析

DMS編號	N端dAb	連接子	C端dAb	CHO-CD40細胞RBA			ICAM-1細胞分析	
				0.1% BSA	EC ₅₀ (nM)	50 μ M HSA	EC ₅₀ (nM)	
							10%胎牛血清	10%人血清
DMS0654	BMS3h-56-201	AST	DOM7h-11-3	15		8.6		
DMS0655	BMS3h-56-201	AST	DOM7h-11-87	6.3		2.7		
DMS0656	BMS3h-56-258	AST	DOM7h-11-3	11.8		26.8		
DMS0657	BMS3h-56-258	AST	DOM7h-11-87	6.8		16.6		
DMS0658	DOM7h-11-3	TVAAPS	BMS3h-56-201	12.2		9.1		
DMS0659	DOM7h-11-87	TVAAPS	BMS3h-56-201	7.2		3.3		
DMS0660	DOM7h-11-3	TVAAPS	BMS3h-56-258	21.8		13.1		
DMS0661	DOM7h-11-87	TVAAPS	BMS3h-56-258	4.1		5.7		
DMS0662	DOM7h-11-90	TVAAPS	BMS3h-56-201				33.5	>1000
DMS0663	DOM7h-11-86	TVAAPS	BMS3h-56-201				21.4	>1000
DMS0664	DOM7h-11-69	TVAAPS	BMS3h-56-201				16.5	>1000
DMS0677	DOM7h-11-90	TVA	BMS3h-56-258				21.7	20.35
DMS0679	DOM7h-11-90	G ₄ S	BMS3h-56-258				21.7	39.2
DMS0680	DOM7h-11-90	(G ₄ S) ₃	BMS3h-56-258				39.3	74.2
DMS0681	DOM7h-11-90	(G ₄ S) ₅	BMS3h-56-258				43.6	53.3
DMS0682	BMS3h-56-258	TVA	DOM7h-11-90				10.2	94.8
DMS0683	BMS3h-56-258	ASTSGPS	DOM7h-11-90				32.4	50.9

DMS編號	N端dAb	連接子	C端dAb	CHO-CD40細胞RBA			ICAM-1細胞分析		
				0.1% BSA	EC ₅₀ (nM)	50 μM HSA	10%胎牛血清	EC ₅₀ (nM)	10%人血清
DMS0684	BMS3h-56-258	G ₄ S	DOM7h-11-90				37.9		74.3
DMS0685	BMS3h-56-258	(G ₄ S) ₃	DOM7h-11-90				31.9		62.4
DMS0686	BMS3h-56-258	(G ₄ S) ₅	DOM7h-11-90				48.3		66.6

表 19
代表性連接子序列

AST	SEQ ID NO: 5
TVAAPS	SEQ ID NO: 6
TVA	SEQ ID NO: 7
GGGS	SEQ ID NO: 1207
(GGGS) ₃	SEQ ID NO: 1208
(GGGS) ₅	SEQ ID NO: 1209
ASTSGPS	SEQ ID NO: 8

表 20
BIAcore™ 分析

DMS編號	N端dAb	連接子 (如SEQ ID NO: 6所示之「TVAAPS」)	C端dAb	人類血清白蛋白			獼猴血清白蛋白		
				k_a (1/Ms) $\times 10^{-6}$	k_d (1/s) $\times 10^3$	K_D (nM)	k_a (1/Ms) $\times 10^{-6}$	k_d (1/s) $\times 10^3$	K_D (nM)
DMS0659	DOM7h-11-87	TVAAPS	BMS3h-56-201	0.85, 2.85,2.6	1.17, 1.69, 1.2	1.37, 0.60, 0.45	0.85, 2.79, 2.9	2.37, 3.37, 2.4	2.79, 1.21 0.83
DMS0662	DOM7h-11-90	TVAAPS	BMS3h-56-201	1.1, 1.19	1.33, 1.47	1.21, 1.23	1.01, 1.10	2.52, 2.66	2.5, 2.42
DMS0663	DOM7h-11-86	TVAAPS	BMS3h-56-201	1.25, 1.32	1.40, 1.60	1.12, 1.21	1.18, 1.18	2.81, 2.96	2.38, 2.52
DMS0664	DOM7h-11-69	TVAAPS	BMS3h-56-201	2.5, 0.93	1.42, 1.49	0.57, 1.59	2.51, 0.92	2.73, 2.72	1.09, 2.97

表21列出可特異性結合CD40及HSA或CSA之代表性AlbudAb ILF之胺基酸序列。各ILF之名稱鑑別特定連接子序列：「GxS」意謂連接子具有「x」個甘胺酸殘基之後為絲胺酸，且「(GxS)_y」意謂連接子具有y個GxS之重複單元。表22揭示編碼表21中所列之ILF序列之代表性核酸。如此項技術中所熟知，多個密碼子可編碼同一胺基酸。因此，編碼蛋白質序列之核酸包括具有密碼簡併性之核酸。

表21

雙特異性dAb胺基酸序列

(表21揭示分別如SEQ ID NO 5至7、1207至1209及8所示之「AST」、「TVAAPS」、「TVA」、「G4S」、「(G4S)₃」、「(G4S)₅」及「ASTSGPS」)

DMS0654 BMS3h-56-201-AST-DOM7h-11-3
EVQLLES GGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTY
YADSVKGRFTISRDN SKNTLYLQMNSLRAEDTAVYYCAKLPFYFQEWGQGT LVTVSSAS
TDIQMTQSPSSLSASVGDRVTITCRASRP IGTTL SWYQQKPGKAPKLLILWNSRLQSGV
PSRFSGSGSGTDFTLTIS SLQPEDFATYYCAQAGTHPTTFGQGTKVEIKR (SEQ ID
NO: 1210)

DMS0655 BMS3h-56-201-AST-DOM7h-11-87
EVQLLES GGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTY
YADSVKGRFTISRDN SKNTLYLQMNSLRAEDTAVYYCAKLPFYFQEWGQGT LVTVSSAS
TDIQMTQSPSSLSASVGDRVTITCRASRP IGTTL SWYQQKPGKAPKLLILAFSRLQSGV
PSRFSGSGSGTDFTLTIS SLQPEDFATYYCAQAGTHHTTFGQGTKVEIKR (SEQ ID
NO: 1211)

DMS0656 BMS3h-56-258-AST-DOM7h-11-3
EVQLLES GGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTY
YADSVKGRFTISRDN SKNTLYLQMNSLRAEDTAVYYCAKLPFYFHEWGQGT LVTVSSAS
TDIQMTQSPSSLSASVGDRVTITCRASRP IGTTL SWYQQKPGKAPKLLILWNSRLQSGV
PSRFSGSGSGTDFTLTIS SLQPEDFATYYCAQAGTHPTTFGQGTKVEIKR (SEQ ID
NO: 1212)

DMS0657 BMS3h-56-258-AST-DOM7h-11-87
EVQLLES GGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTY
YADSVKGRFTISRDN SKNTLYLQMNSLRAEDTAVYYCAKLPFYFHEWGQGT LVTVSSAS
TDIQMTQSPSSLSASVGDRVTITCRASRP IGTTL SWYQQKPGKAPKLLILAFSRLQSGV

PSRFSGSGSGTDFTLTISSSLQPEDFATYYCAQAGTHHTTFGQGTKVEIKR (SEQ ID NO: 1213)

DMS0658 DOM7h-11-3-TVAAPS-BMS3h-56-201

DIQMTQSPSSLSASVGDRVTITCRASRPIGTTLWSYQQKPGKAPKLLILWNSRLQSGVP
SRFSGSGSGTDFTLTISSSLQPEDFATYYCAQAGTHPTTFGQGTKVEIKRTVAAPSEVQL
LESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERSAINPQGTRTYADS
VKGRFTISRDNKNTLYLQMNSLRAEDTAVYYCAKLPHYFQEWGQGLVTVSS (SEQ ID NO: 1214)

DMS0659 DOM7h-11-87-TVAAPS-BMS3h-56-201

DIQMTQSPSSLSASVGDRVTITCRASRPIGTTLWSYQQKPGKAPKLLILAFSRLQSGVP
SRFSGSGSGTDFTLTISSSLQPEDFATYYCAQAGTHHTTFGQGTKVEIKRTVAAPSEVQL
LESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERSAINPQGTRTYADS
VKGRFTISRDNKNTLYLQMNSLRAEDTAVYYCAKLPHYFQEWGQGLVTVSS (SEQ ID NO: 1215)

DMS0660 DOM7h-11-3-TVAAPS-BMS3h-56-258

DIQMTQSPSSLSASVGDRVTITCRASRPIGTTLWSYQQKPGKAPKLLILWNSRLQSGVP
SRFSGSGSGTDFTLTISSSLQPEDFATYYCAQAGTHPTTFGQGTKVEIKRTVAAPSEVQL
LESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERSAINPQGTRTYADS
VKGRFTISRDNKNTLYLQMNSLRAEDTAVYYCAKLPHYFHEWGQGLVTVSS (SEQ ID NO: 1216)

DMS0661 DOM7h-11-87-TVAAPS-BMS3h-56-258

DIQMTQSPSSLSASVGDRVTITCRASRPIGTTLWSYQQKPGKAPKLLILAFSRLQSGVP
SRFSGSGSGTDFTLTISSSLQPEDFATYYCAQAGTHHTTFGQGTKVEIKRTVAAPSEVQL
LESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERSAINPQGTRTYADS
VKGRFTISRDNKNTLYLQMNSLRAEDTAVYYCAKLPHYFHEWGQGLVTVSS (SEQ ID NO: 1217)

DMS0662 DOM7h-11-90-TVAAPS-BMS3h-56-201

DIQMTQSPSSLSASVGDRVTITCRASRPIGTTLWSYQQKPGKAPKLLILAFSRLQSGVP
SRFSGSGSGTDFTLTISNLQPEDFATYYCAQAGTHPTTFGQGTKVEIKRTVAAPSEVQL
LESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERSAINPQGTRTYADS
VKGRFTISRDNKNTLYLQMNSLRAEDTAVYYCAKLPHYFQEWGQGLVTVSS (SEQ ID NO: 1218)

DMS0663 DOM7h-11-86-TVAAPS-BMS3h-56-201

DIQMTQSPSSLSASVGDRVTITCRASRPIGTTLWSYQQKPGKAPKLLILAFSRLQSGVP
SRFSGSGSGTDFTLTISSSLQPEDFATYYCAQAGTHPTTFGQGTKVEIKRTVAAPSEVQL
LESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERSAINPQGTRTYADS
VKGRFTISRDNKNTLYLQMNSLRAEDTAVYYCAKLPHYFQEWGQGLVTVSS (SEQ ID NO: 1219)

DMS0664 DOM7h-11-69-TVAAPS-BMS3h-56-201

DIQMTQSPSSLSASVGDRVTITCRASRPIGTMLSWYQQKPGKAPKLLILAFSRLQSGVP
SRFSGSGSGTDFTLTISLQPEDFATYYCAQAGVHPTTFGQGTKVEIKRTVAAPSEVQL
LES GGGLVQPGGSLRLSCAASGFTFRDYEMWVRQAPGKGLERVSAINPQGTRTYADS
VKGRFTISRDN SKNTLYLQMNSLRAEDTAVYYCAKLPFYFQEWGQGT LVTVSS (SEQ
ID NO: 1220)

DMS0667 DOM7h-11-3-TVAAPS-BMS3h-38-240
DIQMTQSPSSLSASVGDRVTITCRASRPIGTTL SWYQQKPGKAPKLLILWNSRLQSGVP
SRFSGSGSGTDFTLTISLQPEDFATYYCAQAGTHPTTFGQGTKVEIKRTVAAPSEVQL
LES GGGLVQPGGSLRLSCAASGFTFEEEEMIWVRQAPGKGLEWVSAISRNGYSTYYADS
VKGRFTISRDN SKNTLYLQMNSLRAEDTAVYYCGKEPFRYDYWGQGT LVTVSS (SEQ
ID NO: 1221)

DMS0668 BMS3h-38-240-AST-DOM7h-11-3
EVQLLES GGGLVQPGGSLRLSCAASGFTFEEEEMIWVRQAPGKGLEWVSAISRNGYSTY
YADSVKGRFTISRDN SKNTLYLQMNSLRAEDTAVYYCGKEPFRYDYWGQGT LVTVSSAS
TDIQMTQSPSSLSASVGDRVTITCRASRPIGTTL SWYQQKPGKAPKLLILWNSRLQSGV
PSRFSGSGSGTDFTLTISLQPEDFATYYCAQAGTHPTTFGQGTKVEIKR (SEQ ID
NO: 1222)

DMS0669 DOM7h-14-10-TVAAPS-BMS3h-38-240
DIQMTQSPSSLSASVGDRVTITCRASQWIGSQLSWYQQKPGKAPKLLIMWRSSLQSGVP
SRFSGSGSGTDFTLTISLQPEDFATYYCAQGLRHPKTFGQGTKVEIKRTVAAPSEVQL
LES GGGLVQPGGSLRLSCAASGFTFEEEEMIWVRQAPGKGLEWVSAISRNGYSTYYADS
VKGRFTISRDN SKNTLYLQMNSLRAEDTAVYYCGKEPFRYDYWGQGT LVTVSS (SEQ
ID NO: 1223)

DMS0670 BMS3h-38-240-AST-DOM7h-14-10
EVQLLES GGGLVQPGGSLRLSCAASGFTFEEEEMIWVRQAPGKGLEWVSAISRNGYSTY
YADSVKGRFTISRDN SKNTLYLQMNSLRAEDTAVYYCGKEPFRYDYWGQGT LVTVSSAS
TDIQMTQSPSSLSASVGDRVTITCRASQWIGSQLSWYQQKPGKAPKLLIMWRSSLQSGV
PSRFSGSGSGTDFTLTISLQPEDFATYYCAQGLRHPKTFGQGTKVEIKR (SEQ ID
NO: 1224)

DMS0671 BMS3h-38-235-AST-DOM7h-11-3
EVQLLAS GGGLVQPGGSLRLSCAASGFTFEEEEMIWVRQAPGKGLEWVSAISRNGYSTY
YADSVKGRFTISRDN SKNTLYLQMNSLRAEDTAVYYCGKEPFRYDYWGQGT LVTVSSAS
TDIQMTQSPSSLSASVGDRVTITCRASRPIGTTL SWYQQKPGKAPKLLILWNSRLQSGV
PSRFSGSGSGTDFTLTISLQPEDFATYYCAQAGTHPTTFGQGTKVEIKR (SEQ ID
NO: 1225)

DMS0672 BMS3h-38-235-AST-DOM7h-11-90
EVQLLAS GGGLVQPGGSLRLSCAASGFTFEEEEMIWVRQAPGKGLEWVSAISRNGYSTY
YADSVKGRFTISRDN SKNTLYLQMNSLRAEDTAVYYCGKEPFRYDYWGQGT LVTVSSAS
TDIQMTQSPSSLSASVGDRVTITCRASRPIGTMLSWYQQKPGKAPKLLILAFSRLQSGV
PSRFSGSGSGTDFTLTISNLQPEDFATYYCAQAGTHPTTFGQGTKVEIKR (SEQ ID
NO: 1226)

DMS0674 DOM7h-11-3-TVAAPS-BMS3h-38-235

DIQMTQSPSSLSASVGDRVTITCRASRPIGTMLSWYQQKPGKAPKLLILWNSRLQSGVP
SRFSGSGSGTDFTLTISLQPEDFATYYCAQAGTHPTTFGQGTKVEIKRTVAAPSEVQL
LASGGGLVQPGGSLRLSCAASGFTFEEEMIWVRQAPGKGLEWVSAISRNGYSTYYADS
VKGRFTISRDN SKNTLYLQMN SLRAEDTAVYYCGKEPFRYDYWGQGT LVT VSS (SEQ
ID NO: 1227)

DMS0675 DOM7h-11-90-TVAAPS-BMS3h-38-235

DIQMTQSPSSLSASVGDRVTITCRASRPIGTMLSWYQQKPGKAPKLLILAFSRLQSGVP
SRFSGSGSGTDFTLTISNLQPEDFATYYCAQAGTHPTTFGQGTKVEIKRTVAAPSEVQL
LASGGGLVQPGGSLRLSCAASGFTFEEEMIWVRQAPGKGLEWVSAISRNGYSTYYADS
VKGRFTISRDN SKNTLYLQMN SLRAEDTAVYYCGKEPFRYDYWGQGT LVT VSS (SEQ
ID NO: 1228)

DMS0677 DOM7h-11-90-TVA-BMS3h-56-258

DIQMTQSPSSLSASVGDRVTITCRASRPIGTMLSWYQQKPGKAPKLLILAFSRLQSGVP
SRFSGSGSGTDFTLTISNLQPEDFATYYCAQAGTHPTTFGQGTKVEIKRTVAEVQLLES
GGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERSAINPQGT RTYYADSVKG
RFTISRDN SKNTLYLQMN SLRAEDTAVYYCAKL PFYFHEWGQGT LVT VSS (SEQ ID
NO: 1229)

DMS0678 DOM7h-11-90-ASTSGPS-BMS3h-56-258

DIQMTQSPSSLSASVGDRVTITCRASRPIGTMLSWYQQKPGKAPKLLILAFSRLQSGVP
SRFSGSGSGTDFTLTISNLQPEDFATYYCAQAGTHPTTFGQGTKVEIKRASTSGPSEVQ
LLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERSAINPQGT RTYYAD
SVKGRFTISRDN SKNTLYLQMN SLRAEDTAVYYCAKL PFYFHEWGQGT LVT VSS (SEQ
ID NO: 1230)

DMS0679 DOM7h-11-90-G4S-BMS3h-56-258

DIQMTQSPSSLSASVGDRVTITCRASRPIGTMLSWYQQKPGKAPKLLILAFSRLQSGVP
SRFSGSGSGTDFTLTISNLQPEDFATYYCAQAGTHPTTFGQGTKVEIKRGGGGSEVQLL
ESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERSAINPQGT RTYYADSV
KGRFTISRDN SKNTLYLQMN SLRAEDTAVYYCAKL PFYFHEWGQGT LVT VSS (SEQ
ID NO: 1231)

DMS0680 DOM7h-11-90-(G4S)3-BMS3h-56-258

DIQMTQSPSSLSASVGDRVTITCRASRPIGTMLSWYQQKPGKAPKLLILAFSRLQSGVP
SRFSGSGSGTDFTLTISNLQPEDFATYYCAQAGTHPTTFGQGTKVEIKRGGGGSGGGGS
GGGGSEVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERSAINPQ
GTRTYADSVKGRFTISRDN SKNTLYLQMN SLRAEDTAVYYCAKL PFYFHEWGQGT LVT
VSS (SEQ ID NO: 1232)

DMS0681 DOM7h-11-90-(G4S)5-BMS3h-56-258

DIQMTQSPSSLSASVGDRVTITCRASRPIGTMLSWYQQKPGKAPKLLILAFSRLQSGVP
SRFSGSGSGTDFTLTISNLQPEDFATYYCAQAGTHPTTFGQGTKVEIKRGGGGSGGGGS
GGGGSGGGSGGGGSEVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGK

LERVSAINPQGTRTTYADSVKGRFTISRDN SKNTLYLQMNSLRAEDTAVYYCAKL PFYF
HEWGQGLTVTVSS (SEQ ID NO: 1233)

DMS0682 BMS3h-56-258-TVA-DOM7h-11-90
EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTY
YADSVKGRFTISRDN SKNTLYLQMNSLRAEDTAVYYCAKL PFYFHEWGQGLTVTVSSSTV
ADIQMTQSPSSLSASVGDRVTITCRASRP IGTMLSWYQQKPGKAPKLLILAFSRLQSGV
PSRFSGSGSGTDFTLTISNLQPEDFATYYCAQAGTHPTTFGQGTKVEIKR (SEQ ID
NO: 1234)

DMS0683 BMS3h-56-258-ASTSGPS-DOM7h-11-90
EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTY
YADSVKGRFTISRDN SKNTLYLQMNSLRAEDTAVYYCAKL PFYFHEWGQGLTVTVSSAS
TSGPSDIQMTQSPSSLSASVGDRVTITCRASRP IGTMLSWYQQKPGKAPKLLILAFSRL
QSGVPSRFSGSGSGTDFTLTISNLQPEDFATYYCAQAGTHPTTFGQGTKVEIKR (SEQ
ID NO: 1235)

DMS0684 BMS3h-56-258-G4S-DOM7h-11-90
EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTY
YADSVKGRFTISRDN SKNTLYLQMNSLRAEDTAVYYCAKL PFYFHEWGQGLTVTVSSGG
GGSDIQMTQSPSSLSASVGDRVTITCRASRP IGTMLSWYQQKPGKAPKLLILAFSRLQS
GVPSRFSGSGSGTDFTLTISNLQPEDFATYYCAQAGTHPTTFGQGTKVEIKR (SEQ
ID NO: 1236)

DMS0685 BMS3h-56-258-(G4S)3-DOM7h-11-90
EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTY
YADSVKGRFTISRDN SKNTLYLQMNSLRAEDTAVYYCAKL PFYFHEWGQGLTVTVSSGG
GGSGGGGSGGGGSDIQMTQSPSSLSASVGDRVTITCRASRP IGTMLSWYQQKPGKAPKL
LILAFSRLQSGVPSRFSGSGSGTDFTLTISNLQPEDFATYYCAQAGTHPTTFGQGTKVE
IKR (SEQ ID NO: 1237)

DMS0686 BMS3h-56-258-(G4S)5-DOM7h-11-90
EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTY
YADSVKGRFTISRDN SKNTLYLQMNSLRAEDTAVYYCAKL PFYFHEWGQGLTVTVSSGG
GGSGGGGSGGGGSGGGGSDIQMTQSPSSLSASVGDRVTITCRASRP IGTMLSWY
QQKPGKAPKLLILAFSRLQSGVPSRFSGSGSGTDFTLTISNLQPEDFATYYCAQAGTHP
TTFGQGTKVEIKR (SEQ ID NO: 1238)

DMS0688 DOM7h-11-90-TVAAPS-BMS3h-56-258
DIQMTQSPSSLSASVGDRVTITCRASRP IGTMLSWYQQKPGKAPKLLILAFSRLQSGVP
SRFSGSGSGTDFTLTISNLQPEDFATYYCAQAGTHPTTFGQGTKVEIKRTVAAPSEVQL
LESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSAINPQGTRTTYADS
VKGRFTISRDN SKNTLYLQMNSLRAEDTAVYYCAKL PFYFHEWGQGLTVTVSS (SEQ
ID NO: 1239)

表22

編碼雙特異性dAb之聚核苷酸

(表22揭示分別如SEQ ID NO 5至7、1207至1209及8所示之
「AST」、「TVAAPS」、「TVA」、「G4S」、「(G4S)3」、「(G4S)5」及
「ASTSGPS」)

DMS0654 BMS3h-56-201-AST-DOM7h-11-3
GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTC
TCCTGTGCAGCCTCCGGATTACCTTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCT
CCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCCGCAGGGTACGCGTACATACTAC
GCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTGTAT
CTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACTTCCG
TTTTACTTTTCAGGAGTGGGGTCAGGGAACCTGGTCACCGTCTCGAGCGCTAGCACCGAC
ATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATC
ACTTGCCGGGCAAGTCGTCCGATTGGGACGACGTTAAGTTGGTACCAGCAGAAACCAGGG
AAAGCCCCTAAGCTCCTGATCCTTTGGAATTTCCCGTTTGCAAAGTGGGGTCCCATCACGT
TTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAACCTGAA
GATTTTGCTACGTACTACTGTGCGCAGGCTGGGACGCATCCTACGACGTTCCGCCAAGGG
ACCAAGGTGGAATCAAACGG (SEQ ID NO: 1240)

DMS0655 BMS3h-56-201-AST-DOM7h-11-87
GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTC
TCCTGTGCAGCCTCCGGATTACCTTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCT
CCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCCGCAGGGTACGCGTACATACTAC
GCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTGTAT
CTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACTTCCG
TTTTACTTTTCAGGAGTGGGGTCAGGGAACCTGGTCACCGTCTCGAGCGCTAGCACCGAC
ATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATC
ACTTGCCGGGGCAAGTCGTCCGATTGGGACGATGTTAAGTTGGTACCAGCAGAAACCAGGG
AAAGCCCCTAAGCTCCTGATCCTTGCTTTTTCCCGTTTGCAAAGTGGGGTCCCATCACGT
TTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAACCTGAA
GATTTTGCTACGTACTACTGTGCGCAGGCTGGGACGCATCATAACGACGTTCCGCCAAGGG
ACCAAGGTGGAATCAAACGG (SEQ ID NO: 1241)

DMS0656 BMS3h-56-258-AST-DOM7h-11-3
GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTC
TCCTGTGCAGCCTCCGGATTACCTTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCT
CCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCCGCAGGGTACGCGTACATACTAC
GCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTGTAT
CTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACTTCCG
TTTTACTTTTCAGGAGTGGGGTCAGGGAACCTGGTCACCGTCTCGAGCGCTAGCACCGAC
ATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATC
ACTTGCCGGGGCAAGTCGTCCGATTGGGACGACGTTAAGTTGGTACCAGCAGAAACCAGGG
AAAGCCCCTAAGCTCCTGATCCTTTGGAATTTCCCGTTTGCAAAGTGGGGTCCCATCACGT
TTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAACCTGAA
GATTTTGCTACGTACTACTGTGCGCAGGCTGGGACGCATCCTACGACGTTCCGCCAAGGG
ACCAAGGTGGAATCAAACGG (SEQ ID NO: 1242)

DMS0657 BMS3h-56-258-AST-DOM7h-11-87

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTC
TCCTGTGCAGCCTCCGGATTACCTTTCCGGGATTATGAGATGTGGTGGGTCCGCCAGGCT
CCAGGGAAGGCTCTAGAGCGGGTCTCAGCTATTAATCCGCAGGGTACGCGTACATACTAC
GCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGGACAATTCCAAGAACACGCTGTAT
CTGCAAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACTTCCG
TTTTACTTTACGAGTGGGGTCAGGGAACCCCTGGTCACCGTCTCGAGCGCTAGCACCGAC
ATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCATC
ACTTGCCGGGCAAGTCGTCCGATTGGGACGATGTTAAGTTGGTACCAGCAGAAACCAGGG
AAAGCCCCTAAGCTCCTGATCCTTGCTTTTTCCCGTTTGCAAAGTGGGGTCCCATCACGT
TTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAACCTGAA
GATTTTGCTACGTACTACTGTGCGCAGGCTGGGACGCATCATACGACGTTCCGGCCAAGG
ACCAAGGTGGAAATCAAACGG (SEQ ID NO: 1243)

DMS0658 DOM7h-11-3-TVAAPS-BMS3h-56-201

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCC
ATCACTTGCCGGGCAAGTCGTCCGATTGGGACGACGTTAAGTTGGTACCAGCAGAAACCA
GGGAAAGCCCCCTAAGCTCCTGATCCTTTGGAATTCCCGTTTGCAAAGTGGGGTCCCATCA
CGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAACCT
GAAGATTTTGCTACGTACTACTGTGCGCAGGCTGGGACGCATCCTACGACGTTCCGGCCAA
GGGACCAAGGTGGAAATCAAACGTACGGTGGCTGCACCATCTGAGGTGCAGCTGTTGGAG
TCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGA
TTCACCTTTCCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAG
CGGGTCTCAGCTATTAATCCGCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGC
CGGTTACCATCTCCCGGACAATTCCAAGAACACGCTGTATCTGCAAATGAACAGCCTG
CGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACTTCCGTTTTACTTTACAGGAGTGG
GGTCAGGGAACCCCTGGTCACCGTCTCCAGC (SEQ ID NO: 1244)

DMS0659 DOM7h-11-87-TVAAPS-BMS3h-56-201

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCC
ATCACTTGCCGGGCAAGTCGTCCGATTGGGACGATGTTAAGTTGGTACCAGCAGAAACCA
GGGAAAGCCCCCTAAGCTCCTGATCCTTGCTTTTTCCCGTTTGCAAAGTGGGGTCCCATCA
CGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAACCT
GAAGATTTTGCTACGTACTACTGTGCGCAGGCTGGGACGCATCATACGACGTTCCGGCCAA
GGGACCAAGGTGGAAATCAAACGTACGGTGGCTGCACCATCTGAGGTGCAGCTGTTGGAG
TCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGA
TTCACCTTTCCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAG
CGGGTCTCAGCTATTAATCCGCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGC
CGGTTACCATCTCCCGGACAATTCCAAGAACACGCTGTATCTGCAAATGAACAGCCTG
CGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACTTCCGTTTTACTTTACAGGAGTGG
GGTCAGGGAACCCCTGGTCACCGTCTCCAGC (SEQ ID NO: 1245)

DMS0660 DOM7h-11-3-TVAAPS-BMS3h-56-258

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTACCC
ATCACTTGCCGGGCAAGTCGTCCGATTGGGACGACGTTAAGTTGGTACCAGCAGAAACCA
GGGAAAGCCCCCTAAGCTCCTGATCCTTTGGAATTCCCGTTTGCAAAGTGGGGTCCCATCA
CGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAACCT
GAAGATTTTGCTACGTACTACTGTGCGCAGGCTGGGACGCATCCTACGACGTTCCGGCCAA
GGGACCAAGGTGGAAATCAAACGTACGGTGGCTGCACCATCTGAGGTGCAGCTGTTGGAG
TCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGA
TTCACCTTTCCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAG
CGGGTCTCAGCTATTAATCCGCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGC
CGGTTACCATCTCCCGGACAATTCCAAGAACACGCTGTATCTGCAAATGAACAGCCTG
CGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACTTCCGTTTTACTTTACAGGAGTGG

GGTCAGGGAACCCCTGGTCACCGTCTCCAGC (SEQ ID NO: 1246)

DMS0661 DOM7h-11-87-TVAAPS-BMS3h-56-258

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTCAACC
ATCACTTGCCGGGCAAGTCGTCCGATTGGGACGATGTTAAGTTGGTACCAGCAGAAACCA
GGGAAAGCCCCCTAAGCTCCTGATCCTTGCTTTTTTCCCGTTTGCAAAGTGGGGTCCCATCA
CGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAACCT
GAAGATTTTGCTACGTACTACTGTGCGCAGGCTGGGACGCATCATAACGACGTTCCGGCCAA
GGGACCAAGGTGGAAATCAAACGTACGGTGGCTGCACCATCTGAGGTGCAGCTGTTGGAG
TCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGA
TTCACCTTTCCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAG
CGGGTCTCAGCTATTAATCCGCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGC
CGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTGTATCTGCAAATGAACAGCCTG
CGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACTTCCGTTTTACTTTACAGAGTGG
GGTCAGGGAACCCCTGGTCACCGTCTCCAGC (SEQ ID NO: 1247)

DMS0662 DOM7h-11-90-TVAAPS-BMS3h-56-201

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTCAACC
ATCACTTGCCGGGCAAGTCGTCCGATTGGGACGATGTTAAGTTGGTACCAGCAGAAACCA
GGGAAAGCCCCCTAAGCTCCTGATCCTTGCTTTTTTCCCGTTTGCAAAGTGGGGTCCCATCA
CGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAATCTGCAACCT
GAAGATTTTGCTACGTACTACTGTGCGCAGGCTGGGACGCATCTACGACGTTCCGGCCAA
GGGACCAAGGTGGAAATCAAACGTACGGTGGCTGCACCATCTGAGGTGCAGCTGTTGGAG
TCCGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGA
TTCACCTTTCCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAG
CGGGTCTCAGCTATTAATCCGCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGC
CGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTGTATCTGCAAATGAACAGCCTG
CGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACTTCCGTTTTACTTTACAGGAGTGG
GGTCAGGGAACCCCTGGTCACCGTCTCCAGC (SEQ ID NO: 1248)

DMS0663 DOM7h-11-86-TVAAPS-BMS3h-56-201

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTCAACC
ATCACTTGCCGGGCAAGTCGTCCGATTGGGACGATGTTAAGTTGGTACCAGCAGAAACCA
GGGAAAGCCCCCTAAGCTCCTGATCCTTGCTTTTTTCCCGTTTGCAAAGTGGGGTCCCATCA
CGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAACCT
GAAGATTTTGCTACGTACTACTGTGCGCAGGCTGGGACGCATCTACGACGTTCCGGCCAA
GGGACCAAGGTGGAAATCAAACGTACGGTGGCTGCACCATCTGAGGTGCAGCTGTTGGAG
TCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGA
TTCACCTTTCCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAG
CGGGTCTCAGCTATTAATCCGCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGC
CGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTGTATCTGCAAATGAACAGCCTG
CGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACTTCCGTTTTACTTTACAGGAGTGG
GGTCAGGGAACCCCTGGTCACCGTCTCCAGC (SEQ ID NO: 1249)

DMS0664 DOM7h-11-69-TVAAPS-BMS3h-56-201

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTCAACC
ATCACTTGCCGGGCAAGTCGTCCGATTGGGACGATGTTAAGTTGGTACCAGCAGAAACCA
GGGAAAGCCCCCTAAGCTCCTGATCCTTGCTTTTTTCCCGTTTGCAAAGTGGGGTCCCATCA
CGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAACCT
GAAGATTTTGCTACGTACTACTGTGCGCAGGCTGGGGTGCATCTACGACGTTCCGGCCAA
GGGACCAAGGTGGAAATCAAACGTACGGTGGCTGCACCATCTGAGGTGCAGCTGTTGGAG
TCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGA
TTCACCTTTCCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAG

CGGGTCTCAGCTATTAATCCGCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGC
CGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTGTATCTGCAAATGAACAGCCTG
CGTGCCGAGGACACCGCGGTATATTACTGTGCGAACTTCCGTTTTACTTTCAGGAGTGG
GGTCAGGGAACCTGGTCACCGTCTCCAGC (SEQ ID NO: 1250)

DMS0667 DOM7h-11-3-TVAAPS-BMS3h-38-240

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTCAAC
ATCACTTGCCGGGCAAGTCGTCCGATTGGGACGACGTTAAGTTGGTACCAGCAGAAACCA
GGGAAAGCCCCCTAAGCTCCTGATCCTTTGGAATTCCCGTTTGCAAAGTGGGGTCCCATCA
CGTTTCAGTGGCAGTGGATCTGGGACAGATTTCATCTCACCATCAGCAGTCTGCAACCT
GAAGATTTTGCTACGTACTACTGTGCGCAGGCTGGGACGCATCCTACGACGTTCCGGCAA
GGGACCAAGGTGGAAATCAAACGTACGGTGGCTGCACCATCTGAGGTGCAGCTGTTGGAG
TCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGCGCAGCCTCCGGA
TTCACCTTTGAGGAGGAGGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAG
TGGGTCTCAGCTATTAGTAGGAACGGTTACAGCACATACTACGCAGACTCCGTGAAGGGC
CGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTGTATCTGCAAATGAACAGCCTG
CGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCGTTTCGTTATGACTACTGG
GGTCAGGGAACCTGGTCACCGTCTCCAGC (SEQ ID NO: 1251)

DMS0668 BMS3h-38-240-AST-DOM7h-11-3

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTC
TCCTGCGCAGCCTCCGGATTACCTTTGAGGAGGAGGAGATGATTTGGGTCCGCCAGGCT
CCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAGTAGGAACGGTTACAGCACATACTAC
GCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTGTAT
CTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCG
TTTCGTTATGACTACTGGGGTCAGGGAACCTGGTCACCGTCTCAGCGCTAGCACCGAC
ATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTCAACATC
ACTTGCCGGGCAAGTCGTCCGATTGGGACGACGTTAAGTTGGTACCAGCAGAAACAGGG
AAAGCCCCCTAAGCTCCTGATCCTTTGGAATTCCCGTTTGCAAAGTGGGGTCCCATCACGT
TTCAGTGGCAGTGGATCTGGGACAGATTTCATCTCACCATCAGCAGTCTGCAACCTGAA
GATTTTGCTACGTACTACTGTGCGCAGGCTGGGACGCATCCTACGACGTTCCGGCAAGGG
ACCAAGGTGGAAATCAAACGG (SEQ ID NO: 1252)

DMS0669 DOM7h-14-10-TVAAPS-BMS3h-38-240

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTCAAC
ATCACTTGCCGGGCAAGTCAGTGGATTGGGTCTCAGTTATCTTGGTACCAGCAGAAACCA
GGGAAAGCCCCCTAAGCTCCTGATCATGTGGCGTTCCCTCGTTGCAAAGTGGGGTCCCATCA
CGTTTCAGTGGCAGTGGATCTGGGACAGATTTCATCTCACCATCAGCAGTCTGCAACCT
GAAGATTTTGCTACGTACTACTGTGCTCAGGGTTTGAGGCATCCTAAGACGTTCCGGCAA
GGGACCAAGGTGGAAATCAAACGTACGGTGGCTGCACCATCTGAGGTGCAGCTGTTGGAG
TCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGCGCAGCCTCCGGA
TTCACCTTTGAGGAGGAGGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAG
TGGGTCTCAGCTATTAGTAGGAACGGTTACAGCACATACTACGCAGACTCCGTGAAGGGC
CGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTGTATCTGCAAATGAACAGCCTG
CGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCGTTTCGTTATGACTACTGG
GGTCAGGGAACCTGGTCACCGTCTCCAGC (SEQ ID NO: 1253)

DMS0670 BMS3h-38-240-AST-DOM7h-14-10

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTC
TCCTGCGCAGCCTCCGGATTACCTTTGAGGAGGAGGAGATGATTTGGGTCCGCCAGGCT
CCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAGTAGGAACGGTTACAGCACATACTAC
GCAGACTCCGTGAAGGGCCGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTGTAT
CTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCG

TTTCGTTATGACTACTGGGGTCAGGGAACCCCTGGTCACCGTCTCGAGCGCTAGCACCGAC
 ATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTCAACATC
 ACTTGCCGGGCAAGTCAGTGGATTGGGTCTCAGTTATCTTGGTACCAGCAGAAACAGGG
 AAAGCCCCTAAGCTCCTGATCATGTGGCGTTCCTCGTTGCAAAGTGGGGTCCCATCACGT
 TTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAACCTGAA
 GATTTTGCTACGTACTACTGTGCTCAGGGTTTGAGGCATCCTAAGACGTTTCGGCCAAGGG
 ACCAAGGTGGAATCAAACGG (SEQ ID NO: 1254)

DMS0671 BMS3h-38-235-AST-DOM7h-11-3

GAGGTGCAGCTGTTGGCGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTC
 TCCTGCGCAGCCTCCGGATTACCTTTGAGGAGGAGGAGATGATTTGGGTCCGCCAGGCT
 CCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAGTAGGAACGGTTACAGCACATACTAC
 GCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTGTAT
 CTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCG
 TTTCGTTATGACTACTGGGGTCAGGGAACCCCTGGTCACCGTCTCGAGCGCTTCAACCGAC
 ATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTCAACATC
 ACTTGCCGGGCAAGTCGTCCGATTGGGACGACGTTAAGTTGGTACCAGCAGAAACAGGG
 AAAGCCCCTAAGCTCCTGATCCTTTGGAATTCCCGTTTGCAAAGTGGGGTCCCATCACGT
 TTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAACCTGAA
 GATTTTGCTACGTACTACTGTGCGCAGGCTGGGACGCATCCTACGACGTTTCGGCCAAGGG
 ACCAAGGTGGAATCAAACGG (SEQ ID NO: 1255)

DMS0672 BMS3h-38-235-AST-DOM7h-11-90

GAGGTGCAGCTGTTGGCGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTC
 TCCTGCGCAGCCTCCGGATTACCTTTGAGGAGGAGGAGATGATTTGGGTCCGCCAGGCC
 CCAGGGAAGGGTCTAGAGTGGGTCTCAGCTATTAGTAGGAACGGTTACAGCACATACTAC
 GCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTGTAT
 CTGCAAATGAACAGCCTGCGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCG
 TTTCGTTATGACTACTGGGGTCAGGGAACCCCTGGTCACCGTCTCGAGCGCTTCAACCGAC
 ATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTCAACATC
 ACTTGCCGGGCAAGTCGTCCGATTGGGACGATGTTAAGTTGGTACCAGCAGAAACAGGG
 AAAGCCCCTAAGCTCCTGATCCTTTGCTTTTCCCGTTTGCAAAGTGGGGTCCCATCACGT
 TTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAATCTGCAACCTGAA
 GATTTTGCTACGTACTACTGTGCGCAGGCTGGGACGCATCCTACGACGTTTCGGCCAAGGG
 ACCAAGGTGGAATCAAACGG (SEQ ID NO: 1256)

DMS0674 DOM7h-11-3-TVAAPS-BMS3h-38-235

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTCAAC
 ATCACTTGCCGGGCAAGTCGTCCGATTGGGACGACGTTAAGTTGGTACCAGCAGAAACCA
 GGGAAAGCCCCCTAAGCTCCTGATCCTTTGGAATTCCCGTTTGCAAAGTGGGGTCCCATCA
 CGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAACCT
 GAAGATTTTGCTACGTACTACTGTGCGCAGGCTGGGACGCATCCTACGACGTTTCGGCCAA
 GGGACCAAGGTGGAATCAAACGGACCGTGGCGGCGCCGAGTGAGGTGCAGCTGTTGGCG
 TCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGCGCAGCCTCCGGA
 TTCACCTTTGAGGAGGAGGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAG
 TGGGTCTCAGCTATTAGTAGGAACGGTTACAGCACATACTACGCAGACTCCGTGAAGGGC
 CGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTGTATCTGCAAATGAACAGCCTG
 CGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCGTTTCGTTATGACTACTGG
 GGTACAGGAACCCCTGGTCACCGTCTCCAGC (SEQ ID NO: 1257)

DMS0675 DOM7h-11-90-TVAAPS-BMS3h-38-235

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTCAAC
 ATCACTTGCCGGGCAAGTCGTCCGATTGGGACGATGTTAAGTTGGTACCAGCAGAAACCA

GGGAAAGCCCCCTAAGCTCCTGATCCTTGCTTTTCCCGTTTGCAAAGTGGGGTCCCATCA
CGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAATCTGCAACCT
GAAGATTTTGCTACGTACTACTGCGCGCAGGCTGGGACGCATCCTACGACGTTCCGGCCAA
GGGACCAAGGTGGAAATCAAACGGACCGTGGCGGCGCCGAGTGAGGTGCAACTGTTGGCG
TCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGCGCAGCCTCCGGA
TTCACCTTTGAGGAGGAGGAGATGATTTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAG
TGGGTCTCAGCTATTAGTAGGAACGGTTACAGCACATACTACGCAGACTCCGTGAAGGGC
CGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTGTATCTGCAAATGAACAGCCTG
CGTGCCGAGGATACCGCGGTATATTACTGTGGGAAAGAGCCGTTTCGTTATGACTACTGG
GGTCAGGGAACCTGGTCACCGTCTCCAGC (SEQ ID NO: 1258)

DMS0677 DOM7h-11-90-TVA-BMS3h-56-258

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTCAAC
ATCACTTGCCGGGCAAGTCGTCCGATTGGGACGATGTTAAGTTGGTACCAGCAGAAACCA
GGGAAAGCCCCCTAAGCTCCTGATCCTTGCTTTTCCCGTTTGCAAAGTGGGGTCCCATCA
CGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAATCTGCAACCT
GAAGATTTTGCTACGTACTACTGCGCGCAGGCTGGGACGCATCCTACGACGTTCCGGCCAA
GGGACCAAGGTGGAAATCAAACGTACGGTGGCGGAGGTGCAGCTGTTGGAGTCTGGGGGA
GGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGATTACCTTT
CGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCA
GCTATTAATCCGCGAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGGTTCACC
ATCTCCCGCGACAATTCCAAGAACACGCTGTATCTGCAAATGAACAGCCTGCGTGCCGAG
GACACCGCGGTATATTACTGTGCGAAACTTCCGTTTTACTTTACAGAGTGGGGTCAGGGA
ACCTTGCTCACCCTCTCCAGC (SEQ ID NO: 1259)

DMS0678 DOM7h-11-90-ASTSGPS-BMS3h-56-258

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTCAAC
ATCACTTGCCGGGCAAGTCGTCCGATTGGGACGATGTTAAGTTGGTACCAGCAGAAACCA
GGGAAAGCCCCCTAAGCTCCTGATCCTTGCTTTTCCCGTTTGCAAAGTGGGGTCCCATCA
CGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAATCTGCAACCT
GAAGATTTTGCTACGTACTACTGCGCGCAGGCTGGGACGCATCCTACGACGTTCCGGCCAA
GGGACCAAGGTGGAAATCAAACGGGCTAGCACCTCAGGTCCATCGGAGGTGCAGCTGTTG
GAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCC
GGATTACCTTTCCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTA
GAGCGGGTCTCAGCTATTAATCCGCGAGGGTACGCGTACATACTACGCAGACTCCGTGAAG
GGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTGTATCTGCAAATGAACAGC
CTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACTTCCGTTTTACTTTACAGAG
TGGGGTCAGGGAACCTGGTCACCGTCTCCAGC (SEQ ID NO: 1260)

DMS0679 DOM7h-11-90-G4S-BMS3h-56-258

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTCAAC
ATCACTTGCCGGGCAAGTCGTCCGATTGGGACGATGTTAAGTTGGTACCAGCAGAAACCA
GGGAAAGCCCCCTAAGCTCCTGATCCTTGCTTTTCCCGTTTGCAAAGTGGGGTCCCATCA
CGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAATCTGCAACCT
GAAGATTTTGCTACGTACTACTGCGCGCAGGCTGGGACGCATCCTACGACGTTCCGGCCAA
GGGACCAAGGTGGAAATCAAACGGGGTGGAGGTGGCTCTGAGGTGCAGCTGTTGGAGTCT
GGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGATT
ACCTTTCCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGG
GTCTCAGCTATTAATCCGCGAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGG
TTCACCATCTCCCGCGACAATTCCAAGAACACGCTGTATCTGCAAATGAACAGCCTGCGT
GCCGAGGACACCGCGGTATATTACTGTGCGAAACTTCCGTTTTACTTTACAGAGTGGGGT
CAGGGAACCTGGTCACCGTCTCCAGC (SEQ ID NO: 1261)

DMS0680 DOM7h-11-90-(G4S)3-BMS3h-56-258

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTCAACC
ATCACTTGCCGGGCAAGTCGTCCGATTGGGACGATGTTAAGTTGGTACCAGCAGAAACCA
GGGAAAGCCCCCTAAGCTCCTGATCCTTGCTTTTTCCCGTTTGCAAAGTGGGGTCCCATCA
CGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAATCTGCAACCT
GAAGATTTTGTACTAGTACTACTGCGCGCAGGCTGGGACGCATCCTACGACGTTCCGCCAA
GGGACCAAGGTGGAAATCAAACGGGGTGGAGGTGGCTCTGGAGGTGGCGGTAGCGGGCGGA
GGCGGTTACAGAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCC
CTGCGTCTCTCCTGTGCAGCCTCCGGATTACCTTTCCGGATTATGAGATGTGGTGGGT
CGCCAGGCTCCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCCGCAGGGTACGCGT
ACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAAC
ACGCTGTATCTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCG
AACTTCCGTTTTACTTTACAGAGTGGGGTCAGGGAACCCCTGGTCACCGTCTCCAGC (SEQ ID
NO: 1262)

DMS0681 DOM7h-11-90-(G4S)5-BMS3h-56-258

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTCAACC
ATCACTTGCCGGGCAAGTCGTCCGATTGGGACGATGTTAAGTTGGTACCAGCAGAAACCA
GGGAAAGCCCCCTAAGCTCCTGATCCTTGCTTTTTCCCGTTTGCAAAGTGGGGTCCCATCA
CGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAATCTGCAACCT
GAAGATTTTGTACTACTACTGCGCGCAGGCTGGGACGCATCCTACGACGTTCCGCCAA
GGGACCAAGGTGGAAATCAAACGGGGTGGAGGTGGCTCTGGAGGTGGCGGTAGCGGGCGGT
GGCGGTTACAGGTGGCGGAGGTTCTGGAGGCGGTGGATCTGAGGTGCAGCTGTTGGAGTCT
GGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGATT
ACCTTTCCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAGCGG
GTCTCAGCTATTAATCCGCAGGGTACGCGTACATACTACGCAGACTCCGTGAAGGGCCGG
TTCACCATCTCCCGGACAATTCCAAGAACACGCTGTATCTGCAAATGAACAGCCTGCGT
GCCGAGGACACCGCGGTATATTACTGTGCGAAACTTCCGTTTTACTTTACAGAGTGGGGT
CAGGGAACCCCTGGTCACCGTCTCCAGC (SEQ ID NO: 1263)

DMS0682 BMS3h-56-258-TVA-DOM7h-11-90

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTC
TCCTGTGCAGCCTCCGGATTACCTTTCCGGATTATGAGATGTGGTGGGTCCGCCAGGCT
CCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCCGCAGGGTACGCGTACATACTAC
GCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTGTAT
CTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACTTCCG
TTTTACTTTCCAGAGTGGGGTACGGGAACCCCTGGTCACCGTTTCGAGCACGGTGGCGGAC
ATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTCAACATC
ACTTGCCGGGCAAGTCGTCCGATTGGGACGATGTTAAGTTGGTACCAGCAGAAACAGGG
AAAGCCCCCTAAGCTCCTGATCCTTGCTTTTTCCCGTTTGCAAAGTGGGGTCCCATCACGT
TTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAATCTGCAACCTGAA
GATTTTGCTACGTACTACTGCGCGCAGGCTGGGACGCATCCTACGACGTTCCGCCAAGGG
ACCAAGGTGGAAATCAAACGG (SEQ ID NO: 1264)

DMS0683 BMS3h-56-258-ASTSGPS-DOM7h-11-90

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTC
TCCTGTGCAGCCTCCGGATTACCTTTCCGGATTATGAGATGTGGTGGGTCCGCCAGGCT
CCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCCGCAGGGTACGCGTACATACTAC
GCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGGACAATTCCAAGAACACGCTGTAT
CTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACTTCCG
TTTTACTTTACAGAGTGGGGTACGGGAACCCCTGGTCACCGTCTCGAGCGCTAGCACCTCA
GGTCCATCGGACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGAC
CGTGTACCATCACTTGCCGGGCAAGTCGTCCGATTGGGACGATGTTAAGTTGGTACCAG
CAGAAACCAGGGGAAGCCCCCTAAGCTCCTGATCCTTGCTTTTTCCCGTTTGCAAAGTGGG

GTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAAT
CTGCAACCTGAAGATTTTGTACTACTACTGCGCGCAGGCTGGGACGCATCCTACGACG
TTCGGCCAAGGGACCAAGGTGGAATCAAACGG (SEQ ID NO: 1265)

DMS0684 BMS3h-56-258-G4S-DOM7h-11-90

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTC
TCCTGTGCAGCCTCCGGATTACCTTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCT
CCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCCGCAGGGTACGCGTACATACTAC
GCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTGTAT
CTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACTTCCG
TTTTACTTTACAGAGTGGGGTCAGGGAACCTGGTCACCGTCTCGAGCGGTGGAGGCGGC
TCTGACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTG
ACCATCACTTTGCCGGGCAAGTCGTCGATTGGGACGATGTTAAGTTGGTACCAGCAGAAA
CCAGGGAAGCCCCTAAGCTCCTGATCCTTGCTTTTTCCCGTTTGCAAAGTGGGGTCCCA
TCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAATCTGCAA
CCTGAAGATTTTGTACTACTACTGCGCGCAGGCTGGGACGCATCCTACGACGTTCCGGC
CAAGGGACCAAGGTGGAATCAAACGG (SEQ ID NO: 1266)

DMS0685 BMS3h-56-258-(G4S)3-DOM7h-11-90

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTC
TCCTGTGCAGCCTCCGGATTACCTTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCT
CCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCCGCAGGGTACGCGTACATACTAC
GCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTGTAT
CTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACTTCCG
TTTTACTTTACAGAGTGGGGTCAGGGAACCTGGTCACCGTCTCGAGCGGTGGAGGTGGC
TCTGGAGGTGGCGGTAGCGCGGTGGCGGTTCAGACATCCAGATGACCCAGTCTCCATCC
TCCCTGTCTGCATCTGTAGGAGACCGTGTACCATCACTTGCCGGGCAAGTCGTCGATT
GGGACGATGTTAAGTTGGTACCAGCAGAAACCAGGGAAGCCCCTAAGCTCCTGATCCTT
GCTTTTTCCCGTTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACA
GATTTCACTCTCACCATCAGCAATCTGCAACCTGAAGATTTTGTACTACTACTGCGCG
CAGGCTGGGACGCATCTACGACGTTCCGGCCAAGGGACCAAGGTGGAATCAAACGG (SEQ ID
NO: 1267)

DMS0686 BMS3h-56-258-(G4S)5-DOM7h-11-90

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTC
TCCTGTGCAGCCTCCGGATTACCTTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCT
CCAGGGAAGGGTCTAGAGCGGGTCTCAGCTATTAATCCGCAGGGTACGCGTACATACTAC
GCAGACTCCGTGAAGGGCCGGTTCACCATCTCCCGCGACAATTCCAAGAACACGCTGTAT
CTGCAAATGAACAGCCTGCGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACTTCCG
TTTTACTTTACAGAGTGGGGTCAGGGAACCTGGTCACCGTCTCGAGCGGTGGAGGTGGC
TCTGGAGGTGGCGGTAGCGCGGTGGCGGTTCAGGTGGCGGAGGTTCTGGAGGCGGTGGA
TCTGACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTG
ACCATCACTTGCCGGGCAAGTCGTCGATTGGGACGATGTTAAGTTGGTACCAGCAGAAA
CCAGGGAAGCCCCTAAGCTCCTGATCCTTGCTTTTTCCCGTTTGCAAAGTGGGGTCCCA
TCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAATCTGCAA
CCTGAAGATTTTGTACTACTACTGCGCGCAGGCTGGGACGCATCCTACGACGTTCCGGC
CAAGGGACCAAGGTGGAATCAAACGG (SEQ ID NO: 1268)

DMS0688 DOM7h-11-90-TVAAPS-BMS3h-56-258

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTCAAC
ATCACTTGCCGGGCAAGTCGTCGATTGGGACGATGTTAAGTTGGTACCAGCAGAAACCA
GGGAAAGCCCCTAAGCTCCTGATCCTTGCTTTTTCCCGTTTGCAAAGTGGGGTCCCATCA
CGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAATCTGCAACCT
GAAGATTTTGTACTACTACTGCGCGCAGGCTGGGACGCATCCTACGACGTTCCGGCCA
GGGACCAAGGTGGAATCAAACGGACCGTAGCGCGCCGAGTGAGGTGCAGCTGTTGGAG
TCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGCGTCTCTCCTGTGCAGCCTCCGGA
TTCACCTTTTCGGGATTATGAGATGTGGTGGGTCCGCCAGGCTCCAGGGAAGGGTCTAGAG
CGGGTCTCAGCTATTAATCCGCAGGGTACGCGTACATACTACGACACTCCGTGAAGGGC
CGGTTACCATCTCCCGCGACAATTCCAAGAACACGCTGTATCTGCAAATGAACAGCCTG
CGTGCCGAGGACACCGCGGTATATTACTGTGCGAAACTTCCGTTTTACTTTTCAGAGTGG
GGTACAGGGAACCTGGTCAACGTCCTCCAGC (SEQ ID NO: 1269)

實例8

抗獼猴CD40 dAb

本文所揭示之產生特異性結合人類CD40之抗體多肽之方法可用以產生特異性結合其他物種之CD40之抗體多肽。舉例而言，可使用目前揭示之方法產生抗獼猴CD40 (anti-cynomolgus/anti-cyno)抗體多肽。舉例而言，可使用相同之初始/初步篩檢及親和力成熟流程產生抗獼猴CD40抗體多肽，作為抗人類CD40 dAb。且以下表23中揭示獲得抗獼猴CD40 dAb之方法且提供抗獼猴CD40 dAb之代表性實例。

ELISA RBA :

在4℃下，透明壁高結合384孔培養盤(Corning, UK)用25 μ l 1 μ g/ml中性鏈親和素於碳酸鹽緩衝液中之溶液塗佈隔夜。第二天，用0.1%吐溫PBS緩衝液洗滌分析培養盤，在室溫下用含1% BSA之PBS阻斷1小時，且再次洗滌。移除過量洗滌緩衝液之後，在室溫下用分析培養盤培育25 μ l 1 μ g/ml生物素標記人類IZ-CD40L (BMS, 1.2 mg/ml儲備液濃度)1小時。同時，稀釋範圍之純化dAb與1 μ g/ml獼猴CD40 (BMS)以1:1之比率複合。洗滌分析培養盤之後，在室溫下，在輕微攪動下，在分析培養盤中培育dAb:獼猴CD40複合物2小時。用辣根過氧化物酶(HRP)結合之抗人類(Fc)二次抗體(Sigma-Aldrich, UK)偵測dAb相對於獼猴CD40與生物素標記CD40L之競爭性結合。在用1M HCl中和之後，在450 nm下，使用Spectromax M5[®]培養盤讀取器(Molecular Devices)量測吸光度信號。

使用AB8200 FMAT之獼猴CD40 CHO細胞RBA :

使用凡爾生(Invitrogen)自細胞培養燒瓶分離穩定轉染之表現獼猴CD40之CHO-DG44細胞或天然CHO-DG44細胞(BMS)。將每孔40,000個細胞於具有稀釋範圍之dAb、0.25 μ g/ml生物素標記人類IZ-CD40,000L (BMS, 1.2 mg/ml儲備液濃度)及0.25 μ g/ml抗生蛋白鏈菌素Alexa Fluor 647 (Invitrogen, Molecular probes, UK)之0.1% BSA PBS

分析緩衝液中接種至96孔高結合黑色壁透明底培養盤(Corning, UK)中。在無光存在下培育混合物6小時。培育之後，如用AB8200細胞偵測平台(Applied Biosystems)所量測，使用相對螢光評估dAb相對於獼猴CD40 CHO細胞與可溶性生物素標記IZ-CD40L之競爭性結合。

CHO-hCD40L驅動之初級人類B細胞增殖：

用人類CD40L轉染CHO細胞(ATCC)以產生以較高CD40L表現程度表現於細胞表面上之穩定細胞株。以10,000拉德照射CHO-CD40L細胞，隨後用人類B細胞培育。在96孔圓底培養盤中以每孔200 μ l之最終體積用 1×10^3 個CHO-CD40L細胞(CHO-CD40L:人類B細胞之比率為1:100)以及不同滴定量之dAb或單株抗體培育 1×10^5 個扁桃體人類B細胞。在37°C下培育培養盤72小時，隨後添加胸腺嘧啶核苷(^3H ; 0.5 μ ci/孔) 6小時。基於胸腺嘧啶核苷併入法定量B細胞增殖。除非另外說明，否則所有分析均在補充有10%胎牛血清(FCS)之RPMI培養基中執行。

可溶性IZ-hCD40L驅動之獼猴脾B細胞增殖：

在96孔圓底培養盤中以每孔200 μ l之最終體積用0.5 μ g/ml IZ-hCD40L以及不同滴定量之dAb或mAb培育 1×10^5 個自食蟹獼猴脾臟分離之B細胞。在37°C下培育培養盤72小時，在此之後添加 ^3H -胸腺嘧啶核苷(μ ci/孔) 6小時。基於胸腺嘧啶核苷併入法定量B細胞增殖。除非另外說明，否則所有分析均在補充有10%胎牛血清(FCS)之RPMI培養基中執行。

表23

純系	ELISA RBA (nM)	細胞RBA (nM)	B細胞增殖分析 (EC ₅₀ nM)	
			人類	獼猴
BMS5c8				8, 10, 12, 8, 8

純系	ELISA RBA (nM)	細胞RBA (nM)	B細胞增殖分析 (EC ₅₀ nM)	
			人類	獼猴
BMS3c-85	370		>7000、>7000	747、2700、 7000、7000
BMS3c-85-1	52、8	12	2600、1100	18、39、47
BMS3c-85-2	12、4	4、17	1800、800	2、5、6、1
BMS3c-85-3	7	23	>7000、>7000	33、31、21、31
BMS3c-85-8	22	17.2	>7000、>7000	33、33、25
BMS3c-85-9	10		>7000、>7000	>70、>70、104
BMS3c-85-21	11	18		24
BMS3c-85-24	8	13、14		
BMS3c-85-25	62			
BMS3c-85-26	3		3300、3900	>70、>70、385
BMS3c-85-27	13	23		39
BMS3c-85-31	13	11、9		
BMS3c-85-32	21	56		111
BMS3c-85-33	15	10、21.3		17
BMS3c-85-34	48			
BMS3c-85-35	-	19、1.5	>700	2
BMS3c-85-36	-	28		
BMS3c-85-37	-	71		
BMS3c-85-38	-	17		
BMS3c-85-47	-	2.9	>700	<2、0.5
BMS3c-85-49	-	10	>700	3、3
BMS3c-85-51	-	2.5	>700	3
BMS3c-85-52	-	8.5		
BMS3c-85-55	-	13.3、6.7	>700	3、3
BMS3c-85-56	-	不收斂		
BMS3c-85-57	-	13.8、5.3	>700	2、4
BMS3c-85-62	-	9.9、2.7、2.0	>700	<2、0.63
BMS3c-85-63	-	80.9		
BMS3c-85-64	-	16.1		
BMS3c-85-65	-	13.9、7.4	>700	3、2
BMS3c-85-67	-	1.5		0.17

純系	ELISA RBA (nM)	細胞RBA (nM)	B細胞增殖分析 (EC ₅₀ nM)	
			人類	獼猴
BMS3c-85-69	-	1.8		0.33
BMS3c-85-72	-	2		0.16
BMS3c-85-73	-	2.3		
BMS3c-85-77	-	2.3		0.2
BMS3c-85-84	-	1.3		0.21
BMS3c-85-88	-	3		0.25
BMS3c-85-91	-	1.3		0.26

實例9

抗人類CD40 dAb不結合獼猴CD40

如同人類CD40中，但獼猴CD40具有Leu109殘基替代Trp109。以下複製長尾獼猴CD40之胺基酸序列：

```

1   MVRLLPLQCVL WGCLLTAVYP EPPTACREKQ YLINSQCCSL CQPGQKLVSD
51  CTEFTETECL PCGESEFLDT WNRETRCHQH KYCDPNLGLR VQQKGTSETD
101 TICTCEEGLH CTSESCESCVC PHRSCLPGFG VKQIATGVSD TICEPCPVGF
151 FSNVSSAF EK CRPWTSCETK DLVVQQAGTN KTDVVCGPQD RQRALVVIPI
201 CLGILFVILL LVLVFIKKVA KKPNDKVPHP KQEPQEINFP DDLPGSNPAA
251 PVQETLHGCQ PVTQEDGKES RISVQERQ (SEQ ID NO: 2)

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使用流式細胞測量方法測試抗人類CD40 dAb與食蟹獼猴、恆河猴及黑猩猩血液中B細胞及來自狢猿血液之淋巴細胞之交叉反應性。以下詳述之程序概述用於多個實驗中偵測CD40 dAb之方法。表24中所示之結果表明抗人類CD40 dAb不結合獼猴CD40。此情況與上文所揭示之跡象(參見圖1及圖2)一致，人類CD40中之Trp109(獼猴CD40中不存在)對於dAb與人類CD40之間的複合物形成十分重要。

方法：

在37°C下用旋轉器使聚乙二醇化抗人類CD40 dAb (BMS3h-56-5C-40L及BMS3h38-2C-P40Br)或生物素結合dAb (BMS3h38-2-生物素)

與人類及靈長類動物血液樣品一起培育1小時。將100 µl各血液樣品等分至12×75 mm管中且用FACS緩衝液(0.5% FBS/PBS/0.1%疊氮化鈉)洗滌3次。在1500 rpm下將管離心5分鐘，且在洗滌之間傾析上清液。洗滌之後，將管置於冰上且與人類IgG一起培育5分鐘以經由Fc受體阻斷非特異性結合。

對於聚乙二醇化dAb偵測，將抗PEG抗體(純系CH-2074，Silver Lake Research，或純系2-2，Open Biosystems)添加至管中且培育30分鐘。用FACS緩衝液洗滌樣品一次，接著在冰上用APC標記CD20抗體(純系2H7，BD Biosciences)及PE標記抗小鼠IgG (具Fcγ1特異性；Calbiochem)再培育30分鐘。

對於生物素結合dAb偵測，將PE標記抗生蛋白鏈菌素(Invitrogen)及APC標記CD20抗體(純系2H7，BD Biosciences)添加至管中且在室溫下培育30分鐘。

另外，為量測人類及靈長類動物血液之CD40含量，在室溫下用與靈長類動物物種(純系5C3，BD Biosciences)交叉反應之APC標記CD20抗體(純系2H7，BD Biosciences)及PE標記抗人類CD40抗體培育各血液樣品之等分試樣30分鐘。

為在偵測抗體培育之後溶解紅血球且固定白血球，將FACS溶解溶液(BD Biosciences)添加至所有管中，且在室溫下培育樣品15分鐘。離心樣品且再懸浮於FACS溶解溶液中，且經BD FACSCanto™藉由流式細胞測量術分析，對CD20+ B細胞設門進行分析。對於狢猿樣品，CD20抗體不具有交叉反應性；因此對如前向及側向散射特性(尺寸)所鑑別之所有淋巴細胞執行分析。

結果：

根據上文方法，在人類及靈長類動物血液樣品中測試聚乙二醇化及生物素標記抗人類CD40 dAb之結合。偵測到抗人類CD40 dAb結合

至人類血液樣品中之CD20+ B細胞。相反，在獼猴、恆河猴或黑猩猩血液樣品中之CD20+ B細胞上或在狢猿血液樣品中之淋巴細胞上未偵測到聚乙二醇化及生物素標記dAb之結合。BMS3h-38-2C-P40Br dAb之結果示於圖3畫面A及畫面B中。其他dAb獲得類似結果。使用與靈長類動物CD40交叉反應之抗人類CD40抗體確定人類及靈長類動物物種之B細胞上CD40之可比含量。此等資料指示來自BMS3h-56及BMS3h-38譜系之人類CD40 dAb不能結合靈長類動物物種中之CD40。該等資料與CD40與抗CD40 dAb之間形成複合物中Trp109殘基之重要性一致，如圖1及圖2中所示。

實例10

CD40與dAb BMS3h-56-5之間的複合物之X射線結晶學

資料收集及處理：

在人類CD40 (SEQ ID NO: 1)/BMS3h-56-5 (SEQ ID NO: 321)複合物之結構測定期間分析兩種不同晶體形式。自CD40/BMS3h56-5複合物之晶體收集資料，驟冷且維持於100 K，且安裝於Rigaku AFC-9測角器上。X射線源為使用具有MicroMax™共焦光學器件及Saturn 92偵測器之銅目標的Rigaku FR-E。在極高冗餘度下收集資料以增加硫反常繞射信號，希望使用彼信號以使資料分階段。用HKL2000處理資料 (HKL Research; Otwinowski 等人，In *Methods Enzymol. Macromolecular Crystallography*第A部分，Carter等人編，第276卷，第307-326頁，Academic Press, Inc., New York, NY (1997))。此晶體之資料收集統計概述於下文及表24中：

空間群：I222；

單位晶胞： $a=156.6 \text{ \AA}$ ； $b=158.3 \text{ \AA}$ ； $c=200.7 \text{ \AA}$ ；

鑲嵌度為0.59至0.84；排斥觀測：1028；0.06%。

表24

s09-167	解析度, Å	量測值	單值	冗餘度	完成%	R值	I/ σ _I
整體	50.00-3.30	1603547	37772	42.5	99.8	0.137	33.7
第一殼層	50.00-8.94	≥38193	1971	40.1	97.1	0.049	58.7
最後一殼層	3.36-3.30	≥37054	1861	43.6	99.8	0.439	12.5

由驟冷至100 K且安裝於Rayonix MX-225偵測器上之晶體在加拿大光源束線CMCF1 (Canadian Light Source beamline CMCF1) (08-ID-1)下收集第二晶形，且波長為0.9793 Å。此等資料藉由夏姆洛克結構 (Shamrock Structures) (R. Walter及G. Ranieri)收集且用HKL2000處理。此晶體之資料收集統計概述於下文及表25中：

空間群：C2；

單位晶胞：a=199.3 Å；b=48.7 Å；c=138.8 Å； β =118.2°；

鑲嵌度為0.62至0.71；排斥觀測：70；0.08%。

表25

x09-275	解析度, Å	量測值	單值	冗餘度	完成%	R值	I/ σ _I
整體	50.00-2.80	92545	29303	3.2	98.6	0.091	14.6
第一殼層	50.00-6.03	9265	3060	3.0	98.5	0.052	18.0
最後一殼層	2.90-2.80	8857	2882	3.1	98.0	0.421	3.4

分子置換模型：

dAb之模型BMS3h-56-5係源自PDB ID 2VYR鏈E殘基1至124，其中與CDR 31至35、50至57及99至111對應之連續殘基藉由SPLIT_PDB (其與kabat編號31至35、50至56及95至100G)對應移除，且接著穿過MUTATE且最終藉由RENUMBER重新編號。MUTATE使非一致殘基變為最小一致，亦即通常Ala或Gly，但例如Tyr→Phe及Phe→Tyr將產生Phe。其不會建立任何原子，但對於Thr→Val、Val→Thr、Cys→Ser及Ser→Cys，其將取代適當原子名稱，而不會改變位置。RENUMBER將編號變為Kabat編號 (Kabat等人，*Sequences of Immunological Interest*，第5版，美國健康與人類服務部，Washington, D.C. (1991))，

其為直接描述CDR及構架殘基之抗體之標準編號系統。

使用phenix.enssembler (University of Cambridge, UK)，自PDB IDs 1JMA (鏈B)、1NCF (鏈A)、1TNR (鏈R)、2HEV (鏈R)、2HEY (鏈R，T)及2UWI (鏈A、B)構築CD40模型，產生結構集合。此等分子之N端(殘基24至78)加6個殘基區段(殘基95至100)可與C α 原子之可接受之均方根距離重疊，且用作CD40之N端區之模型。

分子置換方法：

使用程式PHASER (McCoy等人，*J. Appl. Crystallogr.* 40: 658-674 (2007))進行分子置換。監測轉譯功能Z分數(translation function Z-score，TFZ)及對數似然增益增加，判定是否存在實際溶液。8及8以上之TFZ分數一般表示溶液。較小之TFZ分數伴隨對數似然增益之實質增加(>50)亦為可接受之指示。

模型建立、密度改良及結晶改進方法：

用於分子圖形之模型建立手段包括COOT程式(Emsley等人，*Acta Crystallogr Sect. D* 60: 2126-2132 (2004)；Emsley等人，「Features and Development of Coot」，*Acta Crystallogr Sect. D* 66: 486-501 (2010))。使用已知密度改良程式及計算分子之間的歐拉角(Eulerian angle)及平移的其他程式執行使用非結晶對稱圖平均法之密度改良。使用自動BUSTER 進行改進(GlobalPhasing,Ltd.: Bricogne 等人，*Acta Crystallogr. Sect. D* 60: 2210-2221 (2004)；Tronrud 等人，*Acta Crystallogr. Sect. A* 43: 489-501 (1987))。

域抗體編號系統：

用於域抗體之殘基編號系統遵循Kabat。以下比較BMS3h-56-5之Kabat編號與直順序編號：

-2-1										
BMS-3h-56-5 ST										
CDR1										
Kabat	10			20			30			40
50										
	-		-		-		-		-	
順序	10			20			30			40
50										
	-		-		-		-		-	
BMS-3h-56-5										
EVQLLESGGGLVQPGGSLRLSCAASGFTFRDYEMWWVRQAPGKGLERVSA										
CDR2										
Kabat	60			70			80			90
	A	-		-		-		ABC	-	
順序	60			70			80			90
100										
	-		-		-		-		-	
BMS-3h-56-5										
INPQGTRTYYADSVMGRETISRDN SKNTLYLQMNSLRAEDTAVYYCAKLP										
CDR3										
Kabat	99101		110		116					
		-		-		-				
順序	110		119							
	-		-							
BMS-3h-56-5 FTFDDWGQGLTVTVSSAAA (SEQ ID NO: 3)										

在Kabat編號中，BMS3h-56-5具有插入殘基52A、82A、82B、82C，且遺漏殘基100。在兩種編號系統中，給予作為表現構築體之一部分的N端之Ser及Thr負編號。

測定CD40/BMS3h-56-5複合物之結構：

PHASER能夠將4個BMS3h-56-5 dAb分子定位於I222晶形中且將3個BMS3h-56-5 dAb分子定位於C2晶形中。在I222晶形中，TFZ分數在7.6至41.0之範圍內，且對數似然增益之增加在77至446之範圍內。用於BMS3h-56-5 dAb分子之此等溶液經由I222晶體形成螺旋狀dAb分子行，其藉由大通道與其他行分離。在C2晶形中，TFZ分數在7.7至16.5之範圍內，且對數似然增益之增加在110至150之範圍內。將dAb包裝於此晶形中並不重複或對稱。

使用CD40 N端結構域之集合模型，可將CD40之N端結構域之4個

分子置於I222晶形中，其中TFZ分數在5.7至8.5之範圍內，且對數似然增益之增加在83至389之範圍內。I222晶形中CD40之4個N端結構域在4行dAb分子之間的正中心形成凝塊。然而，其不會觸碰BMS3h-56-5 dAb分子。在C2晶形中置放CD40之N端結構域之3個分子，其中TFZ分數在5.8至12.1之範圍內，且對數似然增益之增加在100至198之範圍內。在此晶形中，N端結構域亦不接觸BMS3h-56-5 dAb分子。

在I222晶形中，可將來自CD40/Chi220 Fab複合物之CD40之N端結構域及來自2UWI之N端結構域重疊於CD40 N端結構域上。將N端與特定BMS3h-56-5 dAb關聯之能力允許使用非結晶對稱(NCS)圖平均法。NCS平均法之起始相關係數得到非對角值為0.71至0.81。最終非對角值為0.88至0.92。接近於N端區之電子密度是清楚的，且可追蹤BMS3h-56-5 dAb之CDR3之路徑。將來自CD40/Chi220 Fab'複合物之殘基82至94及101至121重疊於2UWI上之相應殘基上，且接著使用COOT手動改良擬合。接著將CD40之第二結構域(殘基82至94及101至121)之此位置變換至其他三個N端結構域上。

進行一個改進週期，其中自由剩餘值(R-free)由0.437降至0.380且加工剩餘值(R-work)由0.447降至0.381，與理想之均方根鍵及角偏差有所改良。所得電子密度圖顯示殘基109具有與Trp一致之側鏈，且顯示CD40之C端70個殘基中之至少一些殘基所存在之密度。

因為CD40具有小二級結構，從而證明使C端約70個殘基與電子擬合困難，所以搜索結構生物學合作研究協蛋白質資料庫(Research Collaboratory for Structural Bioinformatics Protein Data Base)之適當模型以有助於引導鏈追蹤。44個中有16個一致及44個中有24個匹配之前兩個採樣數為2AW2及1JMA，其具有相同序列：

	125	130		140		150		160
CD40	CSPGFGVKQIATGVSDTICEPCPVGFFSNVSSAFEKCHPWTSCE							
2AW2	CSPGYRVKEACGELTGTVCEPCPFGTYIAHLNGLSKCLQCQMC							
共同序列	CSPG* VK* ** T CEGCP G * * KC C*							
	23	30		40		50		60 66
1JMA	19		30		40		50	
	19		30		40		50	
	(SEQ ID NOS 1270-1271)							

一致殘基以適當單一字母碼記錄於共同序列線上，且類似殘基以星號記錄於共同序列線上。此情況與CD40之N端結構域之殘基41至84具有相同殘基段：

	41		50		60		70		80
CD40	CQPGQKLVSDCTEFTETETCLPCGESEFLDTWNRETHCHQHXYCD								
CD40	CSPGFGVKQIATGVSDTICEPCPVGFFSNVSSAFEKCHPWTSCE								
共同序列	C PG * T **T C PC F * * *CH C*								
	125	130		140		150		160	
	(SEQ ID NOS 1272 及 1270)								

一致殘基以適當單一字母碼記錄於共同序列線上，且類似殘基以星號記錄於共同序列線上。

匹配雙硫鍵：

比較CD40之殘基41至84及125至168中之雙硫鍵

殘基41至84 殘基125至168

C41-C59 C125-C143

[C38]-C51

C62-C77 C146-C161

C83[-C103] C167[-C186]

括弧中之殘基不屬於序列重複中之殘基範圍。

以1JMA/2AW2模型作為指導，使用COOT程式擬合一個CD40鏈。接著將此擬合模型重疊於其他3個CD40鏈中之一者上。然而，似乎在其他兩個CD40鏈中此新穎殘基段之位置定向不用，且此時其不能擬合。進行一個改進週期，其中自由剩餘值由0.393降至0.366且加

工剩餘值由0.400降至0.349，與理想之均方根鍵及角偏差有相當大改良。

將來自I222晶形中之一個分子的BMS3h-56-5 dAb重疊於C2晶形中之3個dAb中之每一者上。使用彼變換矩陣定向I222晶形之第二及C端結構域。使用COOT程式重建該模型。進行一個改進週期，其中自由剩餘值由0.361降至0.334且加工剩餘值由0.375降至0.306，與理想之均方根鍵及角偏差有所改良。所得電子密度圖對置放更多CD40殘基提供指導。進行另一改進週期，其中自由剩餘值由0.302降至0.287且加工剩餘值由0.299降至0.270，與理想之均方根鍵及角偏差有所改良。

接著使用習知模型建立及改進完成結構測定。若干輪最佳化產生具有以下統計量之最終改進：自由剩餘值0.260，加工剩餘值0.228，均方根鍵0.010 Å，均方根角1.4°。主鏈原子之真實空間相關係數為約0.92且側鏈原子之真實空間相關係數為0.80。最終模型具有13個水分子。

使用來自C2晶形之C端結構域之模型作為指導，使I222晶形中之CD40模型進一步改進。若干週期使用COOT程式建立模型及用自動BUSTER程式改進產生以下統計量：自由剩餘值0.323，加工剩餘值0.292，均方根鍵0.011 Å，均方根角1.5°。主鏈原子之真實空間相關係數為0.91且側鏈原子之真實空間相關係數為0.80。該模型不包含水分子。

CD40/BMS3h-56-5複合物之整體結構：

一個BMS3h-56-5 dAb結合至一個CD40分子。如圖1中所示，BMS3h-56-5結合至不同於抗體Chi220之抗原決定基，其在N末區中結合。CD40殘基(SEQ ID NO: 1)顯示為綠色，抗原決定基殘基除外。Chi220之CD40抗原決定基殘基顯示為藍色；BMS3h-56-5 dAb抗原決

定基殘基顯示為青色。Chi220 Fab及BMS3h-56-5 β -股顯示為紅色，CDR殘基顯示為洋紅色，且其他環顯示為橙色。具有硫原子之CD40、Chi220及BMS3h-56-5分子之雙硫鍵顯示為黃色。

I222晶形含有4個結晶學獨立CD40/BMS3h-56-5複合物，且C2晶體含有3個結晶學獨立CD40/BMS3h-56-5複合物。CD40分子具有一定量之可撓性，且結構域以7種唯一複合物型式不同地排列，但在所有情況下均保留相互作用之總體性質。

***BMS3h-56-5 dAb* 抗原決定基殘基：**

BMS3h-56-5之最小CD40抗原決定基定義為含有至少一個與BMS3h-56-5原子之凡得瓦爾或氫鍵接觸之原子的CD40殘基。所有複合物中之最小抗原決定基含有以下關於SEQ ID NO: 1之CD40殘基：Trp109、Leu121、His122、Ser124、Ser156、Ala157、Phe158、Glu159及His162。在一些複合物中以下其他殘基以凡得瓦爾或氫鍵接觸：Pro85、Asn86、Leu87、Gly88、Glu106、Glu107、Gly108、His110、Thr112、Cys119、Val120、Gln133、Ile134、Ala135、Thr136、Ser155、Lys160。

最大CD40抗原決定基定義為含有藉由1.7 Å探針球內埋之原子的殘基。此等殘基包括以上所有殘基加所有複合物中之Val 154。在一些複合物中，其他內埋殘基為：Ser118、Arg123、Thr141、Phe151、Asp153、Cys161及Pro163。

具有接觸殘基之BMS3h-56-5之表面的描述示於圖2中。顯示接觸BMS3h-56-5殘基。亦顯示內埋殘基。CD40表示為用橙色表示非重複二級結構且用洋紅色表示抗原決定基殘基之草圖。亦顯示為棒(呈青色之碳原子)的是CD40殘基Trp109、Ala115、Leu121、Ser126及His162，其為人類與食蟹獼猴(長尾獼猴)之間不同之七種殘基中之五者。Ala115及Ser126位於CD40之BMS3h-56-5結合位點之相對側。

Trp109 及 Leu121 在位於 CDR-3 與 FR-2(BMS-3h-56-5 殘基 Leu45 及 Arg47)之間的BMS-h-56-5之間隙中結合。CD40之His162與BMS3h-56-5 dAb之CDR-2之Arg56相互作用。Trp109之突變會顯著降低或消除BMS3h-56-5活性。

視結晶學獨立複合物而定，660至740 Å²之CD40表面積由16至21個接觸殘基(更精確地表示為46至67個接觸原子)內埋。對於BMS3h-56-5，660至780 Å²之表面積由14至17個接觸殘基(更精確地表示為48至62個接觸原子)內埋。視結晶學獨立複合物而定，此等接觸產生3至7個氫鍵及111至142凡得瓦爾作用力。

實例11

鑑別CD40上之dAb結合抗原決定基

為了鑑別CD40上之dAb結合抗原決定基，針對七種在殘基76、109或121處含有特定胺基酸殘基取代之CD40-Fc融合蛋白測試dAb結合。此等CD40-Fc融合蛋白包括野生型人類CD40 (wt-hCD40)、野生型食蟹獼猴CD40 (wt-cCD40)及特定胺基酸殘基突變為來自食蟹獼猴CD40 (M1、M2、M4、M5)或黑猩猩CD40 (M3)之序列之相應殘基的五種突變型人類CD40蛋白(M1至M5)。胺基酸取代列於表26中。

野生型人類CD40細胞外域(1至193)之序列係來自REFSEQ:寄存編號NM_001250.3。在表26所示之位置使用野生型序列之定點突變誘發產生獼猴及突變型構築體。細胞外域與凝血酶可裂解連接子DPGGGGGRLVPRGFGTGDP (SEQ ID NO: 1273)融合，該凝血酶可裂解連接子與人類IgG1 Fc融合。該等蛋白質表現於用TIG-pYD7-GATE Durocher表現載體轉染之HEK-293-6E細胞中。五天之後收集上清液。使用蛋白質A速流層析自條件培養基純化各CD40蛋白質。管柱用PBS (20 mM磷酸鈉、0.15 M NaCl, pH 7.2)洗滌，且接著使用80 mM乙酸鈉(pH 3)溶離至五分之一體積之1 M Tris-HCl (pH 8)中。溶離液於PBS

中流過Superdex-200管柱。

表26

名稱	簡名	殘基76	殘基109	殘基121
野生型人類CD40 Fc融合物	wt-hCD40	H	W	L
人類CD40 (H76R) Fc融合物	hCD40-M1	R	W	L
人類CD40 (W109L) Fc融合物	hCD40-M2	H	L	L
人類CD40 (W109R) Fc融合物(黑猩猩 CD40)	hCD40-M3	H	R	L
人類CD40 (W109L, L121P) Fc融合物	hCD40-M4	H	L	P
人類CD40 (H76R, W109L, L121P) Fc 融合物	hCD40-M5	R	L	P
野生型食蟹獼猴CD40 Fc融合物	wt-cyno- CD40	R	L	P

分析來自3h217、3h37、3h38及3h56譜系之代表性dAb與表26中所列之CD40-Fc融合蛋白的結合。用BioRad ProteOn XPR36 SPR儀器執行分析。SPR表面係藉由在乙醇胺阻斷下使用標準乙基(二甲基胺基丙基)碳化二亞胺(EDC)/N-羥基丁二醯亞胺(NHS)化學反應，將8 µg/ml抗人類IgG(Fc)抗體(Biacore/GE Healthcare)於10 mM乙酸鈉(pH 4.5)中之混合物固定於BioRad GLC感測器晶片上來製備。用於固定及動力學結合分析之操作緩衝液為10 mM磷酸鈉、130 mM氯化鈉、0.05%吐溫20，pH 7.1。在此等表面上經由Fc尾在垂直方向上捕捉濃度為20 µg/ml之CD40-Fc融合蛋白，且將缺乏CD40-Fc蛋白之參比表面用於參比減去。藉由在25℃下，使用240秒締合時間及420秒解離時間，以30 µl/min之流速使405、135、45、15及5 nM dAb分析物水平方向流經捕捉之CD40-Fc表面來執行動力學實驗。該等表面用30秒脈衝之3 M MgCl₂，隨後用操作緩衝液以60 µl/min流過在水平與垂直方向再生。雙重參比感測器圖譜資料，且接著使用BioRad ProteOn Manager V.2.1.0.38軟體擬合成1:1朗繆爾模型，以測定締合速率常數

(k_a)、解離速率常數(k_d)及平衡解離常數(K_D)。

發現3h-37、3h-38及3h-56譜系之所有dAb以高親和力($K_D < 10^{-8}$ M)結合至含有人類CD40殘基W109及L121之CD40-Fc融合蛋白，但與具有來自食蟹獼猴CD40 (L109、P121)或黑猩猩CD40 (R109)之相應殘基之CD40-Fc融合蛋白的結合顯著降低或不可偵測到。此情況指示來自3h37、3h38及3h56-譜系各者之dAb特異性結合至包括人類CD40之殘基109及121之抗原決定基。相反，3h-217譜系之所有測試成員以類似親和力結合至所有所測試CD40-Fc融合蛋白，指示3h-217譜系之成員結合至不包括殘基76、109或121之CD40上之位點。因此，3h-217譜系結合至與3h-37、3h-38及3h-56譜系不同之抗原決定基。表27概示使用SPR用ProteOn XPR36儀器針對dAb結合至CD40-Fc融合蛋白所測定之 K_D 值。表27中之「X」意謂沒有任何證據表明在此等條件下存在結合。

表27

	wt-hCD40	hCD40-M1 (H76R)	hCD40-M2 (W109L)	hCD40-M3 (W109R)	hCD40-M4 (W109L、L121P)	hCD40-M5 (H76R、W109L、L121P)	獼猴 CD40
3h-217-5	0.47、 0.48	0.94	0.99	0.72	0.93	1.0	0.9
3h-217-16	0.22、 0.26	0.35	0.41	0.27	0.35	0.5	0.4
3h-217-23	0.78、1.5	1.6	2.0	1.2	1.6	2.2	1.9
3h-37-2	2.0、2.0	2.6	>1000	X	X	X	X
3h-37-11	1.9、2.3	2.4	>1000	X	X	X	X
3h-38-2	5.1、8.0	7.2	X	X	X	X	X
3h-38-211	3.3、6.1	4.0	>1000	X	X	X	X
3h-38-215	2.1、6.0	3.0	>1000	X	X	X	X
3h-38-217	2.3、2.4	3.4	>1000	X	X	X	X

3h-56-1	3.0、5.4	4.2	29	>1000	X	X	X
3h-56-2	3.8、3.2	6.1	44	>1000	X	X	X
3h-56-5	5.3、4.7	7.2	65	>1000	X	X	X
3h-56-202	2.3、1.3	3.3	160	X	X	X	X
3h-56-206	0.60、1.4	1.0	55	X	X	X	X
3h-56-217	1.0、1.9	1.4	2.5	23	X	X	X

表28顯示使用SPR用ProteOn XPR36儀器針對dAb結合至CD40-Fc融合蛋白所測定之締合速率常數(k_a)、解離速率常數(k_d)及平衡解離常數(K_D)。表28中之「X」意謂沒有任何證據表明在此等條件下存在結合。

表28

配位體	dAb	K_a (1/Ms)	k_d (1/s)	K_d (nM)
wt-hCD40	3h-217-5	2.71×10^6	1.27×10^{-3}	0.47
wt-hCD40 (重複)	3h-217-5	2.03×10^6	9.81×10^{-4}	0.48
hCD40 M1 (H76R)	3h-217-5	3.17×10^6	2.99×10^{-3}	0.94
hCD40 M2 (W109L)	3h-217-5	2.55×10^6	2.51×10^{-3}	0.99
hCD40 M3 (W109R)	3h-217-5	2.73×10^6	1.96×10^{-3}	0.72
hCD40 M4 (W109L、L121P)	3h-217-5	2.78×10^6	2.59×10^{-3}	0.93
hCD40-M5 (H76R、W109L、L121P)	3h-217-5	2.44×10^6	2.42×10^{-3}	0.99
wt-cCD40	3h-217-5	2.46×10^6	2.12×10^{-3}	0.86
wt-hCD40	3h-217-16	4.47×10^6	9.91×10^{-4}	0.22
wt-hCD40 (重複)	3h-217-16	3.30×10^6	8.47×10^{-4}	0.26
hCD40 M1 (H76R)	3h-217-16	4.83×10^6	1.68×10^{-3}	0.35
hCD40 M2 (W109L)	3h-217-16	4.06×10^6	1.67×10^{-3}	0.41
hCD40 M3 (W109R)	3h-217-16	3.78×10^6	1.04×10^{-3}	0.27
hCD40 M4 (W109L、L121P)	3h-217-16	4.39×10^6	1.52×10^{-3}	0.35
hCD40-M5 (H76R、W109L、L121P)	3h-217-16	3.65×10^6	1.70×10^{-3}	0.47
wt-cCD40	3h-217-16	3.44×10^6	1.47×10^{-3}	0.43
wt-hCD40	3h-217-23	1.64×10^6	1.27×10^{-3}	0.78

wt-hCD40 (重複)	3h-217-23	1.07×10^6	1.63×10^{-3}	1.52
hCD40 M1 (H76R)	3h-217-23	1.64×10^6	2.62×10^{-3}	1.59
hCD40 M2 (W109L)	3h-217-23	1.49×10^6	2.91×10^{-3}	1.95
hCD40 M3 (W109R)	3h-217-23	1.53×10^6	1.86×10^{-3}	1.22
hCD40 M4 (W109L、L121P)	3h-217-23	1.67×10^6	2.68×10^{-3}	1.61
hCD40-M5 (H76R、W109L、L121P)	3h-217-23	1.30×10^6	2.87×10^{-3}	2.21
wt-cCD40	3h-217-23	1.24×10^6	2.35×10^{-3}	1.90
wt-hCD40	3h-37-2	2.12×10^5	4.17×10^{-4}	1.96
wt-hCD40 (重複)	3h-37-2	2.13×10^5	4.26×10^{-4}	2.00
hCD40 M1 (H76R)	3h-37-2	2.17×10^5	5.62×10^{-4}	2.58
hCD40 M2 (W109L)	3h-37-2			>1000
hCD40 M3 (W109R)	3h-37-2			X
hCD40 M4 (W109L、L121P)	3h-37-2			X
hCD40-M5 (H76R、W109L、L121P)	3h-37-2			X
wt-cCD40	3h-37-2			X
wt-hCD40	3h-37-11	2.91×10^5	5.60×10^{-4}	1.92
wt-hCD40 (重複)	3h-37-11	2.81×10^5	6.40×10^{-4}	2.28
hCD40 M1 (H76R)	3h-37-11	3.00×10^5	7.17×10^{-4}	2.39
hCD40 M2 (W109L)	3h-37-11			>1000
hCD40 M3 (W109R)	3h-37-11			X
hCD40 M4 (W109L、L121P)	3h-37-11			X
hCD40-M5 (H76R、W109L、L121P)	3h-37-11			X
wt-cCD40	3h-37-11			X
wt-hCD40	3h-38-2	1.20×10^5	6.08×10^{-4}	5.07
wt-hCD40 (重複)	3h-38-2	1.42×10^5	1.14×10^{-3}	8.04
hCD40 M1 (H76R)	3h-38-2	1.40×10^5	1.00×10^{-3}	7.15
hCD40 M2 (W109L)	3h-38-2			X
hCD40 M3 (W109R)	3h-38-2			X
hCD40 M4 (W109L、L121P)	3h-38-2			X
hCD40-M5 (H76R、W109L、L121P)	3h-38-2			X
wt-cCD40	3h-38-2			X

wt-hCD40	3h-38-211	1.11×10^5	3.62×10^{-4}	3.26
wt-hCD40 (重複)	3h-38-211	1.20×10^5	7.28×10^{-4}	6.08
hCD40 M1 (H76R)	3h-38-211	1.28×10^5	5.10×10^{-4}	3.98
hCD40 M2 (W109L)	3h-38-211			>1000
hCD40 M3 (W109R)	3h-38-211			X
hCD40 M4 (W109L、L121P)	3h-38-211			X
hCD40-M5 (H76R、W109L、L121P)	3h-38-211			X
wt-cCD40	3h-38-211			X
wt-hCD40	3h-38-215	1.37×10^5	2.88×10^{-4}	2.10
wt-hCD40 (重複)	3h-38-215	1.36×10^5	8.20×10^{-4}	6.02
hCD40 M1 (H76R)	3h-38-215	1.75×10^5	5.30×10^{-4}	3.03
hCD40 M2 (W109L)	3h-38-215	°		>1000
hCD40 M3 (W109R)	3h-38-215			X
hCD40 M4 (W109L、L121P)	3h-38-215			X
hCD40-M5 (H76R、W109L、L121P)	3h-38-215			X
wt-cCD40	3h-38-215			X
wt-hCD40	3h-38-217	1.27×10^5	2.96×10^{-4}	2.34
wt-hCD40 (重複)	3h-38-217	1.44×10^5	3.40×10^{-4}	2.37
hCD40 M1 (H76R)	3h-38-217	1.41×10^5	4.81×10^{-4}	3.41
hCD40 M2 (W109L)	3h-38-217			>1000
hCD40 M3 (W109R)	3h-38-217			X
hCD40 M4 (W109L、L121P)	3h-38-217			X
hCD40-M5 (H76R、W109L、L121P)	3h-38-217			X
wt-cCD40	3h-38-217			X
wt-hCD40	3h-56-1	2.52×10^5	7.50×10^{-4}	2.97
wt-hCD40 (重複)	3h-56-1	1.93×10^5	1.03×10^{-3}	5.35
hCD40 M1 (H76R)	3h-56-1	2.31×10^5	9.67×10^{-4}	4.18
hCD40 M2 (W109L)	3h-56-1	1.92×10^5	5.57×10^{-3}	29.10
hCD40 M3 (W109R)	3h-56-1			>1000
hCD40 M4 (W109L、L121P)	3h-56-1			X
hCD40-M5 (H76R、W109L、L121P)	3h-56-1			X

wt-cCD40	3h-56-1			X
wt-hCD40	3h-56-2	2.46×10^5	9.27×10^{-4}	3.77
wt-hCD40 (重複)	3h-56-2	1.97×10^5	6.24×10^{-4}	3.17
hCD40 M1 (H76R)	3h-56-2	2.20×10^5	1.33×10^{-3}	6.05
hCD40 M2 (W109L)	3h-56-2	1.89×10^5	8.30×10^{-3}	43.90
hCD40 M3 (W109R)	3h-56-2			>1000
hCD40 M4 (W109L、L121P)	3h-56-2			X
hCD40-M5 (H76R、W109L、L121P)	3h-56-2			X
wt-cCD40	3h-56-2			X
wt-hCD40	3h-56-5	1.78×10^5	9.38×10^{-4}	5.26
wt-hCD40 (重複)	3h-56-5	1.53×10^5	7.19×10^{-4}	4.69
hCD40 M1 (H76R)	3h-56-5	1.69×10^5	1.21×10^{-3}	7.18
hCD40 M2 (W109L)	3h-56-5	1.38×10^5	8.89×10^{-3}	64.60
hCD40 M3 (W109R)	3h-56-5			>1000
hCD40 M4 (W109L、L121P)	3h-56-5			X
hCD40-M5 (H76R、W109L、L121P)	3h-56-5			X
wt-cCD40	3h-56-5			X
wt-hCD40	3h-56-202	1.82E+05	4.15×10^{-4}	2.27
wt-hCD40 (重複)	3h-56-202	1.77E+05	2.21×10^{-4}	1.25
hCD40 M1 (H76R)	3h-56-202	1.76E+05	5.79×10^{-4}	3.29
hCD40 M2 (W109L)	3h-56-202	1.35E+05	2.00×10^{-2}	155.00
hCD40 M3 (W109R)	3h-56-202			X
hCD40 M4 (W109L、L121P)	3h-56-202			X
hCD40-M5 (H76R、W109L、L121P)	3h-56-202			X
wt-cCD40	3h-56-202			X
wt-hCD40	3h-56-206	6.48E+05	3.89×10^{-4}	0.60
wt-hCD40 (重複)	3h-56-206	3.27E+05	4.72×10^{-4}	1.44
hCD40 M1 (H76R)	3h-56-206	5.65E+05	5.45×10^{-4}	0.96
hCD40 M2 (W109L)	3h-56-206	3.38E+05	2.00×10^{-2}	54.70
hCD40 M3 (W109R)	3h-56-206			X
hCD40 M4 (W109L、L121P)	3h-56-206			X
hCD40-M5 (H76R、W109L、L121P)	3h-56-206			X

L121P)				
wt-cCD40	3h-56-206			X
wt-hCD40	3h-56-217	4.71E+05	4.70×10^{-4}	1.00
wt-hCD40 (重複)	3h-56-217	2.91E+05	5.46×10^{-4}	1.87
hCD40 M1 (H76R)	3h-56-217	4.45E+05	6.35×10^{-4}	1.43
hCD40 M2 (W109L)	3h-56-217	4.25E+05	1.05×10^{-3}	2.48
hCD40 M3 (W109R)	3h-56-217	2.91E+05	6.70×10^{-3}	23.00
hCD40 M4 (W109L、L121P)	3h-56-217			X
hCD40-M5 (H76R、W109L、 L121P)	3h-56-217			X
wt-cCD40	3h-56-217			X

實例12

構築Fc融合多肽

如本文所揭示，可構築各種組態之包含dAb之抗體多肽。在此實例中，各種dAb與Fc域融合產生抗人類CD40可變域構築體之Fc融合多肽，諸如3h37-202、3h37-235、3h37-258及3h37-202。

在一個代表性實例中，dAb BMS3h-56-269 (SEQ ID NO: 417)與經修飾之IgG1 (IgG1*) Fc域(SEQ ID NO: 1284)融合。在dAb-IgG1* Fc域融合多肽中，dAb BMS3h-56-269之C端融合至具有序列Ala-Ser-Thr之連接子三肽，其又與IgG1*Fc域(SEQ ID NO: 1284)融合。IgG1*Fc域含有修飾C5S，係指SEQ ID NO: 1284中之位置編號。IgG1 Fc域之C5通常與IgG分子之輕鏈中之Cys殘基形成雙硫鍵。IgG1*Fc域亦含有C11S及C14S突變以消除IgG1鉸鏈區中之鏈間雙硫鍵。最終，IgG1*Fc域含有P23S突變以降低Fc域效應功能。dAb-IgG1*Fc融合多肽具有以下序列，其中Ala-Ser-Thr連接子呈粗體且Fc域之修飾呈粗斜體：

```

1   EVQLLESGGG LVQPGGSLRL SCAASGFTFR DYEMWWVRQA PGKGLERVSA
51  INPQGTRTYY ADSVKGRFTI SRDNSKNTLY LQMNSLRAED TAVYYCAKLP
101 FRFSDRGQGT LVTVSSASTE PKSSDKTHTS PPSPAPELLG GSSVFLFPPK
151 PKDTLMISRT PEVTCVVVDV SHEDPEVKFN WYVDGVEVHN AKTKPREEQY
201 NSTYRVVSVL TVLHQDWLNG KEYKCKVSNK ALPAPIEKTI SKAKGQPREP
251 QVYTLPPSRD ELTKNQVSLT CLVKGFYPSD IAVEWESNGQ PENNYKTPP
301 VLDSSGSFFL YSKLTVDKSR WQQGNVFSCS VMHEALHNHY TQKSLSLSPG
351 K   (SEQ ID NO: 1286)

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SEQ ID NO: 1286中所示之dAb-IgG1*Fc融合多肽為計算分子量為39,127 Da之單體。其可形成計算分子量為78,254 Da之二聚體。

或者，dAb BMS3h-56-269 (SEQ ID NO: 417)與人類IgG₄ Fc域 (SEQ ID NO: 1285)融合。dAb BMS3h-56-269之C端又融合至Ala-Ser-Thr連接子，該Ala-Ser-Thr連接子與IgG₄ Fc域(SEQ ID NO: 1285)融合。IgG₄ Fc域含有修飾S10P，係指SEQ ID NO: 1285中之位置編號。BMS3h-56-269-IgG₄ Fc融合多肽具有以下序列，其中Ala-Ser-Thr連接子呈粗體且S10P修飾呈粗斜體：

```

1   EVQLLESGGG LVQPGGSLRL SCAASGFTFR DYEMWWVRQA PGKGLERVSA
51  INPQGTRTYY ADSVKGRFTI SRDNSKNTLY LQMNSLRAED TAVYYCAKLP
101 FRFSDRGQGT LVTVSSASTE SKYGPPCPPC PAPEFLGGPS VFLFPPKPKD
151 TLMISRTPEV TCVVVDVSQE DPEVQFNWYV DGVEVHNAKT KPREEQFNST
201 YRVVSVLTVL HQDWLNGKEY KCKVSNKGLP SSIEKTISKA KGQPREPQVY
251 TLPPSQEEMT KNQVSLTCLV KGFYPSDIAV EWESNGQPEN NYKTPPVLD
301 SDGSFFLYSR LTVDKSRWQE GNVFSCSVMH EALHNHYTQK SLSLSLGK
      (SEQ ID NO: 1287)

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SEQ ID NO: 1287中所示之BMS3h-56-269-IgG₄ Fc融合多肽為計算分子量為38,867 Da之單體。其可形成計算分子量為77,734 Da之二聚體。

下文比對BMS3h-56-269 (SEQ ID NO: 417)、BMS3h-56-269-IgG1*Fc融合多肽(SEQ ID NO: 1286)及BMS3h-56-269-IgG₄ Fc融合多肽(SEQ ID NO: 1287)之序列，其中Fc域之起始用箭頭標出：

BMS3h56-269 (SEQ ID NO:417) (1)
 EVOLLESGGGLVOPGGSLRLSCAASGFTFRDYEMWWVROAPGKGLERVSA
 BMS3h56-269-CTL2 (SEQ ID NO:1286) (1)
 EVOLLESGGGLVOPGGSLRLSCAASGFTFRDYEMWWVROAPGKGLERVSA
 BMS3h56-269-Ig4 (SEQ ID NO:1287) (1)
 EVOLLESGGGLVOPGGSLRLSCAASGFTFRDYEMWWVROAPGKGLERVSA

BMS3h56-269 (SEQ ID NO:417) (34)
 INPQGTRTYYADSVKGRFTISRDN SKNTLYLOMNSLR AEDTAVYYCAKLP
 BMS3h56-269-CTL2 (SEQ ID NO:1286) (51)
 INPQGTRTYYADSVKGRFTISRDN SKNTLYLOMNSLR AEDTAVYYCAKLP
 BMS3h56-269-Ig4 (SEQ ID NO:1287) (51)
 INPQGTRTYYADSVKGRFTISRDN SKNTLYLOMNSLR AEDTAVYYCAKLP

BMS3h56-269 (SEQ ID NO:417) (84)
 FRFSDRGOGTITVYS-----
 BMS3h56-269-CTL2 (SEQ ID NO:1286) (101)
 FRFSDRGOGTITVYSASTEPKSSDKTHTSPPSAPPELLCGGSSVTLFPPK
 BMS3h56-269-Ig4 (SEQ ID NO:1287) (101)
 FRFSDRGOGTITVYSASTESKYG---PPCPFCAPPHLCGGPSVTLFPPK

↑
 Fc之起始

BMS3h56-269 (SEQ ID NO:417) (117)

 BMS3h56-269-CTL2 (SEQ ID NO:1286) (151)
 PKDTLMTSRTEPVTVVDVSHEDPEVKENWYVDGVEVHNAKTKPREEQY
 BMS3h56-269-Ig4 (SEQ ID NO:1287) (148)
 PKDTLMTSRTEPVTVVDVSHEDPEVOENWYVDGVEVHNAKTKPREEQF

BMS3h56-269 (SEQ ID NO:417) (117)

 BMS3h56-269-CTL2 (SEQ ID NO:1286) (201)
 NSTYRVVSVLTITVTHODWLNCKEYKCKVSNKALPAPITFKTISKAKGQPREP
 BMS3h56-269-Ig4 (SEQ ID NO:1287) (198)
 NSTYRVVSVLTITVTHODWLNCKEYKCKVSNKGLPSSTIEKTIISKAKGQPREP

BMS3h56-269 (SEQ ID NO:417) (117) -----

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BMS3h56-269-CTL2 (SEQ ID NO:1286) (251)
QVYTLPPSRDELTKNOVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPP
BMS3h56-269-Ig4 (SEQ ID NO:1287) (248)
QVYTLPPSQEEMTKNOVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPP

BMS3h56-269 (SEQ ID NO:417) (117)
-----
BMS3h56-269-CTL2 (SEQ ID NO:1286) (301)
VLDSDEGSFFLYSKLTVDKSRWQGQGNVFSCSVMEALHNHYTOKSLSLSPG
BMS3h56-269-Ig4 (SEQ ID NO:1287) (298)
VLDSDEGSFFLYSRLETVDKSRWQEGNVFSCSVMEALHNHYTOKSLSLSLG

BMS3h56-269 (SEQ ID NO:417) (117) -
BMS3h56-269-CTL2 (SEQ ID NO:1286) (351) K
BMS3h56-269-Ig4 (SEQ ID NO:1287) (348) K

```

使用實例11中所揭示之細胞培養方法表現Fc融合多肽。管柱用PBS (20 mM磷酸鈉、0.15 M NaCl, pH 7.2)洗滌，且接著使用80 mM乙酸鈉(pH 3)溶離至五分之一體積之1 M Tris-HCl (pH 8)中。溶離液於PBS中流過Superdex-200管柱。

實例13

CD40 Fc融合多肽活性分析

功能上分析抗人類CD40 Fc融合多肽拮抗CD40活性之能力。所測試之CD40活性為藉由hCD40L驅動之初級人類單核細胞源性樹突狀細胞(DC)活化發生之B細胞增殖及細胞激素產生。使用實例6中所揭示之分析量測B細胞增殖及細胞激素產生。除非另外說明，否則所有分析均在補充有10%胎牛血清(FCS)之RPMI培養基中執行。dAb-Fc域融合多肽展示CD40依賴性活化之有效抑制作用(亦即拮抗作用)。注意到在任何人類CD40特異性dAb-Fc域融合多肽中無促效特性。使用各種分析得到之結果示於表29中。使用實例11中所揭示之分析來分析3h56-269-IgG4與固定之人類CD40之結合。對於3h56-269-IgG4，在30 pM、25℃下及在40 pM、37℃下量測結合固定之人類-CD40的表觀親合力影響之 K_d 值。

表29

dAb-Fc	hIZCD40L 驅動之人類 B細胞增殖 EC ₅₀ (nM)	CHO- hCD40L 驅動之人 類B細胞 增殖 EC ₅₀ (nM)	T-B細胞 MLR EC ₅₀ (nM)	CHO- hCD40L 驅動之 DC活化 TNF EC ₅₀ (nM)	CHO- hCD40L 驅動之 DC活化 IL-6 EC ₅₀ (nM)	CHO- hCD40L 驅動之DC 活化 IL-12 EC ₅₀ (nM)
3h37- 202- IgG4	0.16 ± 0.08	5.0、3.0	5.0、6.0			0.53 ± 0.1
3h37- 202- IgG1*	0.27、0.22	3.0、7.0				0.74 ± 0.2
3h38- 235- IgG4	0.20、0.15	6.0、10.0	16.7 ± 5.7			0.67 ± 0.3
3h38- 235- IgG1*	0.25 ± 0.1	4.0 ± 1.0				0.88 ± 0.3
3h56- 258- IgG4	0.16 ± 0.05	1.0 ± 0.8	2.4 ± 0.99	0.22 ± 0.08	0.11 ± 0.05	0.3 ± 0.2
3h56- 258- IgG1*	0.063 ± 0.03	0.6 ± 0.4	2.0 ± 0.63			0.31 ± 0.1
3h56- 269- IgG4	0.028 ± 0.01	0.27 ± 0.08	0.52 ± 0.07	0.16 ± 0.03	0.09 ± 0.02	0.092 ± 0.03
3h56- 269- IgG1*	0.025 ± 0.01	0.25 ± 0.04	0.53 ± 0.1	0.27 ± 0.06	0.15 ± 0.05	0.14 ± 0.06

儘管已根據上文實例詳細描述了本發明實施例，但應瞭解在不背

離此等實施例之精神的情況下可作出各種修改，且將易於為習此相關技藝之人士所知。

【序列表】

<110> 美商必治妥美雅史谷比公司

<120> 拮抗CD40之抗體多肽

<130> 200896-0004-00-WO (481834)

<140> 101114258

<141> 2012-04-20

<150> 61/477,904

<151> 2011-04-21

<160> 1287

<170> PatentIn version 3.5

<210> 1

<211> 277

<212> PRT

<213> 智人

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Ile Asn Ser Gln Cys Cys Ser Leu Cys Gln Pro Gly Gln Lys Leu Val
35 40 45

Ser Asp Cys Thr Glu Phe Thr Glu Thr Glu Cys Leu Pro Cys Gly Glu
50 55 60

Ser Glu Phe Leu Asp Thr Trp Asn Arg Glu Thr His Cys His Gln His
65 70 75 80

Lys Tyr Cys Asp Pro Asn Leu Gly Leu Arg Val Gln Gln Lys Gly Thr
85 90 95

Ser Glu Thr Asp Thr Ile Cys Thr Cys Glu Glu Gly Trp His Cys Thr
100 105 110

Ser Glu Ala Cys Glu Ser Cys Val Leu His Arg Ser Cys Ser Pro Gly
115 120 125

Phe Gly Val Lys Gln Ile Ala Thr Gly Val Ser Asp Thr Ile Cys Glu
130 135 140

Pro Cys Pro Val Gly Phe Phe Ser Asn Val Ser Ser Ala Phe Glu Lys
145 150 155 160

Cys His Pro Trp Thr Ser Cys Glu Thr Lys Asp Leu Val Val Gln Gln
165 170 175

Ala Gly Thr Asn Lys Thr Asp Val Val Cys Gly Pro Gln Asp Arg Leu
180 185 190

Arg Ala Leu Val Val Ile Pro Ile Ile Phe Gly Ile Leu Phe Ala Ile
195 200 205

Leu Leu Val Leu Val Phe Ile Lys Lys Val Ala Lys Lys Pro Thr Asn
 210 215 220
 Lys Ala Pro His Pro Lys Gln Glu Pro Gln Glu Ile Asn Phe Pro Asp
 225 230 235 240
 Asp Leu Pro Gly Ser Asn Thr Ala Ala Pro Val Gln Glu Thr Leu His
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 Gly Cys Gln Pro Val Thr Gln Glu Asp Gly Lys Glu Ser Arg Ile Ser
 260 265 270
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 Ile Asn Ser Gln Cys Cys Ser Leu Cys Gln Pro Gly Gln Lys Leu Val
 35 40 45
 Ser Asp Cys Thr Glu Phe Thr Glu Thr Glu Cys Leu Pro Cys Gly Glu
 50 55 60
 Ser Glu Phe Leu Asp Thr Trp Asn Arg Glu Thr Arg Cys His Gln His
 65 70 75 80
 Lys Tyr Cys Asp Pro Asn Leu Gly Leu Arg Val Gln Gln Lys Gly Thr
 85 90 95
 Ser Glu Thr Asp Thr Ile Cys Thr Cys Glu Glu Gly Leu His Cys Thr
 100 105 110
 Ser Glu Ser Cys Glu Ser Cys Val Pro His Arg Ser Cys Leu Pro Gly
 115 120 125
 Phe Gly Val Lys Gln Ile Ala Thr Gly Val Ser Asp Thr Ile Cys Glu
 130 135 140
 Pro Cys Pro Val Gly Phe Phe Ser Asn Val Ser Ser Ala Phe Glu Lys
 145 150 155 160
 Cys Arg Pro Trp Thr Ser Cys Glu Thr Lys Asp Leu Val Val Gln Gln
 165 170 175
 Ala Gly Thr Asn Lys Thr Asp Val Val Cys Gly Pro Gln Asp Arg Gln
 180 185 190
 Arg Ala Leu Val Val Ile Pro Ile Cys Leu Gly Ile Leu Phe Val Ile

Arg Ala Leu Val Val Ile Pro Ile Cys Leu Gly Ile Leu Phe Val Ile
195 200 205

Leu Leu Leu Val Leu Val Phe Ile Lys Lys Val Ala Lys Lys Pro Asn
210 215 220

Asp Lys Val Pro His Pro Lys Gln Glu Pro Gln Glu Ile Asn Phe Pro
225 230 235 240

Asp Asp Leu Pro Gly Ser Asn Pro Ala Ala Pro Val Gln Glu Thr Leu
245 250 255

His Gly Cys Gln Pro Val Thr Gln Glu Asp Gly Lys Glu Ser Arg Ile
260 265 270

Ser Val Gln Glu Arg Gln
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Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Met Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Thr Phe Asp Asp Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser Ala Ala Ala
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 <223> 此序列可涵蓋1至5個「Gly Gly Gly Gly Ser」重複單元

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Gly Gly Gly Ser Gly Gly Gly Gly Ser
 20 25

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<210> 7
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<400> 7
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 <223> 人工序列之描述：合成肽

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 <211> 116

<212> PRT

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<223> 人工序列之描述：合成多肽

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Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
 20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Leu Pro Phe Tyr Phe Gln Glu Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
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<210> 10

<211> 116

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<223> 人工序列之描述：合成多肽

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 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
 20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Leu Pro Phe Tyr Phe His Glu Trp Gly Gln Gly Thr Leu Val

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105

110

Thr Val Ser Ser
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<223> 人工序列之描述：合成多肽

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1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Trp Tyr
20 25 30

Glu Met Gln Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Gly Asp Gly Tyr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Leu Gly Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
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Thr Val Ser Ser
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<210> 12
<211> 116
<212> PRT
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<220>
<223> 人工序列之描述：合成多肽

<400> 12
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Glu
20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Pro Phe Arg Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
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1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Thr Glu Tyr
20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Asn Gly Ala Asn Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Pro Leu Arg Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
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<220>
<223> 人工序列之描述：合成多肽

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Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Thr Ala Ser Gly Phe Thr Phe Asn Met Tyr
20 25 30

Glu Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Gly Ile Ser Arg Arg Gly Phe Thr Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Pro Ile Thr Tyr Ala Met Arg Tyr Ala Arg Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

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<212> PRT
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<220>
<223> 人工序列之描述：合成多肽

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Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Ile Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
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<223> 人工序列之描述：合成多肽

<400> 16

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Thr Tyr
 20 25 30

His Met Gln Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Met Ile Asp Ala Asp Gly Leu Gly Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Pro Gly Pro Gln Phe Gly Gln Phe Asp Tyr Trp Gly Gln Gly
 100 105 110

Thr Leu Val Thr Val Ser Ser
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<223> 人工序列之描述：合成多肽

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Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Gly Tyr
 20 25 30

Asp Met Gln Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Thr Ile Ser Ala Ser Gly Val Phe Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Thr Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Tyr Pro Asn Arg Phe Ala Leu Asn Asn Phe Asp Tyr Trp Gly
 100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

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 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Asn Ser Ser Ile Leu Trp Ala
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Glu Ser Ser Ser Gly Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Val Gln Asn Ala Gly Trp Pro Gly
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Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
 100 105

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 20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Leu Ala Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys His Gln Tyr Ala Ser Pro Pro Leu
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Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
 100 105

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 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ala Gly Tyr
 20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Asp Pro Tyr Ser Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
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 20 25 30

Glu Met Val Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Ser Ile Ser Ala Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys

85

90

95

Ala Lys Glu Pro Val Ser Tyr Val Ala Thr Phe Asp Tyr Trp Gly Gln
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser
 115 120

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 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Phe Ile Gly Thr Leu
 20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Thr Tyr Gly Ser Leu Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Ala
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
 100 105

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Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Pro Lys Asn
 20 25 30

Glu Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Ala Ile Glu Ser Asp Gly Gln Ala Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Asn Arg Ile Pro Asp Leu Val Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
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<211> 119
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<223> 人工序列之描述：合成多肽

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1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asp Ala Gly
20 25 30

Ala Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Asp Lys Glu Gly Leu Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Gly Arg Ile Pro Gly Leu Val Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
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<220>
<223> 人工序列之描述：合成多肽

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Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Gly Asp Ala
20 25 30

Ala Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Gln Pro Met Gly Asp Gly Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Val Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Gly Arg Ile Pro Thr Leu Gln Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

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<211> 119
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

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1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Asp Ser
20 25 30

Pro Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Thr Ser Asn Gly Tyr Glu Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Gly Arg Ile Pro Thr Leu His Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 27
<211> 119
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 27

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asp Glu His
 20 25 30

Asp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Arg Ile Gly Pro Asp Gly Phe His Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Gly Arg Ile Pro Thr Leu His Phe Asp Tyr Trp Gly Gln Gly
 100 105 110

Thr Leu Val Thr Val Ser Ser
 115

<210> 28

<211> 119

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 28

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Gly Glu Tyr
 20 25 30

His Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Arg Ile Thr Pro Leu Gly Thr Leu Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Gly Arg Ile Pro Ser Leu Thr Phe Asp Tyr Trp Gly Gln Gly
 100 105 110

Thr Leu Val Thr Val Ser Ser
 115

<210> 29
 <211> 119
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 29
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Gly Thr Asn
 20 25 30

Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Arg Ile Ser Pro Gly Gly Asp Tyr Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Gly Arg Val Pro Asp Leu Leu Phe Asp Tyr Trp Gly Gln Gly
 100 105 110

Thr Leu Val Thr Val Ser Ser
 115

<210> 30
 <211> 119
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 30
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Pro Ser Glu
 20 25 30

Glu Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Arg Ile Ser Ala Asp Gly Ala Asn Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Ala Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Gly Arg Val Pro Asp Leu Leu Phe Asp Tyr Trp Gly Gln Gly
 100 105 110

Thr Leu Val Thr Val Ser Ser
 115

<210> 31
 <211> 119
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 31
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ala Glu Asp
 20 25 30

Asp Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Arg Ile Ala Val Asp Gly Asp Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Gly Lys Val Pro Ser Leu His Phe Asp Tyr Trp Gly Gln Gly
 100 105 110

Thr Leu Val Thr Val Ser Ser
 115

<210> 32
 <211> 119
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 32
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Thr Met
 20 25 30

Asp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Arg Ile Thr Gly Asp Gly Met Asn Thr Tyr Tyr Ala Asp Ser Val

50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Gly Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys Gly Val Thr Pro Asp Leu Thr Phe Asp Tyr Trp Gly Gln Gly
 100 105 110
 Thr Leu Val Thr Val Ser Ser
 115

<210> 33
 <211> 119
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 33
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Arg Asp
 20 25 30
 Asp Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ser Arg Ile Asn Ala Gly Gly Val His Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys Gly Val Thr Pro Asp Leu Thr Phe Asp Tyr Trp Gly Gln Gly
 100 105 110
 Thr Leu Val Thr Val Ser Ser
 115

<210> 34
 <211> 119
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 34
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asp Asp Asp
20 25 30

Ser Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Arg Ile Ser Ser Asp Gly Ala Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Gly Val Thr Pro Asp Leu Thr Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 35
<211> 119
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 35
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Thr Glu Glu
20 25 30

Asp Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Arg Ile Asp Ser Val Gly Glu Gly Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Gly Val Thr Pro Asp Leu Thr Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 36
<211> 119
<212> PRT
<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 36

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp Ser
 20 25 30

Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Arg Ile Asp Asn Pro Gly Gln His Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Gly Thr Val Pro Thr Leu Glu Phe Asp Tyr Trp Gly Gln Gly
 100 105 110

Thr Leu Val Thr Val Ser Ser
 115

<210> 37

<211> 119

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 37

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Gly Gln His
 20 25 30

Ser Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Arg Ile Asp Gly Gly Gly Tyr Asn Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Gly Glu Val Pro Arg Leu His Phe Asp Tyr Trp Gly Gln Gly
 100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 38
<211> 119
<212> PRT
<213> 人工序列

<220>
<223>人工序列之描述：合成多肽

<400> 38
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Gly Gln Glu
20 25 30

Pro Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Arg Ile Ala Tyr Asn Gly Gly Asp Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Gly Ile Thr Pro Asn Leu Thr Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 39
<211> 119
<212> PRT
<213> 人工序列

<220>
<223>人工序列之描述：合成多肽

<400> 39
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Asn Tyr
20 25 30

Pro Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Arg Ile Asn Ala Thr Gly Ser Ile Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Gly Val Ile Pro His Leu Met Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 40
<211> 119
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 40
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Asp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Arg Ile Thr Gly Thr Gly Asn Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Gln Gly Val Val Pro Tyr Leu Ala Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 41
<211> 119
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 41
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Ala Asp
20 25 30

Ala Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Arg Ile Asn Val Asp Gly Asp Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Gly Thr Val Pro Thr Leu Glu Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 42
<211> 119
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 42
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asp Arg Ala
20 25 30

Asp Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Arg Ile Ser Gly Glu Gly Lys Cys Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Gly Met Val Pro Asn Leu Val Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 43
<211> 119
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 43
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly

1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe His Trp Glu
 20 25 30
 Pro Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ser Arg Ile Asn Ser Ser Gly Trp Asp Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys Gly Met Val Pro Asn Leu Val Phe Asp Tyr Trp Gly Gln Gly
 100 105 110
 Thr Leu Val Thr Val Ser Ser
 115

<210> 44
 <211> 119
 <212> PRT
 <213> 人工序列

<220>
 <223>人工序列之描述：合成多肽

<400> 44
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ala Asp Glu
 20 25 30
 Pro Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ser Arg Ile Pro Pro Glu Gly Ala Pro Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys Gly Ile Thr Pro Asn Leu Thr Phe Asp Tyr Trp Gly Gln Gly
 100 105 110
 Thr Leu Val Thr Val Ser Ser
 115

<210> 45
 <211> 119

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 45

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe His Asn His
 20 25 30

Asp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Arg Ile Ser Arg Gly Gly Leu Gln Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Gly Ile Val Pro Asp Leu His Phe Asp Tyr Trp Gly Gln Gly
 100 105 110

Thr Leu Val Thr Val Ser Ser
 115

<210> 46

<211> 119

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 46

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asn Glu Tyr
 20 25 30

Pro Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Arg Ile Asn Gly Asp Gly Ala Asn Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Gly Ile Ile Pro Ala Met Gln Phe Asp Tyr Trp Gly Gln Gly

100

105

110

Thr Leu Val Thr Val Ser Ser
115

<210> 47
<211> 119
<212> PRT
<213> 人工序列

<220>
<223>人工序列之描述：合成多肽

<400> 47
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Gly Asp Val
20 25 30

Pro Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Arg Ile Asp Pro Tyr Gly Ser Asn Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Gly Ile Met Pro Ser Leu Thr Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 48
<211> 119
<212> PRT
<213> 人工序列

<220>
<223>人工序列之描述：合成多肽

<400> 48
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ala Asp Tyr
20 25 30

Asp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Arg Ile Ser Ala Leu Gly Ala Thr Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Gly Gln Leu Pro Ala Leu Glu Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 49
<211> 119
<212> PRT
<213> 人工序列

<220>
<223>人工序列之描述：合成多肽

<400> 49
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Lys Arg Tyr
20 25 30

Tyr Met Thr Trp Val Arg Gln Ala Pro Gly Lys Asp Leu Glu Trp Val
35 40 45

Ser Gly Ile Val Pro Ser Gly Asn Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Gly Arg Ile Pro Asp Leu His Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 50
<211> 122
<212> PRT
<213> 人工序列

<220>
<223>人工序列之描述：合成多肽

<400> 50
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ala Asp Tyr
20 25 30

Asp Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Arg Ile Ser Pro Thr Gly Gly Gln Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Gly Val Ile Pro Tyr Leu Ser Phe Ser Pro Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 51
<211> 122
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 51
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Tyr
20 25 30

Trp Met Gly Trp Ala Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Asp Ser His Gly Ala Gly Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Val Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Gly Ala Pro Lys Phe Met Thr Thr Tyr Thr Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 52
<211> 117
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 52

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Leu Ser Tyr
20 25 30

Pro Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Asp Ser Arg Gly Ser Val Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Gly His Ser Trp Thr Phe Asp Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 53

<211> 119

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 53

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ala Asn Ser
20 25 30

Asn Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Arg Ile Asn Pro Asp Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Glu Gly Arg Ile Pro Thr Leu His Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 54
 <211> 119
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 54
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Gly Pro Arg
 20 25 30

Arg Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Ser Ile Asp Asp Ile Gly Arg Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Glu Gly Ala Gln Gly Val Leu Leu Phe Asp Tyr Trp Gly Gln Gly
 100 105 110

Thr Leu Val Thr Val Ser Ser
 115

<210> 55
 <211> 117
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 55
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Asp Tyr
 20 25 30

Arg Met Val Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Ser Ile Ser Thr Ser Gly Glu Leu Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Glu Thr Ala Gly Gln Phe Phe Asp Tyr Trp Gly Gln Gly Thr Leu
 100 105 110

Val Thr Val Ser Ser
 115

<210> 56
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 56
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Pro Glu Tyr
 20 25 30

Glu Met Val Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Ala Ile Ser Arg Glu Gly Arg Ala Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Asn Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Glu Pro Val Arg Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 57
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 57
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Thr Tyr
 20 25 30

Glu Met Leu Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Ser Ile Ser Ser Ser Gly Asn Tyr Thr Tyr Tyr Ala Asp Ser Val

50

55

60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Pro Leu Met Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 58
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 58
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asp Thr Glu
20 25 30

Glu Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Pro Asn Gly Ala Phe Thr Phe Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Pro Ile Leu Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 59
<211> 117
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 59
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Gly His Tyr
20 25 30

Asp Met Val Trp Val Arg Gln Ala Pro Gly Arg Gly Leu Glu Trp Val
35 40 45

Ser Thr Ile Asn Gly Ala Gly Leu Asn Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Gln Ser Ala Ser Arg Ile Phe Asp Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 60

<211> 117

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 60

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Ser Tyr
20 25 30

Glu Met Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Thr Leu Gly Thr Lys Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Gln Ser Ser Thr His Ile Phe Asp Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 61

<211> 117

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 61

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ile Arg Tyr
 20 25 30

Glu Met Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Ser Ile Ser Ser Ser Gly Trp Thr Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Ser Asp Ala His Ile Phe Asp Tyr Trp Gly Gln Gly Thr Leu
 100 105 110

Val Thr Val Ser Ser
 115

<210> 62

<211> 117

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 62

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Tyr Ala Tyr
 20 25 30

Glu Met Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Ser Ile Ser Asp Asp Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Asp Leu Gly Gln Gly Phe Asp Tyr Trp Gly Gln Gly Thr Leu
 100 105 110

Val Thr Val Ser Ser
115

<210> 63
<211> 119
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 63
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ala Asp His
20 25 30

Gly Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Gly Ile Gly Pro Ser Gly Glu Ala Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Asp Arg Ile Pro Asn Leu Val Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 64
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 64
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Ser Gln
20 25 30

Asp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Gly Ile Ser Pro Asn Gly Trp Asp Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Asp Arg Ser Asp Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 65
<211> 117
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 65
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Gly Asp Tyr
20 25 30

Asp Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Arg Ile Arg His Pro Gly Gly Val Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Ala Val Pro Lys Gly Phe Asp Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 66
<211> 119
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 66
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Val Tyr
20 25 30

Trp Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Asp Pro Gln Gly Gly Met Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Ala Arg Ile Pro Asn Leu Glu Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 67

<211> 119

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 67

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Glu
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ala Tyr
20 25 30

Asp Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Arg Ile Asn Pro Thr Gly Ser Tyr Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Ala Lys Ile Pro Asn Leu Val Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 68

<211> 121

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 68

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly

1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ala Asp Ser
 20 25 30
 Glu Met Met Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ser Gly Ile Ala His Asn Gly Gly His Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys Ala Gly His Pro Gln Gln Thr Glu Ala Phe Asp Tyr Trp Gly
 100 105 110
 Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 69
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 69
 Glu Met Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ala Thr Tyr
 20 25 30
 Asp Met Tyr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ser Lys Ile Ser Pro Asn Gly Trp Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys Tyr Gln Thr His Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
 100 105 110
 Thr Val Ser Ser
 115

<210> 70
 <211> 116

<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 70
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Val Tyr
20 25 30

Asp Met Arg Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Thr Ile Ser Ser Ser Gly Thr Tyr Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Tyr Pro Lys Asn Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 71
<211> 117
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 71
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser His Glu
20 25 30

Asp Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Pro Asn Gly Trp Asp Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Arg Thr Arg Ser Lys Phe Asp Tyr Trp Gly Gln Gly Thr Leu

100

105

110

Val Thr Val Ser Ser
115

<210> 72
<211> 120
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 72
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Lys Tyr
20 25 30

Ile Met Gly Trp Ala Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Thr Ile Asp Tyr Trp Gly Gln His Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Arg Ser His Leu Ile Pro Leu Gln Phe Asp Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 73
<211> 123
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 73
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp Tyr
20 25 30

Ala Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Thr Ile Ser Tyr Val Gly Tyr Tyr Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Lys Ala Leu Arg Gly Glu Ala Phe Thr Glu Arg Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 74
<211> 123
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 74
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Gly Pro Tyr
20 25 30

Met Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Thr Ile Glu Val Asn Gly Asn Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Trp Val Gly Ser Lys Thr Ser Ser Asp Lys Ser Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 75
<211> 120
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 75
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Gly Thr Thr
20 25 30

Glu Met Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Gly Ser Ala Gly Ala Trp Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Ile Gly Gly His Pro Gln Gly Gln Phe Asp Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 76
<211> 119
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 76
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Pro Arg Glu
20 25 30

Trp Met Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Gln Pro Met Gly Gln Thr Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Tyr Ser Arg Asn Lys Gly Phe Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 77
<211> 119
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 77

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Thr Ser Glu
 20 25 30

Tyr Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Ser Ile Gln Arg Tyr Gly Ser Thr Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys His Glu Ser Asn Trp Glu Thr Phe Asp Tyr Trp Gly Gln Gly
 100 105 110

Thr Leu Val Thr Val Ser Ser
 115

<210> 78

<211> 123

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 78

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Val Tyr
 20 25 30

Ser Met Gln Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Ala Ile Thr Pro Asn Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Thr Leu Gly Arg Gly Ser Tyr Pro Gly Val Asp Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 79
 <211> 119
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 79
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Pro Ser Tyr
 20 25 30
 Ala Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ser Arg Ile Thr Ala Asp Gly Thr Val Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys Gly Ser Ile Pro Met Leu Thr Phe Asp Tyr Trp Gly Gln Gly
 100 105 110
 Thr Leu Val Thr Val Ser Ser
 115

<210> 80
 <211> 120
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 80
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Thr Tyr
 20 25 30
 Asp Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ser Ala Ile Ser Pro Asn Gly Thr Gly Ile Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Asn Gln Ser Val His His Ala Val Phe Asp Tyr Trp Gly Gln
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 81
 <211> 119
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 81
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Asn Tyr
 20 25 30

Glu Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Arg Ile Ala Pro His Gly Arg Leu Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Gly Gln Ile Pro Met Leu Asp Phe Asp Tyr Trp Gly Gln Gly
 100 105 110

Thr Leu Val Thr Val Ser Ser
 115

<210> 82
 <211> 121
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 82
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser His Tyr
 20 25 30

Met Met Met Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Thr Ile Ser His Phe Gly Asp Ile Thr Tyr Tyr Ala Asp Ser Val

50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys Asn Asp Met Val Met Lys Asn Gly Gly Phe Asp Tyr Trp Gly
 100 105 110
 Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 83
 <211> 119
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 83
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Arg Tyr
 20 25 30

Asp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Arg Ile Asp Ser Arg Gly Trp Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Gly Leu Val Pro His Leu Arg Phe Asp Tyr Trp Gly Gln Gly
 100 105 110

Thr Leu Val Thr Val Ser Ser
 115

<210> 84
 <211> 117
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 84
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ala Asn Ala
 20 25 30
 Gln Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ser Arg Ile Asp Ala Met Gly Asp Ala Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys Gly Lys Val Pro Ser Ile Asp Tyr Trp Gly Gln Gly Thr Leu
 100 105 110
 Val Thr Val Ser Ser
 115

<210> 85
 <211> 117
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 85
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ala Asn Ala
 20 25 30
 Gln Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ser Arg Ile Asp Ala Met Gly Asp Ala Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys Gly Val Ile Pro Ala Phe Asp Tyr Trp Gly Gln Gly Thr Leu
 100 105 110
 Val Thr Val Ser Ser
 115

<210> 86
 <211> 118
 <212> PRT
 <213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 86

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Gln Asn Asp
20 25 30

Arg Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Ala Thr Gly Gly Asp Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Gln Thr Gly Thr Asn Arg Phe Asp Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser
115

<210> 87

<211> 119

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 87

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asn Gln Pro
20 25 30

Tyr Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Asp Ala Ser Gly Gly Thr Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Ala Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Asp Arg Ile Pro Asn Leu Val Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 88
<211> 119
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 88
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asp Asn Glu
20 25 30

Asn Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Arg Ile Asp Gly Gly Gly Tyr Asn Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Gly Gln Val Pro Glu Leu Leu Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 89
<211> 119
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 89
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Ser Ser
20 25 30

Asn Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Gly Arg Ile Pro Thr Leu Val Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 90
<211> 119
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 90
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Ser Ser
20 25 30

Asn Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Asp Arg Ile Pro Asn Leu Val Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 91
<211> 119
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 91
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp Asp
20 25 30

Ser Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Arg Ile Asn Asp Ala Gly Ser Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Gly Thr Ile Pro Leu Leu Glu Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 92
<211> 119
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 92
Glu Met Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Ser Asp
20 25 30

Thr Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Arg Ile Asp Gly Thr Gly Gly Asp Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Gly Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Gly Leu Ile Pro Asp Leu Gln Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 93
<211> 119
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 93
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly

1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asp Glu Glu
 20 25 30
 Glu Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ser Arg Ile Ile Gly Gly Gly His Glu Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys Gly Thr Ile Pro Leu Leu Glu Phe Asp Tyr Trp Gly Gln Gly
 100 105 110
 Thr Leu Val Thr Val Ser Ser
 115

<210> 94
 <211> 119
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 94
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asp Asn Glu
 20 25 30
 Asn Met Thr Trp Val Arg Gln Ala Pro Gly Lys Asp Leu Glu Trp Val
 35 40 45
 Ser Arg Ile Thr Glu Arg Gly Asp Val Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys Gly Thr Val Pro Thr Leu Glu Phe Asp Tyr Trp Gly Gln Gly
 100 105 110
 Thr Leu Val Thr Val Ser Ser
 115

<210> 95
 <211> 119

<212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 95
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asp Glu Glu
 20 25 30

Glu Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Arg Ile Ile Gly Gly Gly His Glu Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Gly Thr Val Pro Thr Leu Glu Phe Asp Tyr Trp Gly Gln Gly
 100 105 110

Thr Leu Val Thr Val Ser Ser
 115

<210> 96
 <211> 119
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 96
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe His Glu Thr
 20 25 30

Glu Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Ala Ile Asn Arg Leu Gly Gln Asp Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Gly Arg Ile Pro Gly Leu Val Phe Asp Tyr Trp Gly Gln Gly

100

105

110

Thr Leu Val Thr Val Ser Ser
115

<210> 97
<211> 119
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 97
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp Asp
20 25 30

Ser Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Arg Ile Asn Asp Ala Gly Ser Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Gly Thr Val Pro Thr Leu Glu Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 98
<211> 119
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 98
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asp Asn Glu
20 25 30

Asn Met Thr Trp Val Arg Gln Ala Pro Gly Lys Asp Leu Glu Trp Val
35 40 45

Ser Arg Ile Thr Glu Arg Gly Asp Val Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Gly Arg Ile Pro Thr Leu Val Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 99

<211> 119

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 99

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp Asp
20 25 30

Ser Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Arg Ile Asn Asp Ala Gly Ser Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Gly Ile Thr Pro Asn Leu Thr Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 100

<211> 119

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 100

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ala Asp Glu
20 25 30

Pro Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Arg Ile Pro Pro Glu Gly Ala Pro Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Gly Leu Ile Pro Asp Leu Gln Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 101

<211> 119

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 101

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Gln Asp Ser
20 25 30

Asp Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ala Ala Pro Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Asp Arg Ile Pro Asn Leu Arg Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 102

<211> 119

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 102

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Ser Asp
20 25 30

Thr Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Arg Ile Asp Gly Thr Gly Gly Asp Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Gly Gln Val Pro Glu Leu Leu Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 103

<211> 119

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 103

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Gln Asp Ser
20 25 30

Asp Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ala Ala Pro Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Asp Arg Ile Pro Asn Leu Val Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 104
 <211> 119
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 104
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ala Gly Phe Thr Phe Asp Leu Ala
 20 25 30
 Glu Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ser Arg Ile Asp Glu Asp Gly Ala Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Ala Ala Val Tyr Tyr Cys
 85 90 95
 Ala Glu Gly Val Ile Pro Ser Leu Thr Phe Asp Tyr Trp Gly Gln Gly
 100 105 110
 Thr Leu Val Thr Val Ser Ser
 115

<210> 105
 <211> 119
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 105
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Thr Asp Lys
 20 25 30
 His Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ser Arg Ile Ser Pro Asp Gly Thr Tyr Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Ala Ala Val Tyr Tyr Cys
 85 90 95

Ala Glu Gly Val Ile Pro Ser Leu Thr Phe Asp Tyr Trp Gly Gln Gly
 100 105 110

Thr Leu Val Thr Val Ser Ser
 115

<210> 106
 <211> 119
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 106
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ala Glu Asp
 20 25 30

Asp Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Arg Ile Ala Val Asp Gly Asp Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Thr Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Gly Lys Thr Pro His Leu Val Phe Asp Tyr Trp Gly Gln Gly
 100 105 110

Thr Leu Val Thr Val Ser Ser
 115

<210> 107
 <211> 119
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 107
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ala Gly Phe Thr Phe Asp Leu Ala
 20 25 30

Glu Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Arg Ile Asp Glu Asp Gly Ala Ser Thr Tyr Tyr Ala Asp Ser Val

50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys Gly Gln Val Pro Ala Leu Val Phe Asp Tyr Trp Gly Gln Gly
 100 105 110
 Thr Leu Val Thr Val Ser Ser
 115

<210> 108
 <211> 119
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 108
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Asp Ser
 20 25 30
 Met Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ser Arg Ile Asp Pro Gly Gly Ala Gln Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys Gly Val Thr Pro Asp Leu Thr Phe Asp Tyr Trp Gly Gln Gly
 100 105 110
 Thr Leu Val Thr Val Ser Ser
 115

<210> 109
 <211> 119
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 109
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu His Ala
20 25 30

Asp Met Ser Trp Val Arg Gln Ala Ser Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Arg Ile Asp Asn Ser Gly Gln Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Gly Val Thr Pro Asp Leu Thr Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 110
<211> 119
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 110
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Glu Ala
20 25 30

Glu Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Arg Ile Thr Thr Asp Gly Asp Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Gly Arg Ile Pro Thr Leu His Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 111
<211> 119
<212> PRT
<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 111

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asp Asp Ser
 20 25 30

Asp Met Thr Trp Val Arg Gln Ala Pro Gly Lys Ser Leu Glu Trp Val
 35 40 45

Ser Tyr Ile Arg Gly Asp Asp Asp Glu Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Asn Arg Ile Pro Asp Leu Val Phe Asp Tyr Trp Gly Gln Gly
 100 105 110

Thr Leu Val Thr Val Ser Ser
 115

<210> 112

<211> 121

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 112

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asn Val Ala
 20 25 30

Asp Met Gln Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Ser Ile Ser Pro Asn Gly Trp Asp Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys His Ala Ser Thr Glu Gly Pro Thr Ala Phe Asp Tyr Trp Gly
 100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 113
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 113
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Gly Pro Tyr
20 25 30

Asp Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Trp Ile Ser Ala His Gly Ser Phe Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Trp Pro Tyr Lys Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 114
<211> 119
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 114
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Gly Ser Gly
20 25 30

Ser Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Arg Ile Gly Ser Asn Gly Ala Asp Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Gly Met Val Pro Asn Leu Val Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 115
<211> 119
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 115
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asn Arg Phe
20 25 30

Asp Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Asp Arg Ile Pro Asn Leu Val Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 116
<211> 119
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 116
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Gly Glu Ser
20 25 30

Asp Met Lys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Pro Asn Gly Trp Asp Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Ser Pro Ser Ser Arg Leu Lys Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 117

<211> 119

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 117

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asp Ser Ser
20 25 30

Glu Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Glu Asn Gln Gly Gly Ala Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Asp Arg Ile Pro Asn Leu Val Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 118

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 118

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly

1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Leu Asp Ala Tyr
 20 25 30
 Pro Met Tyr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ser Trp Ile Ala Ser Gly Gly Gly Ala Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys Arg Thr Lys Asn Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
 100 105 110
 Thr Val Ser Ser
 115

 <210> 119
 <211> 120
 <212> PRT
 <213> 人工序列

 <220>
 <223> 人工序列之描述：合成多肽

 <400> 119
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Met Ser Tyr
 20 25 30
 Ser Met Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ser Gly Ile Thr Ser Asn Gly Asn Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys Ser Thr Gly Ala Asn Ser Arg Asn Phe Asp Tyr Trp Gly Gln
 100 105 110
 Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 120
 <211> 121

<212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 120
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Gly Tyr
 20 25 30
 Leu Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ser Ser Ile Ala Ala Asn Gly Met Gln Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys Lys Pro Arg Gly Ile Trp Asp Gly Asp Phe Asp Tyr Trp Gly
 100 105 110
 Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 121
 <211> 119
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 121
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe His Glu Ser
 20 25 30
 Thr Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ser Thr Ile Arg His Pro Gly Glu Phe Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Gly Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys Gly Leu Ile Pro Asp Leu Gln Phe Asp Tyr Trp Gly Gln Gly

100

105

110

Thr Leu Val Thr Val Ser Ser
115

<210> 122

<211> 121

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 122

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ala Met Tyr
20 25 30

Ser Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ala Pro Pro Gly Gly Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Gln Ser Leu Thr Gly Tyr Ser Arg Ser Phe Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 123

<211> 120

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 123

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Gln Asn
20 25 30

Pro Met Ser Trp Val Arg His Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Thr Ile Pro Ala Asn Gly Arg Pro Thr Ser Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Tyr Ser Gln Gln Pro Gly Arg Arg Phe Asp Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 124

<211> 119

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 124

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ala Asn Tyr
20 25 30

His Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Pro Asp Ser Gly Lys Gln Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Gly Arg Ile Pro Ser Leu Leu Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 125

<211> 120

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 125

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ala Gln Tyr
20 25 30

His Met Arg Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Thr Ile Asn Asp Ile Gly Ser Asn Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Val Gly Gly Arg Gly Ser Phe Ser Phe Asp Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 126

<211> 120

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 126

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Asp Met Lys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Thr Ile Ser Ala Ser Gly Val Phe Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Arg Glu His Ala Gly Gln Pro Pro Phe Asp Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 127

<211> 120

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 127

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asn Gly Tyr
20 25 30

Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Thr Ile Asn Ala Asn Gly Lys Tyr Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Lys Leu Thr Leu Ala Ser Asn Tyr Phe Asp Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 128

<211> 121

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 128

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Met Asp Tyr
20 25 30

Asp Met Lys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Thr Ala Leu Gly Lys Lys Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Asp Ser Val Lys Tyr Pro Leu Asn Leu Phe Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 129
 <211> 120
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 129
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Pro His Tyr
 20 25 30
 Thr Met Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ser Ser Ile Gln Ser Pro Gly Trp Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys Tyr Gly Asp Gly Leu Pro Leu Thr Phe Asp Tyr Trp Gly Gln
 100 105 110
 Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 130
 <211> 119
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 130
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Gly Thr
 20 25 30
 Pro Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ser Arg Ile Gly Asp Glu Gly Gln Glu Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Gly Val Thr Pro Asp Leu Thr Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 131
<211> 119
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 131
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Ser
20 25 30

Ser Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Gly Ser Asp Gly Pro Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Gly Arg Ile Pro Thr Leu His Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 132
<211> 119
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 132
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asn Pro Gly
20 25 30

Glu Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Asp Gly Ser Gly Ser Ser Thr Tyr Tyr Ala Asp Ser Val

50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Asp Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys Gly Arg Ile Pro Thr Leu His Phe Asp Tyr Trp Gly Gln Gly
 100 105 110
 Thr Leu Val Thr Val Ser Ser
 115

<210> 133
 <211> 119
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 133
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Pro Glu Ser
 20 25 30
 Met Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ser Ser Ile Gly Tyr Pro Gly Ala Thr Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys Gly Gly Ser Arg Asp Asp Asn Phe Asp Tyr Trp Gly Gln Gly
 100 105 110
 Thr Leu Val Thr Val Ser Ser
 115

<210> 134
 <211> 124
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 134
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Gly Gln His
20 25 30

Ser Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Val Pro Gly Pro Lys Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Ser Leu Arg Asp Leu Arg Pro Gly Asp Ser Lys Ser Phe Asp
100 105 110

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 135

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 135

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Gly Ser Ala
20 25 30

Ala Met Asp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Asn Asp Met Gly Ser Asn Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Gln Gly Gly Arg Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 136

<211> 118

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 136

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Gly Tyr Asp
 20 25 30

Arg Met Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Ser Ile Asp Gly Pro Gly Gly Ala Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Glu Gly Arg Arg Val Pro Asp Phe Asp Tyr Trp Gly Gln Gly Thr
 100 105 110

Leu Val Thr Val Ser Ser
 115

<210> 137

<211> 119

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 137

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Gly Glu Tyr
 20 25 30

Glu Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Arg Ile Asp Pro Phe Gly Ser Glu Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Glu Gly Val Val Pro Asp Leu Asn Phe Asp Tyr Trp Gly Gln Gly
 100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 138
<211> 120
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 138
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asp Lys Tyr
20 25 30

Val Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Thr Ile Gly Ser Tyr Gly Gly Ala Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Arg Leu Thr Leu Ser Ala Thr Lys Phe Asp Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 139
<211> 120
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 139
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Asp Tyr
20 25 30

Val Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Thr Ile Ala His Arg Gly Asp Ile Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Arg Arg Arg Leu Ser Asp Tyr Arg Phe Asp Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 140
<211> 119
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 140
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Gly Gln Phe
20 25 30

Asp Met Tyr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Pro Ala Gly Thr Gly Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Ala Gly Asp Arg Ser Ser Leu Phe Asp Tyr Arg Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 141
<211> 118
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 141
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Lys Asp Thr
20 25 30

Gly Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Ser Tyr Gly Arg Asp Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Ala Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Asn Ala Ala Leu Gly Phe Asp Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser
115

<210> 142
<211> 118
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 142
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Gly Pro Tyr
20 25 30

Pro Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Gly, Ile Asn Ala Pro Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Gln Gln Met Ser Ser Gly Val Phe Asp Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser
115

<210> 143
<211> 118
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 143
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly

1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asn Gln
 20 25 30
 Asp Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ser Ser Ile Asp Ser Ser Gly Gln Leu Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys Val Lys Ser Leu Ala Arg Phe Asp Tyr Trp Gly Gln Gly Thr
 100 105 110
 Leu Val Thr Val Ser Ser
 115

<210> 144
 <211> 117
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 144
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Pro Glu Ser
 20 25 30

Asp Met Lys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Ser Ile Ser Pro Asn Gly Trp Asp Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Pro Ala Gln Val Leu Phe Asp Tyr Trp Gly Gln Gly Thr Leu
 100 105 110

Val Thr Val Ser Ser
 115

<210> 145
 <211> 120

<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 145
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Gln Tyr
20 25 30

Val Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Thr Ile Gly Thr Ser Gly Lys Tyr Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Gln Arg Arg Ser Leu Thr Arg Val His Phe Asp Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 146
<211> 119
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 146
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Gly Val Glu
20 25 30

His Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Thr Gly Asp Gly Asp Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Thr Val Ser Trp Asn Gly Arg Phe Asp Tyr Trp Gly Gln Gly

100

105

110

Thr Leu Val Thr Val Ser Ser
115

<210> 147
<211> 117
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 147
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ala Trp Tyr
20 25 30

Asn Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Arg Ile Ala Pro Ser Gly Ile Ile Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Gly Leu Arg Gly Lys Phe Asp Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 148
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 148
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asn Tyr
20 25 30

Glu Met Arg Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Ser Ala Gly Thr Asp Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Gln Ser Leu Asn Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 149

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 149

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Val Ala Ser Gly Phe Thr Phe Asp Glu Glu
20 25 30

Pro Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ile Ile Asp Pro Gly Gly Gly Ala Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Ser Asn Ser Met Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 150

<211> 121

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 150

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ala Tyr
20 25 30

Pro Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ala Ser Ser Gly Ile Thr Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Phe Thr Arg Leu His Phe Pro Ala Gln Phe Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 151

<211> 119

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 151

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ala Asp Tyr
20 25 30

Ala Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Arg Ile Ser Pro Glu Gly Ser Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Arg Pro Tyr Ala Ser Lys Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 152

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 152

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Pro Tyr
 20 25 30

Asp Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Thr Ile Ser His Gln Gly Asn Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Val Ser His His Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 153

<211> 118

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 153

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ala Tyr
 20 25 30

Asn Met Trp Trp Ala Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Trp Ile Asn Ser Thr Gly Ser Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Asn Trp His Arg Gly Arg Phe Asp Tyr Trp Gly Gln Gly Thr
 100 105 110

Leu Val Thr Val Ser Ser
 115

<210> 154
 <211> 117
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 154
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asp Arg Tyr
 20 25 30

Arg Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Thr Ile Asn Arg Leu Gly Gln Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Val Lys Lys His Lys Phe Asp Tyr Trp Gly Gln Gly Thr Leu
 100 105 110

Val Thr Val Ser Ser
 115

<210> 155
 <211> 117
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 155
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ala His Tyr
 20 25 30

Asn Met Arg Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Thr Ile Thr Lys Thr Gly Phe Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Ala Gly Gln Phe Asp Phe Asp Tyr Trp Gly Gln Gly Thr Leu
 100 105 110

Val Thr Val Ser Ser
 115

<210> 156
 <211> 118
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 156
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Tyr Pro Tyr
 20 25 30

Ser Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Thr Ile Asp Gly Ser Gly Met Phe Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Glu Asp Ser Leu Lys Ala Ser Phe Asp Tyr Trp Gly Gln Gly Thr
 100 105 110

Leu Val Thr Val Ser Ser
 115

<210> 157
 <211> 117
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 157
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Pro Leu Tyr
 20 25 30

Gly Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Tyr Ile Gly Pro Tyr Gly His Thr Thr Tyr Tyr Ala Asp Ser Val

50

55

60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Lys Arg Lys Lys Lys Phe Asp Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 158

<211> 117

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 158

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Pro Arg Tyr
20 25 30

Arg Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Thr Pro Tyr Gly Ala His Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Tyr Gly Lys Trp Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 159

<211> 117

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 159

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asn Glu Tyr
20 25 30

Ala Met Arg Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Thr Ile Asp Arg Leu Gly Leu His Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Ser Gly Pro Phe Thr Phe Asp Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 160
<211> 117
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 160
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Arg Tyr
20 25 30

Asn Met Arg Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Thr Ile Asp Arg Leu Gly Leu Ala Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Ala Gly Ser Trp Ser Phe Asp Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 161
<211> 118
<212> PRT
<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 161

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Gly Ile Tyr
 20 25 30

Asp Met Lys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Thr Ile Ser Ser Ser Gly Thr His Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Tyr Pro Gln Pro Tyr Pro Phe Asp Tyr Trp Gly Gln Gly Thr
 100 105 110

Leu Val Thr Val Ser Ser
 115

<210> 162

<211> 118

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 162

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Trp Val Tyr
 20 25 30

Asp Met Arg Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Thr Ile Ser Ala Thr Gly Val His Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Tyr Pro Pro Ala Gly Arg Phe Asp Tyr Trp Gly Gln Gly Thr
 100 105 110

Leu Val Thr Val Ser Ser
115

<210> 163
<211> 119
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 163
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Thr Tyr
20 25 30

Asp Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Pro Asn Gly Thr Gly Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Pro Pro Gln Val Asn Thr Glu Phe Asp Tyr Arg Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 164
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 164
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Lys Glu
20 25 30

Asp Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser His Ile Ser Pro Asn Gly Tyr Ala Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Ser Trp Ser Ser Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 165
<211> 118
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 165
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ala Thr
20 25 30

Pro Met Glu Trp Ala Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Thr Ile Ser Glu Ser Gly Tyr Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Trp Asn Ser Thr Thr Gly Phe Asp Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser
115

<210> 166
<211> 117
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 166
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asn Thr Val
20 25 30

Asp Met Glu Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Pro Asn Gly Trp Asp Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Glu Ala Pro His Arg Ala Phe Asp Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 167

<211> 119

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 167

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Asp Lys
20 25 30

Glu Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Arg Ile Asp Ala Leu Gly Asp Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Glu Gly Met Val Pro Arg Leu Lys Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 168

<211> 114

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 168

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly

1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp His
 20 25 30
 Ser Met Met Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ser Asp Ile Glu Pro His Gly Val His Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Asn Pro Thr Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val
 100 105 110
 Ser Ser

<210> 169
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 169
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Pro His
 20 25 30
 Thr Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ser Gly Ile Gly Pro Asp Gly Thr Thr Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys Arg Ser Tyr Ser Trp Asp Arg Gly Trp Thr Phe Asp Tyr Trp
 100 105 110
 Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 170
 <211> 119

<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 170
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Tyr Ala Ser
20 25 30

Asp Met Lys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Pro Asn Gly Trp Asp Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Ala Asp Tyr Thr Tyr His Ser Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 171
<211> 117
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 171
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ala His Tyr
20 25 30

Asn Met Arg Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Thr Ile Thr Lys Thr Gly Phe Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Ala Gly Gln Phe Asp Phe Asp Tyr Trp Gly Gln Gly Thr Leu

100

105

110

Val Thr Val Ser Ser
115

<210> 172

<211> 118

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 172

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser His Tyr
20 25 30

His Met Gly Trp Ala Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Val Ile Gly Pro Arg Gly Ile Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Ser Pro Ser Arg His Arg Phe Asp Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser
115

<210> 173

<211> 117

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 173

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asn Glu Tyr
20 25 30

Ala Met Arg Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Thr Ile Asp Arg Leu Gly Leu His Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Ser Gly Pro Phe Thr Phe Asp Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 174

<211> 123

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 174

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Gly Asn Tyr
20 25 30

Ser Met Lys Trp Ala Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Thr Ile Thr Pro Asp Gly Trp Tyr Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Val Gly Asp Ala Val Trp Gly Trp Ile Gly Gly Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 175

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 175

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Gly Asp Tyr
20 25 30

Gly Met Lys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Thr Ser Asn Gly Asp Phe Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Ser Leu Tyr Lys Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 176

<211> 123

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 176

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Gly Ser Gly Phe Thr Phe Pro Thr Tyr
20 25 30

Lys Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Phe Ile Asp Tyr Trp Gly Trp Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Ser Pro Tyr Ser Trp Thr His Asp Ser Pro His Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 177

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 177

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Pro Tyr
 20 25 30

Thr Met Cys Trp Ala Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Cys Ile Ser Asp Ala Gly Ser Phe Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Arg Met Ser Ser Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 178

<211> 122

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 178

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Gln Asn Tyr
 20 25 30

Gln Met Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Thr Ile Ser Gly Thr Gly Lys Asn Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Thr Pro Gln Asn Tyr Phe Ser Val Arg Arg Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 179
 <211> 118
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 179
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Gly Ala Tyr
 20 25 30

Thr Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Lys Ile Ser Thr Ser Gly Gly Gln Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Pro Leu Asn Trp Trp Ala Phe Asp Tyr Trp Gly Gln Gly Thr
 100 105 110

Leu Val Thr Val Ser Ser
 115

<210> 180
 <211> 117
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 180
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asn Ala Tyr
 20 25 30

Pro Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Arg Ile Asp Gly Tyr Gly Arg His Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Gly Ile Ile Pro Asn Phe Asp Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 181
<211> 119
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 181
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Gly Ala Val
20 25 30

Asp Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Pro Ser Gly Ser Ala Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Gly Arg Val Pro Asp Leu Gly Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 182
<211> 117
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 182
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asp Ser Tyr
20 25 30

Ala Met Gly Trp Ala Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Gly Ala Lys Gly Leu Ser Thr Tyr Tyr Ala Asp Ser Val

50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys Ala Ala Arg Gly Lys Phe Asp Tyr Trp Gly Gln Gly Thr Leu
 100 105 110
 Val Thr Val Ser Ser
 115

<210> 183
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 183
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Thr Arg Tyr
 20 25 30
 Gln Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ser Val Ile Asn Val Trp Gly Ser Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys Met Ser Gly Lys Phe Ala Tyr Trp Gly Gln Gly Thr Leu Val
 100 105 110
 Thr Val Ser Ser
 115

<210> 184
 <211> 117
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 184
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Gly Asn Tyr
20 25 30

Ser Met Met Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Thr Ile Ile Pro Ala Gly Thr Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Pro Ser Ile Arg Leu Phe Asp Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 185
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 185
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Gly Ala Tyr
20 25 30

Asp Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Trp Ile Ser Pro Asn Gly Tyr Asp Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Gly Gly Val Lys Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 186
<211> 123
<212> PRT
<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 186

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Trp Tyr
20 25 30

Glu Met Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Thr Ile Gln Ala Asp Gly Glu Gln Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Ala Ser Tyr Ala Leu Val Tyr Pro Pro Glu Glu Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 187

<211> 122

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 187

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Thr Asn Tyr
20 25 30

Arg Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Asp Asp Leu Gly Val Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Trp Arg Leu Lys Asn Ser Gln Pro Thr Asp Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 188
<211> 119
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 188
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asp Gln Ala
20 25 30

His Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Phe Ile Asn Pro Ser Gly Tyr Tyr Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Pro Ser Leu Ser Pro Ser Ser Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 189
<211> 118
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 189
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Thr Gly
20 25 30

Gln Met Gly Trp Ala Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Asn Ile Asp Gly Ser Gly Thr Tyr Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Ser Thr Gln Asn Tyr Arg Phe Asp Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser
115

<210> 190
<211> 119
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 190
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Gly Ala Tyr
20 25 30

Pro Met Tyr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile His Lys Asp Gly Arg Ile Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Gln Gly Thr Pro Val Asp Gly Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 191
<211> 121
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 191
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Pro Asp Glu
20 25 30

Gly Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Thr Ile Glu Thr Gly Gly Thr Val Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Met Asp Gly Ser Gly Thr Trp Gln Thr Phe Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 192
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 192
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asp Ser Leu
20 25 30

Gly Met Gly Trp Ala Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Tyr Ile Arg Ala Glu Gly Ala Tyr Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Tyr Leu Ala Asp Ser Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 193
<211> 120
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 193
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly

1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Glu Ser
 20 25 30
 Tyr Met Glu Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ser Gly Ile Asp His Ile Gly Gly Gly Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys Asp Asp Gly Arg Gly Gly Ser Met Phe Asp Tyr Trp Gly Gln
 100 105 110
 Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 194
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 194
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Gly Gly
 20 25 30
 Tyr Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ser Ser Ile Gly Ala Ser Gly Ala Tyr Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys Thr Gly Gly Arg Leu Asp Tyr Trp Gly Gln Gly Thr Leu Val
 100 105 110
 Thr Val Ser Ser
 115

<210> 195
 <211> 119

<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 195
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asp Glu Gly
20 25 30

His Met Gly Trp Val Arg Gln Ala Pro Gly Lys Asp Leu Glu Trp Val
35 40 45

Ser Tyr Ile Gly Ser Leu Gly Leu His Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Arg Glu Phe Ser Asn Gly Gly Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 196
<211> 121
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 196
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Lys Thr Ser
20 25 30

Pro Met Tyr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Asp Arg Thr Gly Gly His Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Gln Ala Leu Leu Thr Asp Ala Lys Arg Phe Asp Tyr Trp Gly

100

105

110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 197
<211> 120
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 197
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asp Gly Arg
20 25 30

Asp Met Val Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Pro Ser Gly Leu Asp Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Glu Arg Pro Gln Met Leu Val Thr Asn Phe Asp Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 198
<211> 119
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 198
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Gly Asn Asp
20 25 30

Pro Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Gly Ile Gly Arg Glu Gly Asp Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Asp Ser Met Arg His Gln Pro Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 199

<211> 119

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 199

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asp Glu Thr
20 25 30

Tyr Met Lys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Gly Ala Ser Gly Ala Asp Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Phe Thr His Leu Asn Gly Arg Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 200

<211> 119

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 200

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Gly Gly Trp
20 25 30

Pro Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Gly Ile Asp Ile Asp Gly Ala Pro Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Glu Ala Gly Ser Trp Ser Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 201

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 201

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp Gln
20 25 30

Ala Met Trp Trp Ala Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Phe Ile Gln Gly Asp Gly Gly Phe Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Pro Ser Lys Pro Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 202

<211> 118

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 202

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Thr Gly
 20 25 30

Gln Met Gly Trp Ala Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Asn Ile Asp Gly Ser Gly Thr Tyr Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Ala Val Arg Asn Phe Ala Phe Asp Tyr Trp Gly Gln Gly Thr
 100 105 110

Leu Val Thr Val Ser Ser
 115

<210> 203

<211> 124

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 203

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Gly His
 20 25 30

Asp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Ala Ile Ser Pro His Gly Thr His Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Gly Ile Arg Gly Trp Ile Gly His Asp Thr Gln Pro Phe Asp
 100 105 110

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 204
 <211> 119
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 204
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Ser Lys
 20 25 30

Asp Met Leu Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Ser Ile Ser Ser Asp Gly Thr His Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Gln Glu Leu Gly Gly Ser Trp Gln Phe Asp Tyr Trp Gly Gln Gly
 100 105 110

Thr Leu Val Thr Val Ser Ser
 115

<210> 205
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 205
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ala Asp Arg
 20 25 30

Asp Met Val Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Gly Ile Gly Ala Ser Gly Thr Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Ala Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Gly Gly Thr Gly Pro Thr Asp Leu Trp Asp Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 206
 <211> 119
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 206
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asp Asp Glu
 20 25 30

Lys Met Leu Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Ser Ile Ser Val Ser Gly Leu His Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Glu Glu Ala Gly Ser Trp Ser Phe Asp Tyr Trp Gly Gln Gly
 100 105 110

Thr Leu Val Thr Val Ser Ser
 115

<210> 207
 <211> 119
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 207
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Gly Gln Glu
 20 25 30

Arg Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Asp Ile Ser Ala Ser Gly Gly Thr Thr Tyr Tyr Ala Asp Ser Val

50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys Glu Glu Ala Gly Ser Trp Ser Phe Asp Tyr Trp Gly Gln Gly
 100 105 110
 Thr Leu Val Thr Val Ser Ser
 115

<210> 208
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 208
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Trp Tyr
 20 25 30
 Glu Met Gln Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ser Ala Ile Ser Gly Asp Gly Tyr Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Met Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys Glu Leu Gly Tyr Phe Asp Tyr Arg Gly Arg Gly Thr Leu Val
 100 105 110
 Thr Val Ser Ser
 115

<210> 209
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 209
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Trp Tyr
20 25 30

Glu Met Gln Trp Val Arg Arg Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Gly Asp Gly Tyr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Leu Gly Tyr Phe Asp Tyr Trp Gly Arg Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 210

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 210

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Trp Tyr
20 25 30

Glu Met Gln Trp Val Arg Arg Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Gly Asp Gly Tyr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Leu Gly Tyr Phe Asp Tyr Arg Val Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 211

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 211

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Trp Tyr
 20 25 30

Glu Met Gln Trp Val Arg Lys Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Ala Ile Ser Gly Asp Gly Tyr Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Glu Leu Gly Tyr Phe Asp Tyr Trp Gly Arg Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 212

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 212

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Trp Tyr
 20 25 30

Glu Met Gln Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile
 35 40 45

Ser Ala Ile Ser Gly Asp Gly Tyr Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Glu Leu Gly Tyr Phe Asp Tyr Arg Val Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
115

<210> 213
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 213
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Trp Tyr
20 25 30

Glu Met Gln Trp Val Arg Arg Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Gly Asp Gly Tyr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Glu Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Leu Gly Tyr Phe Asp Tyr Trp Gly Arg Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 214
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 214
Glu Val Gln Leu Leu Glu Thr Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Trp Tyr
20 25 30

Glu Met Gln Trp Val Arg Arg Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Gly Asp Gly Tyr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asp Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Leu Gly Tyr Phe Asp Tyr Trp Gly Arg Gly Thr Leu Val
100 105 110

Thr Val Thr Ser
115

<210> 215
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 215
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Trp Tyr
20 25 30

Glu Met Gln Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Gly Asp Gly Tyr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Leu Gly Tyr Phe His Tyr Trp Gly Arg Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 216
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 216
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Val Ala Ser Gly Phe Thr Phe Glu Trp Tyr
20 25 30

Glu Met Gln Trp Val Arg Gln Ala Pro Gly Asn Gly Leu Glu Trp Ile
35 40 45

Ser Ala Ile Ser Gly Asp Gly Tyr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Leu Gly Tyr Phe Asp Tyr Trp Gly Arg Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 217
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 217
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Trp Tyr
20 25 30

Glu Met Gln Trp Val Arg Arg Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Gly Asp Gly Tyr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Leu Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Leu Gly Tyr Phe Asp Tyr Trp Gly Arg Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 218
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 218
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly

1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Trp Tyr
 20 25 30
 Glu Met Gln Trp Val Arg Lys Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ser Ala Ile Ser Gly Asp Gly Tyr Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys Glu Leu Gly Tyr Phe Asp Tyr Arg Gly Arg Gly Thr Leu Val
 100 105 110
 Thr Val Ser Ser
 115

<210> 219
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 219
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Met Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Trp Tyr
 20 25 30

Glu Met Gln Trp Val Arg Arg Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Ala Ile Ser Gly Asp Gly Tyr Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Glu Leu Gly Tyr Phe Asp Tyr Arg Gly Arg Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 220
 <211> 116

<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 220
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Trp Tyr
20 25 30

Glu Met Gln Trp Val Arg Arg Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Met Ile Ser Gly Asp Gly Tyr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Leu Gly Tyr Phe Asp Tyr Trp Gly Arg Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 221
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 221
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Trp Tyr
20 25 30

Glu Met Gln Trp Val Arg Arg Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Gly Asp Gly Trp Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Leu Gly Tyr Phe Asp Tyr Trp Gly Arg Gly Thr Leu Val

100

105

110

Thr Val Ser Ser
115

<210> 222
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 222
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Gly Trp Tyr
20 25 30

Glu Met Gln Trp Val Arg Arg Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Gly Asp Gly Tyr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Leu Leu Tyr Phe Asp Tyr Trp Gly Arg Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 223
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 223
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Trp Tyr
20 25 30

Glu Met Gln Trp Val Arg Arg Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Gly Asp Gly Tyr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Leu Gly Phe Phe Asp Tyr Trp Gly Arg Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 224

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 224

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Trp Tyr
20 25 30

Glu Met Gln Trp Val Arg Arg Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Gly Asp Gly Tyr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Leu Glu Tyr Phe Asp Tyr Trp Gly Arg Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 225

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 225

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Trp Tyr
20 25 30

Glu Met Gln Trp Val Arg Arg Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Gly Asp Gly Tyr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Gly Leu Glu Tyr Phe Asp Tyr Trp Gly Arg Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 226

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 226

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Trp Tyr
20 25 30

Glu Met Gln Trp Val Arg Arg Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Gly Asp Gly Tyr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Leu Ala Phe Phe Asp Tyr Trp Gly Arg Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 227

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 227

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Trp Tyr
 20 25 30

Glu Met Gln Trp Val Arg Arg Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Ala Ile Ser Gly Asp Gly Tyr Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Glu Leu Leu Tyr Phe Asp Tyr Trp Gly Arg Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 228

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 228

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Trp Tyr
 20 25 30

Glu Met Gln Trp Val Arg Arg Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Ala Ile Ser Gly Asp Gly Tyr Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Glu Leu Glu Phe Phe Asp Tyr Trp Gly Arg Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 229
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 229
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Trp Tyr
 20 25 30

Glu Met Gln Trp Val Arg Arg Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Ala Ile Ser Gly Asp Gly Tyr Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Glu Leu Gln Phe Phe Asp Tyr Trp Gly Arg Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 230
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 230
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Trp Tyr
 20 25 30

Glu Met Gln Trp Val Arg Arg Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Ala Ile Ser Gly Asp Gly Tyr Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Glu Leu Leu Phe Phe Asp Tyr Trp Gly Arg Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 231
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 231
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Arg Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Trp Tyr
 20 25 30

Glu Met Gln Trp Val Arg Arg Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Ala Ile Ser Gly Asp Gly Tyr Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Glu Leu Glu Phe Phe Asp Tyr Trp Gly Arg Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 232
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 232
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Trp Tyr
 20 25 30

Glu Met Gln Trp Val Arg Arg Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Ala Ile Ser Gly Asp Gly Tyr Arg Thr Tyr Tyr Ala Asp Ser Val

50

55

60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Leu Leu Phe Phe Asp Tyr Arg Gly Arg Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 233
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 233
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Ile Phe Glu Trp Tyr
20 25 30

Glu Met Gln Trp Val Arg Arg Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Gly Asp Gly Tyr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Asn Leu Glu Tyr Phe Asp Tyr Trp Gly Arg Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 234
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 234
Glu Val Arg Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Trp Tyr
20 25 30

Glu Met Gln Trp Val Arg Arg Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Gly Asp Gly Tyr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Leu Gln Phe Phe Asp Tyr Trp Gly Arg Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 235
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 235
Glu Val Gln Leu Leu Gly Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Glu
20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ser Lys Glu Pro Phe Arg Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 236
<211> 116
<212> PRT
<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 236

Glu Val Gln Leu Leu Ala Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Glu
 20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Gly Lys Glu Pro Phe Arg Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 237

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 237

Glu Val Gln Leu Leu Ala Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Glu
 20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile
 35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Gly Lys Glu Pro Phe Arg Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
115

<210> 238
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 238
Glu Val Gln Leu Leu Asp Pro Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Gly Lys Glu
20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Arg Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Gly Lys Glu Pro Phe Arg Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 239
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 239
Glu Val Gln Leu Leu Gly Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Glu
20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Gly Lys Glu Pro Phe Arg Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 240
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 240
Glu Val Gln Leu Leu Glu Pro Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Glu
20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Leu Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ser Lys Glu Pro Phe Arg Phe Asp Tyr Trp Gly Gln Gly Ala Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 241
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 241
Glu Val Gln Leu Leu Asp Pro Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Gly Lys Glu
20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Pro Leu Arg Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 242
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 242
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Glu
20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile His Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ser Lys Glu Pro Phe Arg Phe Asp Tyr Arg Gly Leu Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 243
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 243
Glu Val Gln Leu Leu Asp Pro Gly Gly Gly Leu Val Gln Pro Gly Gly

1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Gly Lys Glu
 20 25 30
 Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ser Ser Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Arg Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys Glu Pro Leu Arg Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
 100 105 110
 Thr Val Ser Ser
 115

<210> 244
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 244
 Glu Val Gln Leu Leu Asp Ser Gly Gly Gly Phe Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Glu
 20 25 30
 Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile
 35 40 45
 Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys Glu Pro Phe Arg Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
 100 105 110
 Thr Val Ser Ser
 115

<210> 245
 <211> 116

<212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 245
 Glu Val Gln Leu Leu Asp Pro Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Glu
 20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile
 35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Asn Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Gly Arg Glu Pro Phe Arg Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 246
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 246
 Glu Val Arg Leu Leu Glu Ser Gly Glu Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Glu
 20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Gly Lys Glu Pro Phe Arg Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val

100

105

110

Thr Val Ser Ser
115

<210> 247
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 247
Glu Val Gln Gln Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Glu
20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Gly Lys Glu Pro Phe Arg Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 248
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 248
Glu Val Gln Leu Leu Ala Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Glu
20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Gly Lys Glu Pro Phe Tyr Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 249
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 249
Glu Val Gln Leu Leu Ala Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Glu
20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Gly Lys Glu Pro Phe Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 250
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 250
Glu Val Gln Leu Leu Ala Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Lys
20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Gly Lys Glu Pro Phe Phe Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 251

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 251

Glu Val Gln Leu Leu Ala Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Pro Gln Glu
20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Gly Lys Glu Pro Phe Arg Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 252

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 252

Glu Val Gln Leu Leu Ala Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Phe Ala Ala
 20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Gly Lys Glu Pro Phe Arg Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 253

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 253

Glu Val Gln Leu Leu Ala Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Glu
 20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Ala Ile Ser Arg Pro Gly Thr Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Gly Lys Glu Pro Phe Arg Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 254
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 254
 Glu Val Gln Leu Leu Ala Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Glu
 20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Ala Ile Ser Arg Met Gly Phe Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Gly Lys Glu Pro Phe Arg Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 255
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 255
 Glu Val Gln Leu Leu Ala Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Glu
 20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Ala Ile Ser Arg Trp Gly His Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Gly Lys Glu Pro Phe Arg Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 256

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 256

Glu Val Gln Leu Leu Ala Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Glu
20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Arg Leu Gly Trp Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Gly Lys Glu Pro Phe Arg Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 257

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 257

Glu Val Gln Leu Leu Ala Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Glu
20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Arg Trp Gly Ala Ser Thr Tyr Tyr Ala Asp Ser Val

50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Gly Lys Glu Pro Phe Arg Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
 100 105 110
 Thr Val Ser Ser
 115

<210> 258
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 258
 Glu Val Gln Leu Leu Ala Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Glu
 20 25 30
 Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ser Ala Ile Ser Arg Gln Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Gly Lys Glu Pro Phe Arg Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
 100 105 110
 Thr Val Ser Ser
 115

<210> 259
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 259
 Glu Val Gln Leu Leu Ala Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Glu
20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Val Ser Gly Trp Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Gly Lys Glu Pro Phe Arg Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 260

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 260

Glu Val Gln Leu Leu Ala Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Glu
20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Arg Trp Gly Trp Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Gly Lys Glu Pro Phe Arg Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 261

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 261

Glu Val Gln Leu Leu Ala Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Glu
 20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Ala Ile Ser Arg Asn Gly Leu Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Gly Lys Glu Pro Phe Arg Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 262

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 262

Glu Val Gln Leu Leu Ala Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Glu
 20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Ala Ile Ser Gly Leu Gly Trp Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Gly Lys Glu Pro Phe Arg Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
115

<210> 263
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 263
Glu Val Gln Leu Leu Ala Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Glu
20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Ala Leu Gly Trp Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Gly Lys Glu Pro Phe Arg Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 264
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 264
Glu Val Gln Leu Leu Ala Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Glu
20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Arg Arg Gly Tyr Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Gly Lys Glu Pro Phe Arg Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 265
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 265
Glu Val Gln Leu Leu Ala Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Glu
20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Arg His Gly Trp Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Gly Lys Glu Pro Phe Arg Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 266
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 266
Glu Val Gln Leu Leu Ala Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Glu
20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Arg Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Gly Lys Glu Pro Phe Arg Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 267

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 267

Glu Val Gln Leu Leu Ala Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Glu
20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Arg Ile Gly Asn Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Gly Lys Glu Pro Phe Arg Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 268

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 268

Glu Val Gln Leu Leu Ala Ser Gly Gly Gly Leu Val Gln Pro Gly Gly

1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Glu
 20 25 30
 Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ser Ala Ile Ser Gly His Gly Trp Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Gly Lys Glu Pro Phe Arg Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
 100 105 110
 Thr Val Ser Ser
 115

<210> 269
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 269
 Glu Val Gln Leu Leu Ala Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Glu
 20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Ala Ile Ser Arg Trp Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Gly Lys Glu Pro Phe Arg Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 270
 <211> 116

<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 270
Glu Val Gln Leu Leu Ala Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Glu
20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Gly Lys Glu Pro Phe Met Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 271
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 271
Glu Val Gln Leu Leu Ala Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Glu
20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Gly Lys Glu Pro Phe Pro Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val

100

105

110

Thr Val Ser Ser
115

<210> 272
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 272
Glu Val Gln Leu Leu Ala Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Glu
20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Gly Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Gly Lys Glu Pro Phe Arg Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 273
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 273
Glu Val Gln Leu Leu Ala Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Glu
20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Gly Lys Glu Pro Leu Tyr Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 274

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 274

Glu Val Gln Leu Leu Ala Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Glu
20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Gly Lys Glu Pro Met Tyr Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 275

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 275

Glu Val Gln Leu Leu Ala Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Glu
20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Arg Asn Gly Phe Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Gly Lys Glu Pro Phe Arg Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 276
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 276
Glu Val Gln Leu Leu Ala Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu
20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Arg Thr Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Gly Lys Glu Pro Phe Arg Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 277
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 277

Glu Val Gln Leu Leu Ala Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Glu
 20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Ala Ile Ser Arg Glu Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Gly Lys Glu Pro Phe Arg Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 278

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 278

Glu Val Gln Leu Leu Ala Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Pro Phe Glu Glu Glu
 20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Ala Ile Ser Arg Gln Gly Trp Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Gly Lys Glu Pro Phe Arg Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 279
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 279
 Glu Val Gln Leu Leu Ala Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Glu
 20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Ala Ile Ser Arg Gly Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Gly Lys Glu Pro Phe Arg Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 280
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 280
 Glu Val Gln Leu Leu Ala Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Glu
 20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Ala Ile Ser Arg Thr Gly Tyr Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Gly Lys Glu Pro Phe Arg Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 281
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 281
Glu Val Gln Leu Leu Ala Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Glu
20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Arg Asn Gly Arg Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Gly Lys Glu Pro Phe Arg Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 282
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 282
Glu Val Gln Leu Leu Ala Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Glu
20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Arg Asn Gly Tyr Ser Thr Tyr Tyr Ala Asp Ser Val

50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Gly Lys Glu Pro Phe Arg Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
 100 105 110
 Thr Val Ser Ser
 115

<210> 283
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 283
 Glu Val Gln Leu Leu Ala Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Glu
 20 25 30
 Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ser Ala Ile Ser Arg Lys Gly Ser Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Gly Lys Glu Pro Phe Arg Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
 100 105 110
 Thr Val Ser Ser
 115

<210> 284
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 284
 Glu Val Gln Leu Leu Ala Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Glu
20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Arg Gly Gly Trp Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Gly Lys Glu Pro Phe Arg Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 285
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 285
Glu Val Gln Leu Leu Ala Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Glu
20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Arg Ser Gly Tyr Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Gly Lys Glu Pro Phe Arg Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 286
<211> 116
<212> PRT
<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 286

Glu Val Gln Leu Leu Ala Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Glu
 20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Ala Ile Ser Arg Asn Gly Met Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Gly Lys Glu Pro Phe Arg Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 287

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 287

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Glu
 20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Ala Ile Ser Arg Asn Gly Tyr Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Gly Lys Glu Pro Phe Arg Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
115

<210> 288
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 288
Glu Val Gln Leu Leu Glu Ser Gly Glu Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Thr Glu His
20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Asn Gly Ala Asn Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Pro Leu Arg Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 289
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 289
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Thr Phe Thr Glu Tyr
20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45

Ser Ser Ile Ser Gly Asn Gly Ala Asn Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Phe Cys
85 90 95

Ala Lys Glu Pro Leu Arg Phe Asp Tyr Arg Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 290
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 290
Glu Val Gln Leu Leu Glu Pro Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Thr Glu Tyr
20 25 30

Glu Met Ile Trp Val Arg Lys Ala Pro Gly Lys Gly Met Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Asn Gly Ala Asn Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Met Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Pro Leu Arg Phe Gly Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 291
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 291
Glu Val Gln Leu Leu Asp Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Thr Glu Tyr
20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Asn Gly Ala Asn Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Pro Leu Arg Phe Asp Tyr Trp Gly Arg Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 292
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 292
Glu Val Gln Leu Leu Gly Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Thr Glu Tyr
20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Ser Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Asn Gly Ala Asn Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Pro Leu Arg Tyr Asp Asp Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 293
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 293
Glu Val Gln Pro Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly

1 5 10 15
Ser Leu Arg Leu Ser Cys Ser Ala Ser Gly Phe Thr Phe Asn Glu Tyr
20 25 30
Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ser Ser Ile Ser Gly Asn Gly Ala Asn Thr Tyr Tyr Ala Asp Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Lys Glu Pro Leu Arg Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110
Thr Val Ser Ser
115

<210> 294
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 294
Glu Val Gln Leu Leu Glu Ser Gly Glu Gly Leu Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ala Glu Tyr
20 25 30
Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ser Ser Ile Ser Gly Asn Gly Ala Asn Thr Tyr Tyr Ala Asp Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Lys Glu Pro Leu Arg Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110
Thr Val Ser Ser
115

<210> 295
<211> 116

<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 295
Glu Val Gln Leu Leu Asp Pro Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Thr Glu Ser
20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Asn Gly Ala Asn Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Ile Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Pro Leu Arg Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 296
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 296
Glu Val Gln Leu Leu Glu Pro Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Thr Glu Tyr
20 25 30

Glu Met Ile Trp Val Arg Lys Ala Pro Gly Lys Gly Met Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Asn Gly Ala Asn Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Pro Leu Arg Phe Asp Asp Trp Gly Gln Gly Thr Leu Val

100

105

110

Thr Val Ser Ser
115

<210> 297
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 297
Glu Val Gln Leu Leu Glu Ser Gly Val Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Thr Glu Tyr
20 25 30

Glu Met Ile Trp Val Arg Lys Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Asn Gly Ala Asn Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Pro Leu Arg Phe Asp Asn Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 298
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 298
Glu Val Gln Leu Leu Glu Ser Arg Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Thr Glu His
20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Asn Gly Ala Asn Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Ser Val Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Pro Leu Arg Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 299
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 299
Glu Val Gln Pro Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Thr Glu Tyr
20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Asn Gly Ala Asn Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Pro Leu Arg Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 300
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 300
Glu Val Gln Leu Leu Glu Ser Ala Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ala Glu Tyr
20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Asn Gly Ala Asn Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Pro Leu Arg Phe Asp Tyr Trp Gly Gln Gly Ala Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 301

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 301

Glu Val Gln Leu Leu Glu Pro Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Thr Glu Tyr
20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Asn Gly Ala Asn Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Pro Leu Arg Phe Asp Asn Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 302

<211> 123

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 302
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Thr Ala Ser Gly Phe Thr Phe Asn Met Tyr
 20 25 30

Glu Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Gly Ile Ser Arg Arg Gly Phe Thr Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Glu Pro Ile Thr Tyr Asp Leu Arg Tyr Ala Arg Phe Asp Tyr
 100 105 110

Ser Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 303
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 303
 Glu Glu Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Thr Ala Ser Gly Phe Thr Phe Asn Met Tyr
 20 25 30

Glu Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Gly Ile Ser Arg Arg Gly Phe Thr Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Glu Pro Ile Thr Tyr Ala Thr Arg Tyr Ala Arg Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 304
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 304
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Thr Ala Ser Gly Phe Thr Phe Asn Met Tyr
 20 25 30

Glu Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Gly Ile Ser Arg Arg Gly Phe Thr Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Phe Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Glu Pro Ile Thr Tyr Asp Met Arg Tyr Ala Arg Phe Asp Tyr
 100 105 110

Gly Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 305
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 305
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Thr Ala Ser Gly Phe Thr Phe Asn Met Tyr
 20 25 30

Glu Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Gly Ile Ser Arg Arg Gly Phe Thr Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Glu Pro Ile Thr Tyr Asp Met Arg Tyr Ala Arg Phe Asp Asn
100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Asn
115 120

<210> 306
<211> 123
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 306
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Thr Ala Ser Gly Phe Thr Phe Asn Thr Tyr
20 25 30

Glu Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Gly Ile Gly Arg Arg Gly Phe Thr Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Pro Ile Thr Tyr Asp Leu Arg Tyr Ala Arg Phe Asp Tyr
100 105 110

Ser Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 307
<211> 123
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 307
Glu Val Gln Leu Met Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Thr Ala Ser Gly Phe Ser Phe Asn Met Tyr
20 25 30

Glu Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Gly Ile Ser Arg Arg Gly Tyr Thr Thr Tyr Tyr Ala Asp Ser Val

50

55

60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Pro Ile Thr Tyr Asp Met Arg Tyr Ala Arg Phe Asp Tyr
100 105 110

Trp Gly Arg Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 308

<211> 123

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 308

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Thr Ala Ser Gly Phe Ala Phe Asn Met Tyr
20 25 30

Glu Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Gly Ile Ser Arg His Gly Phe Thr Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Val Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Pro Ile Thr Tyr Asp Met Arg Tyr Ala Arg Ser Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 309

<211> 123

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 309

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Thr Ala Ser Gly Phe Thr Phe Asn Met Tyr
20 25 30

Glu Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Gly Ile Ser Arg Arg Gly Phe Thr Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Phe Cys
85 90 95

Ala Lys Glu Pro Ile Thr Tyr Asp Met Arg Tyr Ala Arg Ser Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 310

<211> 123

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 310

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Thr Ala Ser Gly Phe Thr Phe Asn Met Tyr
20 25 30

Glu Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Gly Ile Ser Arg Arg Gly Phe Thr Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Pro Ile Thr Tyr Ser Met Arg Tyr Ala Arg Phe Asp Tyr
100 105 110

Ser Gly Leu Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 311

<211> 123

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 311

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Thr Ala Ser Gly Phe Thr Phe Asn Met Tyr
 20 25 30

Glu Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Gly Ile Ser Arg Arg Gly Phe Thr Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Glu Pro Ile Thr Tyr Asp Met Arg Tyr Ala Arg Phe Asp Tyr
 100 105 110

Ser Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 312

<211> 123

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 312

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Thr Ala Ser Gly Phe Thr Phe Asn Met Tyr
 20 25 30

Glu Met Ser Trp Val Arg Lys Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Gly Ile Ser Arg His Gly Phe Thr Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Glu Pro Ile Thr Tyr Asp Met Arg Tyr Ala Arg Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 313
<211> 123
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 313
Glu Val Gln Leu Phe Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Thr Ala Ser Gly Phe Thr Phe Asn Met Tyr
20 25 30

Glu Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Gly Ile Ser Arg Arg Gly Phe Thr Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Pro Ile Thr Tyr Asp Met Arg Tyr Ala Arg Phe Asp Tyr
100 105 110

Trp Gly Arg Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 314
<211> 123
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 314
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Thr Ala Ser Gly Phe Thr Phe Asn Met Tyr
20 25 30

Glu Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Gly Ile Ser Arg Arg Gly Phe Thr Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Pro Ile Thr Tyr Asp Met Arg Tyr Ala Arg Phe Asp Tyr
100 105 110

Trp Gly Arg Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 315

<211> 123

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 315

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Ser Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Thr Ala Ser Gly Phe Ser Phe Asn Met Tyr
20 25 30

Glu Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Gly Ile Ser Arg Arg Gly Phe Thr Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Pro Ile Thr Tyr Asp Met Arg Tyr Ala Arg Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Gly
115 120

<210> 316

<211> 123

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 316

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Thr Ala Ser Gly Phe Thr Phe Asn Met Tyr
20 25 30

Glu Met Ser Trp Val Arg Lys Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Gly Ile Ser Arg Arg Gly Phe Thr Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Pro Ile Thr Tyr Asp Met Arg Tyr Ala Arg Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 317
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 317
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Thr Phe Glu Asp Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 318
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 318
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly

1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
 20 25 30
 Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45
 Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys Leu Pro Phe Thr Phe Asp Asp Trp Gly Gln Gly Thr Leu Val
 100 105 110
 Thr Val Ser Ser
 115

<210> 319
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 319
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
 20 25 30
 Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45
 Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Thr Lys Leu Pro Phe Ile Phe Glu Tyr Trp Gly Gln Gly Thr Leu Val
 100 105 110
 Thr Val Ser Ser
 115

<210> 320
 <211> 116

<212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 320
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
 20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Leu Pro Phe Met Phe Asp Asp Arg Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 321
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 321
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
 20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Met Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Leu Pro Phe Thr Phe Asp Asp Trp Gly Gln Gly Thr Leu Val

100

105

110

Thr Val Ser Ser
115

<210> 322
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 322
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Tyr Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Ile Phe Asp Asn Arg Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 323
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 323
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ser Val Tyr His Cys
85 90 95

Ala Lys Pro Pro Phe Ile Phe Gly Asp Trp Gly Pro Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 324

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 324

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Arg Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Thr Phe Glu Asp Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 325

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 325

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Met Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Met Phe Asp Asp Arg Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 326

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 326

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Val Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Met Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Met Phe Asp Asp Arg Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 327

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 327

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Met Phe Asp Asp Arg Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 328

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 328

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Ile Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Leu Lys Leu Pro Phe Ile Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 329
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 329
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
 20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Asp Asp Thr Ala Val Tyr His Cys
 85 90 95

Thr Lys Leu Pro Phe Ile Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 330
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 330
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
 20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Met Val Leu Glu Arg Val
 35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Leu Pro Phe Phe Phe Asp Ser Arg Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 331
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 331
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Arg Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Thr Phe Glu Asp Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 332
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 332
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val

50

55

60

Met Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Thr Phe Glu Asp Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 333
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 333
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Tyr Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Thr Phe Glu Asp Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 334
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 334
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Val Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Met Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Thr Phe Glu Asp Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 335
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 335
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr His Cys
85 90 95

Ala Lys Leu Pro Phe Thr Phe Glu Asp Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 336
<211> 116
<212> PRT
<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 336

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
 20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Thr Lys Leu Pro Phe Thr Phe Glu Asp Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 337

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 337

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
 20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Leu Lys Leu Pro Phe Thr Phe Glu Asp Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
115

<210> 338
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 338
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Asp Asp Thr Ala Val Tyr His Cys
85 90 95

Thr Lys Leu Pro Phe Ile Phe Glu Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 339
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 339
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Met Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Pro Tyr Ser Phe Asp Ser Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 340
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 340
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Met Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr His Cys
85 90 95

Ala Lys Glu Pro Tyr Ser Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 341
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 341
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Arg Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Met Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Thr Phe Asp Asp Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 342

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 342

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Arg Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Met Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Met Phe Asp Asp Arg Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 343

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 343

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly



1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
 20 25 30
 Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45
 Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Met Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys Leu Pro Phe Met Phe Asp Asp Trp Gly Gln Gly Thr Leu Val
 100 105 110
 Thr Val Ser Ser
 115

<210> 344
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 344
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ala Gly Tyr
 20 25 30
 Glu Leu Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45
 Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Met Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys Leu Pro Phe Thr Phe Asp Asp Trp Gly Gln Gly Thr Leu Val
 100 105 110
 Thr Val Ser Ser
 115

<210> 345
 <211> 116

<212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 345
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ala Gly Tyr
 20 25 30

Glu Leu Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Met Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Leu Pro Phe Met Phe Asp Asp Arg Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 346
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 346
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ala Gly Tyr
 20 25 30

Glu Met Trp Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Met Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Leu Pro Phe Thr Phe Asp Asp Trp Gly Gln Gly Thr Leu Val

100

105

110

Thr Val Ser Ser
115

<210> 347
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 347
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ala Gly Tyr
20 25 30

Glu Met Trp Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Met Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Met Phe Asp Asp Arg Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 348
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 348
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Met Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Thr Phe Asp Asp Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 349
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 349
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Met Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Met Phe Asp Asp Arg Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 350
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 350
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Thr Tyr Phe Ser Asp Arg Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 351

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 351

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Phe Phe Glu Glu Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 352

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 352

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
 20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Leu Pro Thr Tyr Phe Lys Asp Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 353

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 353

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
 20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Leu Pro Phe Tyr Phe Ser Glu Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 354
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 354
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
 20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr His Cys
 85 90 95

Ala Lys Leu Pro Met Phe Phe Glu Asp Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Asn
 115

<210> 355
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 355
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
 20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Leu Pro Phe Pro Phe Ser Glu Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 356
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 356
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asp Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Tyr Phe Ser Glu Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 357
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 357
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Tyr Gly Asn Leu Thr Tyr Tyr Ala Asp Ser Val

50

55

60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Thr Phe Glu Asp Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 358

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 358

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Pro Gly Thr Leu Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Thr Phe Glu Asp Arg Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 359

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 359

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Trp Gly Gly Leu Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Thr Phe Glu Asp Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 360
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 360
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Met Gly Gly Phe Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Thr Phe Glu Asp Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 361
<211> 116
<212> PRT
<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 361

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
 20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45

Ser Ala Ile Asn Pro Trp Gly Ser His Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Leu Pro Phe Thr Phe Glu Asp Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 362

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 362

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
 20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45

Ser Ala Ile Asn Pro Ser Gly Gly Leu Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Leu Pro Phe Thr Phe Asp Asp Arg Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
115

<210> 363
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 363
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro His Gly Ser Leu Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Thr Phe Asp Asp Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 364
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 364
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Ala Gly Arg Leu Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Thr Phe Glu Asp Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 365
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 365
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Trp Gly Ser Leu Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Thr Phe Glu Asp Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 366
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 366
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Pro Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr His Cys
85 90 95

Ala Lys Leu Pro Phe Thr Phe Asp Asp Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 367

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 367

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Asp Ser Gly Phe Thr Phe Pro Pro Val
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Thr Phe Glu Asp Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 368

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 368

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly

1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
 20 25 30
 Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45
 Ser Ala Ile Asn Pro Tyr Gly Gly Leu Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys Leu Pro Phe Thr Phe Asp Asp Trp Gly Gln Gly Thr Leu Val
 100 105 110
 Thr Val Ser Ser
 115

<210> 369
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 369
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
 20 25 30
 Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45
 Ser Ala Ile Asn Pro Trp Gly Asn His Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys Leu Pro Phe Thr Phe Glu Asp Trp Gly Gln Gly Thr Leu Val
 100 105 110
 Thr Val Ser Ser
 115

<210> 370
 <211> 116

<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 370
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro His Gly Gly Tyr Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Thr Phe Glu Asp Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 371
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 371
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Arg Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Pro Gly Met Leu Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Thr Phe Asp Asp Trp Gly Gln Gly Thr Leu Val

100

105

110

Thr Val Ser Ser
115

<210> 372
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 372
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Trp Gly Gln Leu Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Thr Phe Glu Asp Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 373
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 373
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Trp Gly Gly Tyr Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Thr Phe Asp Asp Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 374

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 374

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Ser Gly Gly Leu Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Thr Phe Glu Asp Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 375

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 375

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Ser Gly Gly Leu Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Thr Phe Asp Asp Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 376

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 376

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Ser Gly Thr Leu Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Thr Phe Glu Asp Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 377

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 377

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
 20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45

Ser Ala Ile Asn Pro Tyr Gly Ser Leu Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Leu Pro Phe Thr Phe Asp Asp Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 378

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 378

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
 20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45

Ser Ala Ile Asn Pro Trp Gly Gly Tyr Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Leu Pro Phe Thr Phe Glu Asp Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 379
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 379
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
 20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45

Ser Ala Ile Asn Pro Gln Gly Gly Leu Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Leu Pro Phe Thr Phe Glu Asp Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 380
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 380
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
 20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45

Ser Ala Ile Asn Pro Trp Gly Ser His Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Leu Pro Phe Thr Phe Asp Asp Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 381
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 381
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Trp Gly Thr Leu Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Arg Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Thr Phe Asp Asp Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 382
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 382
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Asn Gly Arg Leu Thr Tyr Tyr Ala Asp Ser Val

50

55

60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Thr Phe Ala Asp Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 383

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 383

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Trp Gly Gln Leu Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Thr Phe Asp Asp Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 384

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 384

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro His Gly Gly Leu Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Thr Phe Asp Asp Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 385
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 385
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Ala Gly Met Leu Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Thr Phe Asp Asp Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 386
<211> 116
<212> PRT
<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 386

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro His Gly Thr Leu Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Thr Phe Glu Asp Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 387

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 387

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Trp Gly Ser Leu Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Thr Phe Asp Asp Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 388
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 388
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Tyr Gly Gly Leu Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Thr Phe Glu Asp Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 389
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 389
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Ala Gly Phe Leu Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Thr Phe Glu Asp Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 390
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 390
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Arg Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Tyr Gly Gly Leu Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Thr Phe Glu Asp Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 391
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 391
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Trp Gly Gly Phe Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Thr Phe Glu Asp Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 392

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 392

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Trp Gly Gly Leu Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Thr Phe Asp Asp Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 393

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 393

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly

1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
 20 25 30
 Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45
 Ser Ala Ile Asn Pro Tyr Gly Gly Leu Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asp Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys Leu Pro Phe Thr Phe Glu Asp Trp Gly Gln Gly Thr Leu Val
 100 105 110
 Thr Val Ser Ser
 115

<210> 394
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 394
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
 20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45

Ser Ala Ile Asn Pro Trp Gly Thr Leu Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Leu Pro Phe Thr Phe Glu Asp Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 395
 <211> 116

<212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 395
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
 20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45

Ser Ala Ile Asn Pro Trp Gly Gly Tyr Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Leu Pro Phe Thr Phe Glu Asp Trp Gly Arg Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 396
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 396
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
 20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45

Ser Ala Ile Asn Pro Tyr Gly Asn Leu Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Leu Pro Phe Thr Phe Asp Asp Trp Gly Gln Gly Thr Leu Val

100

105

110

Thr Val Ser Ser
115

<210> 397
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 397
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro His Gly Gly Phe Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Thr Phe Glu Asp Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 398
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 398
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Ala Gly Phe Tyr Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Thr Phe Asp Asp Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 399
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 399
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Ala Gly Gly Leu Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Thr Phe Asp Asp Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 400
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 400
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Ala Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro His Gly Ser Leu Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Thr Phe Glu Asp Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 401

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 401

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Ala Gly Gly Tyr Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr His Cys
85 90 95

Ala Lys Leu Pro Phe Thr Phe Glu Asp Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 402

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 402
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
 20 25 30
 Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45
 Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys Leu Pro Phe Trp Phe Thr Glu Trp Gly Gln Gly Thr Leu Val
 100 105 110
 Thr Val Ser Ser
 115

<210> 403
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 403
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
 20 25 30
 Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45
 Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys Leu Pro Phe Met Phe Ser Asp Arg Gly Gln Gly Thr Leu Val
 100 105 110
 Thr Val Ser Ser
 115

<210> 404
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 404
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
 20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Leu Pro Phe Leu Phe Gln Glu Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 405
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 405
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
 20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Leu Pro Thr Arg Phe Glu Asp Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 406
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 406
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
 20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Leu Pro Phe Tyr Phe His Glu Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 407
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 407
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
 20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val

50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Gly Lys Glu Pro Phe Arg Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
 100 105 110
 Thr Val Ser Ser
 115

<210> 408
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 408
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
 20 25 30
 Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45
 Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys Leu Pro Thr Phe Phe Lys Asp Trp Gly Gln Gly Thr Leu Val
 100 105 110
 Thr Val Ser Ser
 115

<210> 409
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 409
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Phe Phe Gln Glu Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 410

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 410

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Gln Leu Phe His Asp Arg Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 411

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 411

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
 20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Leu Pro Gln Leu Phe Glu Asp Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 412

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 412

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
 20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr His Cys
 85 90 95

Ala Lys Leu Pro Phe Gly Phe Ser Glu Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
115

<210> 413
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 413
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Gln Leu Phe Gln Asp Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 414
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 414
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Phe Phe His Glu Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 415
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 415
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro His Tyr Phe Lys Asp Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 416
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 416
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Ser Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Tyr Phe Glu Glu Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 417
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 417
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Arg Phe Ser Asp Arg Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 418
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 418
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly

1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
 20 25 30
 Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45
 Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys Leu Pro Thr Leu Phe Gln Asp Trp Gly Gln Gly Thr Leu Val
 100 105 110
 Thr Val Ser Ser
 115

<210> 419
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 419
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
 20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Leu Pro Phe Tyr Phe Ser Glu Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Asn
 115

<210> 420
 <211> 116

<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 420
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Trp Phe Gln Glu Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 421
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 421
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Trp Gly Ser Leu Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Tyr Phe Gln Glu Trp Gly Gln Gly Thr Leu Val

100

105

110

Thr Val Ser Ser
115

<210> 422
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 422
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Trp Gly Ser Leu Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr His Cys
85 90 95

Ala Lys Leu Pro Met Phe Phe Glu Asp Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Asn
115

<210> 423
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 423
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Trp Gly Ser Leu Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Tyr Phe His Glu Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 424
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 424
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Trp Gly Ser Leu Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Phe Phe Gln Glu Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 425
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 425
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Trp Gly Ser Leu Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Phe Phe His Glu Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 426

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 426

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Trp Gly Gly Phe Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Tyr Phe Gln Glu Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 427

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 427

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
 20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45

Ser Ala Ile Asn Pro Trp Gly Gly Phe Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr His Cys
 85 90 95

Ala Lys Leu Pro Met Phe Phe Glu Asp Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Asn
 115

<210> 428

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 428

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
 20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45

Ser Ala Ile Asn Pro Trp Gly Gly Phe Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Leu Pro Phe Tyr Phe His Glu Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 429
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 429
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
 20 25 30
 Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45
 Ser Ala Ile Asn Pro Trp Gly Gly Phe Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys Leu Pro Phe Phe Phe Gln Glu Trp Gly Gln Gly Thr Leu Val
 100 105 110
 Thr Val Ser Ser
 115

<210> 430
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 430
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
 20 25 30
 Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45
 Ser Ala Ile Asn Pro Trp Gly Gly Phe Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Leu Pro Phe Phe Phe His Glu Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 431
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 431
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
 20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45

Ser Ala Ile Asn Pro Trp Gly Gly Leu Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Leu Pro Phe Tyr Phe Gln Glu Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 432
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 432
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
 20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45

Ser Ala Ile Asn Pro Trp Gly Gly Leu Thr Tyr Tyr Ala Asp Ser Val

50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr His Cys
 85 90 95
 Ala Lys Leu Pro Met Phe Phe Glu Asp Trp Gly Gln Gly Thr Leu Val
 100 105 110
 Thr Val Ser Asn
 115

<210> 433
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 433
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
 20 25 30
 Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45
 Ser Ala Ile Asn Pro Trp Gly Gly Leu Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys Leu Pro Phe Tyr Phe His Glu Trp Gly Gln Gly Thr Leu Val
 100 105 110
 Thr Val Ser Ser
 115

<210> 434
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 434
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Trp Gly Gly Leu Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Phe Phe Gln Glu Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 435

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 435

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Trp Gly Gly Leu Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Phe Phe His Glu Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 436

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 436

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr His Cys
85 90 95

Ala Lys Leu Pro Met Phe Phe Glu Asp Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 437

<211> 119

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 437

Glu Val Gln Leu Leu Glu Thr Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Thr Tyr
20 25 30

His Met Gln Trp Val Arg Arg Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Met Ile Asp Ala Asp Gly Leu Gly Thr Tyr Tyr Ala Asp Pro Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Lys Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Pro Gly Pro Gln Phe Gly Gln Phe Asp Tyr Leu Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 438
<211> 119
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 438
Glu Val Gln Leu Phe Glu Ser Gly Gly Gly Leu Val Gln Thr Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Thr Tyr
20 25 30

His Met Gln Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Met Ile Asp Ala Asp Gly Leu Gly Lys Tyr Tyr Ala Asp Pro Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Val Lys Pro Gly Pro Gln Phe Gly Gln Tyr Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 439
<211> 121
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 439
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ser Ala Ser Gly Phe Thr Phe Ser Gly Tyr
20 25 30

Asp Met Gln Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Thr Ile Ser Ala Ser Gly Val Tyr Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Tyr Pro Asn Arg Phe Ala Leu Asn Ser Phe Asp Tyr Arg Gly
100 105 110

Arg Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 440

<211> 121

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 440

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Gly Tyr
20 25 30

Asp Met Gln Trp Val Arg Gln Ala Pro Gly Arg Gly Leu Glu Trp Val
35 40 45

Ser Thr Ile Ser Ala Ser Gly Val Tyr Thr Tyr Tyr Thr Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Thr Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Lys Tyr Pro Asn Arg Phe Ala Arg Asn Asn Phe Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 441

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 441

Asp Ile Leu Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Asn Ser Ser Ile Leu Trp Ala
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Glu Ala Pro Lys Leu Leu Ile
35 40 45

Glu Ser Ser Ser Gly Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Val Gln Asn Ala Val Trp Pro Gly
85 90 95

Thr Phe Ser Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 442

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 442

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Asp Ser Ser Ile Leu Trp Ala
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Glu Ser Ser Ser Gly Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Val Gln Asn Ala Val Trp Pro Gly
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 443

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 443

Asp Ile Gln Met Thr Val Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Asp Ser Ser Ile Leu Trp Ala
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile

35

40

45

Glu Ser Ser Ser Gly Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Val Gln Asn Ala Val Trp Pro Gly
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 444

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 444

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Asn Ser Ser Ile Leu Trp Ala
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Glu Ser Ser Ser Gly Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Val Gln Asn Ala Val Trp Pro Gly
85 90 95

Thr Phe Asp Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 445

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 445

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Asn Ser Ser Ile Leu Trp Ala
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Glu Ser Ser Thr Gly Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Val Gln Asn Ala Val Trp Pro Gly
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
 100 105

<210> 446
 <211> 108
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 446
 Asp Ile Gln Met Thr Val Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Asn Ser Ser Ile Leu Trp Ala
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Glu Ser Ser Ser Gly Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Val Gln Asn Ala Val Trp Pro Gly
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
 100 105

<210> 447
 <211> 108
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 447
 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Asp Ser Ser Ile Leu Trp Ala
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Glu Ser Ser Ser Gly Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Val Gln Asn Ala Val Trp Pro Gly
 85 90 95

Thr Phe Asp Gln Gly Thr Lys Val Glu Ile Lys Arg
 100 105

<210> 448

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 448

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Asn Ser Ser Ile Leu Trp Ala
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Glu Leu Leu Ile
 35 40 45

Glu Ser Ser Ser Gly Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Val Gln Asn Ala Val Trp Pro Gly
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
 100 105

<210> 449

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 449

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Asn Ser Ser Ile Leu Trp Ala
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Glu Ser Ser Ser Gly Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Val Gln Asn Ala Val Trp Pro Gly
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Asn Lys Arg
100 105

<210> 450

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 450

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Asn Ser Ser Ile Leu Trp Ala
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Glu Ser Ser Ser Gly Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Val Gln Asn Ala Val Trp Pro Gly
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 451

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 451

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Asn Ser Ser Ile Leu Trp Ala

20

25

30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Glu Ser Ser Ser Gly Leu Gln Ser Gly Ile Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Val Gln Asn Ala Val Trp Pro Gly
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
 100 105

<210> 452

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 452

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Asn Ser Ser Ile Leu Trp Ala
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Glu Ser Ser Ser Gly Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Val Gln Asn Ala Val Trp Pro Gly
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
 100 105

<210> 453

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 453

Asp Ile Leu Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Asn Ser Ser Ile Leu Trp Ala
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Glu Ser Ser Ser Gly Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Val Gln Asn Ala Val Trp Pro Gly
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 454

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 454

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Asn Ser Ser Ile Leu Trp Ala
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Glu Ser Ser Ser Gly Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Thr Gly Thr Asp Phe Thr Leu Thr Ile Ser Gly Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Val Gln Asn Ala Val Trp Pro Gly
85 90 95

Thr Phe Asp Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 455

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 455

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Pro Cys Arg Ala Asn Ser Ser Ile Leu Trp Ala
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Glu Ser Ser Ser Gly Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Ala Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Val Gln Asn Ala Val Trp Pro Gly
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 456

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 456

Asp Ile Gln Met Ala Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Thr Ile Glu Arg Arg
20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Tyr Leu Ala Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys His Gln Tyr Ala Ser Pro Pro Leu
85 90 95

Thr Leu Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 457

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 457

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Ser Val Thr Ile Thr Cys Arg Ala Ser Gln Thr Ile Glu Arg Arg
20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Glu Ala Pro Lys Leu Leu Ile
35 40 45

Tyr Leu Ala Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys His Gln Tyr Ala Ser Pro Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Asn Val Glu Ile Lys Arg
100 105

<210> 458

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 458

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Thr Ile Glu Arg Arg
20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Tyr Leu Ala Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Ala Tyr Tyr Cys His Gln Tyr Glu Ser Pro Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 459

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 459

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly

1 5 10 15
 Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Arg Thr Ile Glu Arg Arg
 20 25 30
 Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45
 Tyr Leu Ala Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60
 Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80
 Glu Asp Phe Ala Thr Tyr Tyr Cys His Gln Tyr Glu Ser Pro Pro Leu
 85 90 95
 Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
 100 105

<210> 460
 <211> 108
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 460
 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15
 Glu Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Thr Ile Glu Arg Arg
 20 25 30
 Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45
 Tyr Leu Ala Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60
 Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Asn Leu Gln Pro
 65 70 75 80
 Glu Asp Ser Ala Thr Tyr Tyr Cys His Gln Tyr Ala Ser Pro Pro Leu
 85 90 95
 Thr Leu Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
 100 105

<210> 461
 <211> 108
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 461

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Thr Ile Glu Arg Arg
20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Tyr Leu Ala Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys His Gln Tyr Ala Ser Pro Pro Leu
85 90 95

Thr Leu Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 462
<211> 108
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 462
Asp Ile Gln Ile Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Thr Ile Glu Arg Arg
20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Asp Pro Lys Leu Leu Ile
35 40 45

Tyr Leu Ala Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys His Gln Tyr Glu Ser Pro Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 463
<211> 108
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 463

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Thr Ile Glu Arg Arg
 20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Glu Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Leu Ala Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys His Gln Tyr Glu Ser Pro Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Trp
 100 105

<210> 464

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 464

Asp Ile Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Thr Ile Glu Arg Arg
 20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Leu Ala Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys His Gln Tyr Glu Ser Pro Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
 100 105

<210> 465

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 465

Asp Ile Gln Met Ser Gln Ser Pro Ser Thr Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Thr Ile Glu Arg Arg
 20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Leu Ala Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys His Gln Tyr Glu Ser Pro Pro Leu
 85 90 95

Met Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
 100 105

<210> 466

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 466

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Thr Ile Glu Arg Arg
 20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Asp Pro Lys Leu Leu Ile
 35 40 45

Tyr Leu Ala Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys His Gln Tyr Glu Ser Pro Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
 100 105

<210> 467

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 467

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Thr Ile Glu Arg Arg
 20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Leu Ala Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys His Gln Tyr Glu Ser Pro Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
 100 105

<210> 468

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 468

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Phe Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Thr Ile Glu Arg Arg
 20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Leu Ala Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys His Gln Tyr Glu Ser Pro Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
 100 105

<210> 469

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 469

Asp Ile Gln Met Thr Gln Tyr Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile Glu Arg Arg
20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Glu Ala Pro Lys Leu Leu Ile
35 40 45

Tyr Leu Ala Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys His Gln Tyr Glu Ser Pro Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 470

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 470

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Arg Thr Ile Glu Arg Arg
20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Tyr Leu Ala Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys His Pro Tyr Glu Ser Pro Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 471

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 471

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Ala Ile Glu Arg Arg
 20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Leu Ala Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys His Gln Tyr Ala Ser Pro Pro Leu
 85 90 95

Thr Leu Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
 100 105

<210> 472

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 472

Asn Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Ala Ile Glu Arg Arg
 20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Leu Ala Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys His Gln Tyr Glu Ser Pro Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
 100 105

<210> 473

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 473

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Thr Ile Gly Arg Arg
 20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Leu Ala Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Ser Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys His Gln Tyr Glu Ser Pro Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
 100 105

<210> 474

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 474

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Thr Ile Glu Arg Arg
 20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Leu Ala Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys His Gln Tyr Glu Ser Pro Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
 100 105

<210> 475

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 475

Asp Ile Gln Met Thr Gln Thr Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Thr Ile Glu Arg Arg
20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Glu Ala Pro Lys Leu Leu Ile
35 40 45

Tyr Leu Ala Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys His Gln Tyr Glu Ser Pro Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Lys Ile Lys Arg
100 105

<210> 476

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 476

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Ser Val Thr Ile Thr Cys Arg Ala Ser Gln Thr Ile Glu Arg Arg
20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Tyr Leu Ala Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys His Gln Tyr Glu Ser Pro Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 477

<211> 108

<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 477
His Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Thr Ile Glu Arg Arg
20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Tyr Leu Ala Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys His Gln Tyr Glu Ser Pro Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 478
<211> 108
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 478
Asp Val Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Thr Ile Glu Arg Arg
20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Glu Ala Pro Lys Leu Leu Ile
35 40 45

Tyr Leu Thr Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys His Gln Tyr Ala Ser Pro Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 479

<211> 108
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 479
 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Thr Ile Glu Arg Arg
 20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Leu Ala Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys His Gln Tyr Glu Ser Pro Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Val Ile Lys Arg
 100 105

<210> 480
 <211> 108
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 480
 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Thr Ile Glu Arg Arg
 20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Leu Ala Thr Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys His Gln Tyr Glu Ser Pro Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
 100 105

<210> 481
 <211> 108
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 481
 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Pro Ile Glu Arg Arg
 20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Leu Ala Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys His Gln Tyr Glu Ser Pro Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
 100 105

<210> 482
 <211> 108
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 482
 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Thr Ile Gly Arg Arg
 20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Leu Ala Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys His Gln Tyr Glu Ser Pro Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
 100 105

<210> 483
 <211> 108
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 483
 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile Glu Arg Arg
 20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Leu Ala Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys His Gln Tyr Glu Ser Pro Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Ile Arg
 100 105

<210> 484
 <211> 108
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 484
 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Thr Ile Glu Arg Arg
 20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Leu Ala Thr Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys His Gln Tyr Glu Ser Pro Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
 100 105

<210> 485
 <211> 108
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 485
 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15
 Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile Glu Arg Arg
 20 25 30
 Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45
 Tyr Leu Ala Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60
 Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80
 Glu Asp Phe Ala Thr Tyr Tyr Cys His Gln Tyr Glu Ser Pro Pro Leu
 85 90 95
 Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
 100 105

<210> 486
 <211> 108
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 486
 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15
 Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Thr Ile Glu Arg Arg
 20 25 30
 Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Arg Leu Leu Ile
 35 40 45
 Tyr Leu Ala Thr Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60
 Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80
 Glu Asp Phe Ala Thr Tyr Tyr Cys His Gln Phe Glu His Pro Pro Leu
 85 90 95
 Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg

100

105

<210> 487
 <211> 108
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 487
 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Phe Pro Ile Asp Arg Arg
 20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Leu Ala Thr Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys His Gln Tyr Glu Ser Pro Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
 100 105

<210> 488
 <211> 108
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 488
 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Ser Thr Ile Gly Arg Arg
 20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Leu Ala Thr Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys His Gln Tyr Glu Ser Pro Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 489
<211> 108
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 489
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Ser Gln Ile Gly Arg Arg
20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Leu Ala Thr Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys His Gln Tyr Glu Ser Pro Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 490
<211> 108
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 490
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Arg Ile Gly Arg Arg
20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Leu Ala Thr Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys His Gln Tyr Glu Ser Pro Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 491
<211> 108
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 491
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gln Ile Gly Arg Arg
20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Leu Ala Thr Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys His Gln Tyr Glu Ser Pro Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 492
<211> 108
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 492
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Pro Ile Ala Arg Arg
20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Leu Ala Thr Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys His Gln Tyr Glu Ser Pro Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 493
<211> 108
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 493
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gly Asn Ile Gly Arg Arg
20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Leu Ala Thr Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys His Gln Tyr Glu Ser Pro Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 494
<211> 108
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 494
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Arg Asn Ile Asp Arg Arg
20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Leu Ala Thr Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys His Gln Tyr Glu Ser Pro Pro Leu

85

90

95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 495
<211> 108
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 495
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile Gly Arg Arg
20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Leu Ala Thr Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys His Gln Tyr Glu Ser Pro Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 496
<211> 108
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 496
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Asn Ile Gly Thr Arg
20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Leu Ala Thr Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys His Gln Tyr Glu Ser Pro Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 497
<211> 108
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 497
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Val Ile Gly Arg Arg
20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Leu Ala Thr Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys His Gln Tyr Glu Ser Pro Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 498
<211> 108
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 498
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Ala Ile Gly Arg Arg
20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Leu Ala Thr Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys His Gln Tyr Glu Ser Pro Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 499
<211> 108
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 499
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Thr Ser Ile Ala Arg Arg
20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Leu Ala Thr Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys His Gln Tyr Glu Ser Pro Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 500
<211> 108
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 500
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Leu Asn Ile Gly Arg Arg
20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Leu Ala Thr Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys His Gln Tyr Glu Ser Pro Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 501
<211> 108
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 501
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Thr Ile Glu Arg Arg
20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Leu Ser Ser Lys Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys His Gln Tyr Glu Ser Pro Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 502
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 502
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Thr Ile Ala Gly Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Thr Leu Tyr

65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Asp Pro Tyr Ser Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 503
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 503
 Glu Val Gln Pro Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ala Gly Tyr
 20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Ile
 35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Asp Pro Tyr Ser Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 504
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 504
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Ser Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Thr Gly Ser Thr Phe Ala Gly Tyr
 20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Asp Pro Tyr Ser Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Ser Val Ser Ser
115

<210> 505

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 505

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Leu Thr Phe Ala Gly Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr His Cys
85 90 95

Ala Arg Asp Pro Tyr Ser Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 506

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 506

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ala Gly Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr His Cys
85 90 95

Ala Lys Glu Pro Tyr Ser Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 507

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 507

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Thr Phe Ala Gly Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Val Lys Asp Pro Tyr Ser Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 508
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 508
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Thr Ile Ala Gly Tyr
 20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Asp Pro Tyr Ser Phe Asp Tyr Trp Gly Gln Gly Thr Pro Val
 100 105 110

Thr Val Ser Ser
 115

<210> 509
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 509
 Glu Val Gln Leu Met Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Thr Phe Ala Gly Tyr
 20 25 30

Glu Met Trp Trp Tyr Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45

Ser Ala Ile Ser Gly Ser Gly Arg Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Asp Pro Tyr Ser Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 510
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 510
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ala Gly Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Pro Tyr Ser Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 511
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 511
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Thr Ile Ala Gly Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Asp Pro Tyr Ser Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 512
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 512
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ala Gly Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Asp Pro Tyr Ser Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Ser Val Ser Ser
115

<210> 513
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 513
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Ile Ala Gly Tyr

20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Asp Pro Tyr Ser Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 514
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 514
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ala Gly Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Thr Arg Asp Asp Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Pro Tyr Ser Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 515
<211> 116
<212> PRT
<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 515

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ala Gly Tyr
20 25 30

Glu Met Trp Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Thr Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Asp Pro Tyr Ser Phe Asp Tyr Trp Arg Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 516

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 516

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Thr Phe Ala Gly Tyr
20 25 30

Glu Val Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Asp Pro Tyr Ser Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser

115

<210> 517
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 517
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Thr Phe Ala Gly Tyr
 20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Ile
 35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Lys Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Asp Pro Tyr Ser Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 518
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 518
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ala Gly Tyr
 20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Asp Pro Tyr Ser Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 519
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 519
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Leu Thr Phe Ala Gly Tyr
20 25 30

Glu Met Trp Trp Val Arg Arg Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ala Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Asp Pro Tyr Ser Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 520
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 520
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ala Gly Tyr
20 25 30

Glu Leu Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Asp Pro Tyr Ser Phe Asp Tyr Arg Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 521

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 521

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Pro Gly Phe Thr Leu Ala Gly Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Pro Tyr Ser Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

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<211> 116

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<213> 人工序列

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<223> 人工序列之描述：合成多肽

<400> 522

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Leu Thr Phe Ala Gly Tyr
20 25 30

Glu Met Trp Trp Val Arg Arg Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Thr Ser Arg Asp Asp Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Asp Pro Tyr Ser Phe Asp Tyr Trp Gly Arg Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 523

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 523

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ala Gly Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Pro Tyr Ser Tyr Asp Tyr Trp Gly His Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 524

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 524

Glu Val Gln Pro Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ala Gly Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Asn Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Gly Val Tyr Tyr Cys
85 90 95

Ala Arg Asp Pro Tyr Ser Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 525

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 525

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ala Gly Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Pro Tyr Ser Phe Asp Ser Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

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<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 526
Glu Ala Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Leu Thr Phe Ala Gly Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Asp Pro Tyr Ser Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 527
<211> 116
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 527
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Thr Phe Ala Gly Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Ser Ile Ser Arg Asp Asp Ser Lys Asn Thr Leu Tyr

65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Glu Pro Tyr Ser Phe Asp His Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 528
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 <212> PRT
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<220>
 <223> 人工序列之描述：合成多肽

<400> 528
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Thr Phe Ala Gly Tyr
 20 25 30

Glu Met Trp Trp Val Arg Arg Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Asp Pro Tyr Ser Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 529
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 529
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ala Gly Tyr
 20 25 30

Glu Met Trp Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Asp Pro Tyr Ser Phe Asp Asn Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 530

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 530

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Glu Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ala Gly Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Pro Tyr Ser Phe Asp His Arg Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 531

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 531

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Thr Phe Ala Gly Tyr
 20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Glu Pro Tyr Ser Phe Asp His Arg Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 532

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<212> PRT

<213> 人工序列

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<223> 人工序列之描述：合成多肽

<400> 532

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ala Gly Tyr
 20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr His Cys
 85 90 95

Ala Lys Glu Pro Tyr Ser Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 533
 <211> 116
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 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 533
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ala Gly Tyr
 20 25 30
 Glu Met Trp Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45
 Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys Asp Pro Tyr Ser Phe Asp Asn Trp Gly Gln Gly Thr Leu Val
 100 105 110
 Thr Val Ser Ser
 115

<210> 534
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 534
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ala Gly Tyr
 20 25 30
 Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45
 Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Glu Pro Tyr Ser Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 535
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 535
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ala Gly Tyr
 20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Asp Pro Tyr Ser Phe Asp Asn Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

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<220>
 <223> 人工序列之描述：合成多肽

<400> 536
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ala Gly Tyr
 20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr His Cys
85 90 95

Ala Lys Glu Pro Tyr Ser Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 537

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 537

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ala Gly Tyr
20 25 30

Glu Met Trp Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Asp Pro Tyr Ser Phe Asp Asn Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 538

<211> 116

<212> PRT

<213> 人工序列

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<223> 人工序列之描述：合成多肽

<400> 538

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ala Gly Tyr

20

25

30

Glu Leu Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Asp Pro Tyr Ser Phe Asp Tyr Arg Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 539

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 539

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ala Gly Tyr
20 25 30

Glu Leu Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Asp Pro Tyr Ser Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 540

<211> 120

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 540

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Pro Thr Ala
20 25 30

Glu Met Leu Trp Val Arg Lys Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Ala Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Pro Val Ser Tyr Val Ala Thr Phe Asp Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 541

<211> 120

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 541

Glu Val Gln Leu Leu Val Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Pro Thr Ala
20 25 30

Glu Met Leu Trp Val Arg Gln Ala Pro Gly Lys Gly Pro Glu Trp Val
35 40 45

Ser Ser Ile Ser Ala Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Pro Val Ser Tyr Val Ala Thr Phe Asp Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser

115

120

<210> 542
 <211> 120
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 542
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Pro Thr Ala
 20 25 30
 Glu Met Val Trp Val Arg Lys Ala Pro Gly Met Gly Leu Glu Trp Val
 35 40 45
 Ser Ser Ile Ser Ala Ser Gly Gly Tyr Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Met Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys Glu Pro Val Ser Tyr Val Ala Thr Phe Asp Tyr Trp Gly Gln
 100 105 110
 Gly Ala Leu Val Thr Val Thr Ser
 115 120

<210> 543
 <211> 120
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 543
 Glu Val Gln Leu Leu Val Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Pro Thr Ala
 20 25 30
 Glu Met Val Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ser Ser Ile Ser Ala Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Ser Ile Ser Arg Asp Asp Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Pro Val Ser Tyr Val Ala Thr Phe Asp Tyr Trp Gly His
100 105 110

Gly Ala Leu Val Thr Val Ser Ser
115 120

<210> 544
<211> 120
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 544
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Pro Thr Ala
20 25 30

Glu Met Leu Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Ala Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Pro Val Ser Tyr Val Ala Thr Phe Asp Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 545
<211> 120
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 545
Glu Ala Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Pro Thr Ala
20 25 30

Glu Met Val Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45

Ser Ser Ile Ser Ala Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Leu Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Glu Pro Val Ser Tyr Val Ala Thr Phe Asp Tyr Trp Gly Arg
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 546
 <211> 120
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 546
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Pro Thr Ala
 20 25 30

Glu Met Leu Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Ser Ile Ser Ala Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Ser Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Glu Pro Val Ser Tyr Val Ala Thr Phe Asp Tyr Trp Gly Pro
 100 105 110

Gly Ala Leu Val Thr Val Ser Ser
 115 120

<210> 547
 <211> 120
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 547
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Pro Thr Ala
20 25 30

Glu Met Leu Trp Val Arg Lys Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Ala Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Phe
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Pro Val Ser Tyr Val Ala Thr Phe Asp Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 548

<211> 120

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 548

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Pro Thr Ala
20 25 30

Glu Met Leu Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Ala Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Pro Val Ser Tyr Val Ala Thr Phe Asp Tyr Trp Gly Pro
100 105 110

Gly Ala Leu Val Thr Val Ser Ser
115 120

<210> 549

<211> 120

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 549

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Pro Thr Ala
20 25 30

Glu Met Leu Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Ala Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Pro Val Tyr Tyr Val Ala Thr Phe Asp Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 550

<211> 120

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 550

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Pro Thr Ala
20 25 30

Glu Met Leu Trp Val Arg Lys Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Ala Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Ala Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Glu Pro Val Ser Tyr Val Ala Thr Phe Asp Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 551
<211> 108
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 551
Asn Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Phe Ile Gly Thr Leu
20 25 30

Leu Thr Trp Tyr Gln His Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Thr Tyr Gly Ser Leu Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Ala
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 552
<211> 108
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 552
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Phe Ile Gly Thr Leu
20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Arg Lys Ala Pro Lys Leu Leu Ile
35 40 45

Thr Tyr Gly Ser Leu Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu His Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Pro

85

90

95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 553
<211> 108
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 553
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Thr Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Phe Ile Gly Thr Leu
20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Val
35 40 45

Thr Tyr Gly Ser Leu Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Asn Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Pro
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Asn Ile Arg
100 105

<210> 554
<211> 108
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 554
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Phe Ile Ala Thr Leu
20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Thr Tyr Gly Ser Leu Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Pro
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 555
<211> 108
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 555
Asp Ile Gln Met Thr Gln Ser Pro Ser Phe Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Phe Ile Ala Thr Leu
20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Thr Tyr Gly Ser Leu Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Pro
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 556
<211> 108
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 556
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Phe Ile Gly Thr Leu
20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Thr Lys Leu Leu Ile
35 40 45

Thr Tyr Gly Ser Leu Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Pro
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 557
<211> 108
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 557
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Phe Ile Gly Ser Leu
20 25 30

Leu Ser Trp Tyr Gln His Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Thr Tyr Gly Ser Leu Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Ala
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 558
<211> 108
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 558
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Phe Ile Gly Thr Leu
20 25 30

Leu Ser Trp Tyr Gln His Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Thr Tyr Gly Ser Leu Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Ala
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 559

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 559

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Phe Ile Gly Thr Leu
20 25 30

Leu Ser Trp Tyr Gln His Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Thr Tyr Gly Ser Met Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Ala
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 560

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 560

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Phe Ile Gly Thr Leu
20 25 30

Leu Ser Trp Tyr Gln His Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Thr Tyr Gly Ser Leu Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro

65 70 75 80
 Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Ala
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
 100 105

<210> 561
 <211> 108
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 561
 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Thr Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Phe Ile Gly Thr Leu
 20 25 30

Leu Ser Trp Tyr Gln His Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Thr Tyr Gly Ser Leu Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Ala
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
 100 105

<210> 562
 <211> 108
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 562
 Asn Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Phe Ile Gly Thr Leu
 20 25 30

Leu Ser Trp Tyr Gln His Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Thr Tyr Gly Ser Leu Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Ala
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 563
<211> 108
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 563
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Asn Cys Arg Ala Ser His Phe Ile Gly Thr Leu
20 25 30

Leu Ser Trp Tyr Gln His Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Thr Tyr Gly Ser Leu Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Ala
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 564
<211> 108
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 564
Asp Ile Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Phe Ile Gly Thr Leu
20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Thr Lys Leu Leu Ile
35 40 45

Thr Tyr Gly Ser Leu Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Pro
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 565
<211> 108
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 565
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Tyr Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Val Ser His Phe Ile Gly Thr Leu
20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Thr Tyr Gly Ser Leu Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Ser Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Pro
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Gln
100 105

<210> 566
<211> 108
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 566
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Phe Ile Gly Thr Leu
20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Arg Lys Ala Pro Lys Leu Leu Ile
35 40 45

Thr Tyr Gly Ser Leu Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Pro
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 567
<211> 108
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 567
Asp Ile Gln Ile Ile Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Phe Ile Gly Thr Leu
20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Thr Tyr Gly Ser Leu Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Pro
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 568
<211> 108
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 568
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Phe Ile Gly Thr Leu
20 25 30

Leu Ser Trp Tyr Gln Leu Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Thr Tyr Gly Ser Leu Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly

50

55

60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Ala
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 569

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 569

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Phe Ile Gly Thr Leu
20 25 30

Leu Ser Trp Tyr Gln Leu Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Thr Tyr Gly Ser Trp Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Ala
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Asn Lys Arg
100 105

<210> 570

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 570

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Phe Ile Gly Thr Leu
20 25 30

Leu Ser Trp Tyr Gln Leu Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Thr Tyr Gly Ser Leu Leu Gln Arg Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Ala
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 571

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 571

Asp Ile Gln Met Thr Gln Ala Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Phe Ile Gly Thr Leu
20 25 30

Leu Ser Trp Tyr Gln Leu Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Thr Tyr Gly Ser Leu Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Ala
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Asn Lys Arg
100 105

<210> 572

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 572

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Phe Ile Gly Ser Leu
20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Thr Tyr Gly Ser Leu Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Ala Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Ala
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 573
<211> 108
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 573
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Phe Ile Gly Ser Leu
20 25 30

Leu Ser Trp Tyr Gln Val Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Thr Tyr Gly Ser Leu Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Ala
85 90 95

Thr Phe Gly Gln Gly Thr Thr Val Glu Ile Lys Arg
100 105

<210> 574
<211> 108
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 574
Asp Ile Leu Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Phe Ile Gly Ser Leu
20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Thr Tyr Gly Ser Leu Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Ala
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 575

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 575

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Phe Ile Gly Thr Leu
20 25 30

Val Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Thr Tyr Gly Ser Leu Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Ala
85 90 95

Thr Tyr Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 576

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 576

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Phe Ile Gly Thr Leu
20 25 30

Val Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile

35

40

45

Thr Tyr Gly Ser Leu Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Ala
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Asn Lys Arg
100 105

<210> 577

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 577

Asp Ile Lys Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Phe Ile Gly Thr Leu
20 25 30

Val Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Thr Tyr Gly Ser Met Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Ala
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 578

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 578

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Gln Ala Ser His Phe Ile Gly Thr Leu
20 25 30

Val Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Thr Tyr Gly Ser Leu Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Ala
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
 100 105

<210> 579
 <211> 108
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 579
 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Phe Ile Gly Thr Leu
 20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Thr Tyr Gly Ser Trp Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Ala
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
 100 105

<210> 580
 <211> 108
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 580
 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Phe Ile Gly Thr Leu
 20 25 30

Leu Ser Trp Tyr Gln Leu Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Thr Tyr Gly Ser Trp Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Ala
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
 100 105

<210> 581
 <211> 108
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 581
 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Phe Ile Gly Thr Leu
 20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Thr Tyr Gly Ser Leu Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Phe Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Glu Val Leu Trp Pro Ala
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
 100 105

<210> 582
 <211> 108
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 582
 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Ser Ile Thr Cys Arg Ala Ser His Phe Ile Gly Thr Leu
 20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Thr Tyr Gly Ser Leu Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Phe Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Leu Ala Thr Tyr Tyr Cys Gly Gln Glu Val Leu Trp Pro Ala
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 583

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 583

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Gln Ala Ser His Phe Ile Gly Thr Leu
20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Thr Tyr Gly Ser Leu Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Phe Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Glu Val Leu Trp Pro Ala
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 584

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 584

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Phe Ile Gly Thr Leu

20

25

30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Thr Tyr Gly Ser Leu Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Phe Gly Thr Glu Phe Thr Leu Thr Ile Gly Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Ala
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
 100 105

<210> 585

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 585

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Phe Ile Gly Thr Leu
 20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Thr Lys Leu Leu Ile
 35 40 45

Thr Tyr Gly Ser Leu Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Pro
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
 100 105

<210> 586

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 586

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Phe Ile Ala Ser Leu
20 25 30

Leu Ser Trp Tyr Gln Val Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Thr Tyr Gly Ser Leu Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Ala
85 90 95

Thr Phe Gly Gln Gly Thr Thr Val Glu Ile Lys Arg
100 105

<210> 587

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 587

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Phe Ile Ala Gln Leu
20 25 30

Leu Ser Trp Tyr Gln Val Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Thr Tyr Gly Ser Leu Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Ala
85 90 95

Thr Phe Gly Gln Gly Thr Thr Val Glu Ile Lys Arg
100 105

<210> 588

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 588

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Phe Ile Ala Gln Leu
20 25 30

Leu Ser Trp Tyr Gln Val Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Thr Tyr Gly Ser Leu Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Ala
85 90 95

Thr Phe Gly Gln Gly Thr Thr Val Glu Ile Arg Arg
100 105

<210> 589

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 589

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Tyr Ile Ala Ser Leu
20 25 30

Leu Ser Trp Tyr Gln Val Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Thr Tyr Gly Ser Leu Leu Gln Ser Gly Ala Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Ala
85 90 95

Thr Phe Gly Gln Gly Thr Thr Val Glu Ile Lys Arg
100 105

<210> 590

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 590

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Phe Ile Gly Ser Leu
 20 25 30
 Leu Ser Trp Tyr Gln Val Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45
 Thr Trp Ala Ser Tyr Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60
 Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80
 Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Ala
 85 90 95
 Thr Phe Gly Gln Gly Thr Thr Val Glu Ile Lys Arg
 100 105

<210> 591
 <211> 108
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 591
 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15
 Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Phe Ile Gly Ser Leu
 20 25 30
 Leu Ser Trp Tyr Gln Val Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45
 Thr Trp Thr Ser Tyr Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60
 Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80
 Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Ala
 85 90 95
 Thr Phe Gly Gln Gly Thr Thr Val Glu Ile Lys Arg
 100 105

<210> 592
 <211> 108
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 592
 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly

1 5 10 15
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Phe Ile Gly Ser Leu
20 25 30
Leu Ser Trp Tyr Gln Val Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45
Thr Trp Ser Ser Tyr Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80
Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Ala
85 90 95
Thr Phe Gly Gln Gly Thr Thr Val Glu Ile Lys Arg
100 105

<210> 593
<211> 108
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 593
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Phe Ile Gly Ser Leu
20 25 30
Leu Ser Trp Tyr Gln Val Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45
Thr Trp Gly Ser Trp Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80
Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Ala
85 90 95
Thr Phe Gly Gln Gly Thr Thr Val Glu Ile Lys Arg
100 105

<210> 594
<211> 108
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 594

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Phe Ile Gly Ser Leu
20 25 30

Leu Ser Trp Tyr Gln Val Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Thr Trp Ala Ser Trp Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Ala
85 90 95

Thr Phe Gly Gln Gly Thr Thr Val Glu Ile Lys Arg
100 105

<210> 595

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 595

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Phe Ile Gly Ser Leu
20 25 30

Leu Ser Trp Tyr Gln Val Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Thr Trp Ser Ser Trp Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Ala
85 90 95

Thr Phe Gly Gln Gly Thr Thr Val Glu Ile Lys Arg
100 105

<210> 596

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 596

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Trp Ile Ala Gln Leu
 20 25 30

Leu Ser Trp Tyr Gln Val Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Thr Tyr Gly Ser Leu Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Ala
 85 90 95

Thr Phe Gly Gln Gly Thr Thr Val Glu Ile Lys Arg
 100 105

<210> 597

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 597

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Phe Ile Gly Ser Leu
 20 25 30

Leu Arg Trp Tyr Gln Val Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Thr Tyr Gly Ser Leu Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Ala
 85 90 95

Thr Phe Gly Gln Gly Thr Thr Val Glu Ile Lys Arg
 100 105

<210> 598

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 598

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Arg Ile Ala Gln Leu
 20 25 30

Leu Ser Trp Tyr Gln Val Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Thr Tyr Gly Ser Leu Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Ala
 85 90 95

Thr Phe Gly Gln Gly Thr Thr Val Glu Ile Lys Arg
 100 105

<210> 599

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 599

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Tyr Ile Ala Ser Leu
 20 25 30

Leu Ser Trp Tyr Gln Val Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Thr Tyr Gly Ser Leu Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Ala
 85 90 95

Thr Phe Gly Gln Gly Thr Thr Val Glu Ile Lys Arg
 100 105

<210> 600

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 600

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Phe Ile Gly Ser Leu
20 25 30

Leu Ser Trp Tyr Gln Val Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Arg Phe Gly Ser Leu Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Ala
85 90 95

Thr Phe Gly Gln Gly Thr Thr Val Glu Ile Lys Arg
100 105

<210> 601

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 601

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Phe Ile Gly Ser Leu
20 25 30

Leu Ser Trp Tyr Gln Val Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Thr Tyr Lys Ser Tyr Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Ala
85 90 95

Thr Phe Gly Gln Gly Thr Thr Val Glu Ile Lys Arg
100 105

<210> 602

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 602

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Phe Ile Gly Ser Leu
20 25 30

Leu Ser Trp Tyr Gln Val Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Thr Trp Gly Ser Tyr Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Ala
85 90 95

Thr Phe Gly Gln Gly Thr Thr Val Glu Ile Lys Arg
100 105

<210> 603

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 603

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Phe Ile Trp Gly Pro
20 25 30

Leu Ser Trp Tyr Gln Val Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Thr Tyr Gly Ser Leu Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Ser Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Ala
85 90 95

Thr Phe Gly Gln Gly Thr Thr Val Glu Ile Lys Arg
100 105

<210> 604

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 604

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Trp Ile Ala Thr Leu
 20 25 30

Leu Ser Trp Tyr Gln Val Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Thr Tyr Gly Ser Leu Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Ala
 85 90 95

Thr Phe Gly Gln Gly Thr Thr Val Glu Ile Lys Arg
 100 105

<210> 605

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 605

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Phe Ile Trp Gly Pro
 20 25 30

Leu Ser Trp Tyr Gln Val Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Thr Tyr Gly Ser Leu Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Ala
 85 90 95

Thr Phe Gly Gln Gly Thr Thr Val Glu Ile Lys Arg
 100 105

<210> 606

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 606

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Phe Ile Gly Ser Leu
20 25 30

Leu Asn Trp Tyr Gln Val Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Thr Tyr Gly Ser Leu Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Ala
85 90 95

Thr Phe Gly Gln Gly Thr Thr Val Glu Ile Lys Arg
100 105

<210> 607

<211> 108

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 607

Gly Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Phe Ile Gly Ser Leu
20 25 30

Leu Ser Trp Tyr Gln Val Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Thr Tyr Gly Ser Trp Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gly Gln Gly Val Leu Trp Pro Ala
85 90 95

Thr Phe Gly Gln Gly Thr Thr Val Glu Ile Lys Arg
100 105

<210> 608

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 608

gagggtgcagc tgttggagtc cgggggaggc ttggtacagc ctggggggtc cctgcgtctc	60
tcctgtgcag cctccggatt cacccttcgg gattatgaga tgggtgggt ccgccaggct	120
ccagggaagg gtctagagcg ggctcagct attaatccgc aggtacgcg tacatactac	180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat	240
ctgcaaatga acagcctgcg tgccgaggac accgcgggat attactgtgc gaaacttccg	300
ttttactttc aggagtgggg tcagggaacc ctggtcaccg tctcgagc	348

<210> 609

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 609

gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc	60
tcctgtgcag cctccggatt cacccttcgg gattatgaga tgggtgggt ccgccaggct	120
ccagggaagg gtctagagcg ggctcagct attaatccgc aggtacgcg tacatactac	180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat	240
ctgcaaatga acagcctgcg tgccgaggac accgcgggat attactgtgc gaaacttccg	300
ttttactttc acgagtgggg tcagggaacc ctggtcaccg tctcgagc	348

<210> 610

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 610

gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc	60
tcctgtgcag cctccggatt cacccttgag tggatgaga tgcagtgggt ccgccaggct	120
ccagggaagg gtctagagtg ggctcagcg atttctggg atggttatcg tacatactac	180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat	240
ctgcaaatga acagcctgcg tgccgaggac accgcgggat attactgtgc gaaagagctt	300
gggtatlltg actactgggg tcagggaacc ctggtcaccg tctcgagc	348

<210> 611

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 611
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt caccctttag gagggaggaga tgatttgggt ccgccaggct 120
 ccagggaagg gcttagagtg ggtctcagct attagtggta gtggtggttag cacatactac 180
 gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagccctgcg tgcggaggat accgcggat attactgtgc gaaagagccg 300
 ttctgttttg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 612
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 612
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt cacccttact gagtatgaga tgatttgggt ccgccaggct 120
 ccagggaagg gcttggagtg ggtctcatct atttcgggta atggtgciaa tacatactac 180
 gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagccctgcg tgcggaggac accgcggat attactgtgc gaaagagccg 300
 cttagggttg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 613
 <211> 369
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 613
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtacag cctccggatt caccctttaa atgtatgaga tgcgttgggt ccgccaggct 120
 ccagggaagg gcttagagtg ggtctcaggt attagtaggc gtggttttac tacatactac 180
 gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagccctgcg tgcggaggat accgcggat attactgtgc gaaagagccg 300
 attacgtatg ctatgaggta tgcgcgtttt gactactggg gtcagggaac cctggtcacc 360
 gtctcgagc 369

<210> 614
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 614
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt cacccttcgg gattatgaga tgtggtgggt ccgccaggct 120

ccaggggaagg gtctagagcg ggtctcagct attaatccgc agggtagcgg tacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcgaggat accgcggat attactgtgc gaaacttccg 300
tttatttttg actactgggg tcaggggaacc ctggtagcgc tctcgagc 348

<210> 615
<211> 357
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 615
gaggtgcagc tgttggagtc tgggggagggc ttggtacagc ctgggggggc cctgcgtctc 60
tccgtgtcag cctccggatt cacccttttcg acttatcata tgcagtgggt ccgccaggct 120
ccaggggaagg gttcggagtc gggtcattatg attgatgcgg atgggtcttg gacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcgaggac accgcggat attactgtgc gaaaccgggt 300
ccgcagtttg gtcagttaga ctactggggc caggggaacc ttggtaccgt ctcgagc 357

<210> 616
<211> 363
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 616
gaggtgcagc tgttggagtc tgggggagggc ttggtacagc ctgggggggc cctgcgtctc 60
tccgtgtcag cctccggatt cacccttttcg gggtatgata tgcagtgggt ccgccaggct 120
ccaggggaagg gttcggagtc gggtcattatg attgatgcgt cgggtgtttt tacatactac 180
gcagactccg tgaagggccg gttcaccacc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcgaggac accgcggat attactgtgc gaaatatcct 300
aatcgttttg cgcttaataa ttltgactac tggggtcagg gaaccctggc caccgtctcg 360
agc 363

<210> 617
<211> 324
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 617
gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
atcacttgcc gggcaaatag tcttattttg tggcggttag ctgtgtacca gcagaaacca 120
gggaaagccc ctaagctcct gatcgagagc tcttccggtt tgcaaatgg ggtcccatca 180
cglttcagtg gcagtggatc tgggacagat ttacacttca ccatcagcag tctgcaacct 240

gaagattttg ctacgtacta ctgtgttcag aatgcgggtt ggcttggtac gticggccaa 300
gggaccaagg tggaaatcaa acgg 324

<210> 618
<211> 324
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 618
gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
atcacitgcc gggcaagtca gacgatlgag cgtcgtttaa attggtatca gcagaaacca 120
gggaaagccc ctaagctcct gatctatctt gcttcccggt tgc aaagtgg ggtcccatca 180
cgtttcagtg gcagtggtac tggacagat ttactctca ccatcagcag tctgcaacct 240
gaagattttg ctacgtacta ctgtcatcag tatgcgagtc caccittgac gticggccaa 300
gggaccaaaag tggaaatcaa acgg 324

<210> 619
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 619
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt caccittgct gggtatgaga tgtgttgggt ccgccaggct 120
ccagggaagg gtctagagcg ggtctcagct attagtgga gtgttggtag cacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgacg attccaagaa cacgtgtat 240
ctgcaaatga acagcctgcg tgcgaggat accgcggtat attactgtgc gaaagatcct 300
tatagtittg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 620
<211> 360
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 620
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt caccittccg actgctgaga tgggttgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcatct atttcggcta gtgttgggtc tacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgtgtat 240
ctgcaaalga acagcctgcg tgcgaggac accgcggtat attactgtgc gaaagagccg 300
gtgagttaig tggcgacgtt tgactactgg ggtcaggga ccttggtcac cgtctcgagc 360

<210> 621
 <211> 324
 <212> DNA
 <213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 621
 gacatccaga tgacccagtc lccatccicc ctgtctgcal ctgtaggaga ccgtgtcacc 60
 atcacttgcc gggcaagtca ttttattggc actctgttat cttggtacca gcagaaacca 120
 gggaaagccc ctaagctcct gactacttat gggtccctgt tgcaaagtggt ggtcccatca 180
 cgtttcagtg gcagtggaic tgggacagat ttactctca ccatcagcag tctgcaacct 240
 gaagattitg ctactacta ctgttggtcag ggggtgctgt ggcttgcgac gticggccaa 300
 gggaccaagg tggaaatcaa acgg 324

<210> 622
 <211> 357
 <212> DNA
 <213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 622
 gaggtgcagc tgttggagtc tgggggaggt ttggtacagc ctggggggtc cctgcgtctc 60
 tccgtgcag cctccggatt caccitccg aagaatgaga tgacgtgggt ccgccaggct 120
 ccagggaagg gcttagagtg ggtctcagcg attgagtcgg atggtcaggc tacatactac 180
 gcagactccg tgaaggcccg gtaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagccttgc tgcaggagc accgcggtat attactgtgc gaaaaatcgg 300
 attcctgac tttgtttga ctactgggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 623
 <211> 357
 <212> DNA
 <213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 623
 gaggtgcagc tgttggagtc tgggggaggt ttggtacagc ctggggggtc cctgcgtctc 60
 tccgtgcag cctccggatt caccitgat gctggggtc tgacgtgggt ccgccaggct 120
 ccagggaagg gcttagagtg ggtctcatc attgataagg agggctctgc tacatactac 180
 gcagactccg tgaaggcccg gtaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagccttgc tgcaggagc accgcggtat attactgtgc gaaaggtagg 300
 attcctgggc tggttttga ctactgggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 624
 <211> 357
 <212> DNA
 <213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 624

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gaggtagcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc      60
tcctgtgcag cctccggatt cacccttggg gatgcggcga tgacttgggt ccgccaggct      120
ccagggaagg gtctagagtg ggctcagcg attcagccia tggglgatgg tacatactac      180
gcagactccg tgaaggggcg gttcaccgic tcccgcgaca attccaagaa cacgctgtat      240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gaaagggcgt      300
attcctactc ttcatgttga ctactggggg cagggaaccc tggtcaccgt ctcgagc      357
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<210> 625

<211> 357

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 625

```
gaggtagcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc      60
tcctgtgcag cctccggatt cacccttggg gattcgcta tgacttgggt ccgccaggct      120
ccagggaagg gtctagagtg ggctcagct attacttga atggttatga gacatactac      180
gcagactccg tgaaggggcg gttcaccatc tcccgcgaca attccaagaa cacgctgtat      240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gaaagggcgt      300
attcctactc ttcatgttga ctactggggg cagggaaccc tggtcaccgt ctcgagc      357
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<210> 626

<211> 357

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 626

```
gaggtagcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc      60
tcctgtgcag cctccggatt cacccttggg gagcatgata tgagtgggt ccgccaggct      120
ccagggaagg gtctagagtg ggctcagct attggtccgg atggttttca tacatactac      180
gcagactccg tgaaggggcg gttcaccatc tcccgcgaca attccaagaa cacgctgtat      240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gaaagggcgt      300
attcctactc ttcatgttga ctactggggg cagggaaccc tggtcaccgt ctcgagc      357
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<210> 627

<211> 357

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 627

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gaggtagcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc      60
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tcctgtgcag cctccggatt cacctttggt gagtatcata tgtcttgggt ccgccaggct 120
ccaggggaagg gtctagagtg ggtctcaagg attactcttc ttggtacgct tacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcgaggac accgcggtat attactgtgc gaaagggcgt 300
attccttcgc ttacgtttga ctactggggt caggggaaccc tggtcaccgt ctcgagc 357

<210> 628

<211> 357

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 628

gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttggt acgaatgcga tgagttgggt ccgccaggct 120
ccaggggaagg gtctagagtg ggtctcaagg atttcgccg gtggtgatt tacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcgaggat accgcggtgt attactgtgc gaaagggcgt 300
gttccggatc tgccttttga ctactggggt caggggaaccc tggtcaccgt ctcgagc 357

<210> 629

<211> 357

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 629

gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttccg tctgaggaga tgtcttgggt ccgccaggct 120
ccaggggaagg gtctagagtg ggtctcaagg atttcggctg atggtgctaa tacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcgaggac gccgcggtat attactgtgc gaaagggcgt 300
gttccggatc tgccttttga ctactggggt caggggaaccc tggtcaccgt ctcgagc 357

<210> 630

<211> 357

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 630

gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgct gaggatgata tgacttgggt ccgccaggct 120
ccaggggaagg gtctagagtg ggtctcacgt attgcggltg atggtgatcg gacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240

ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gaaaggtaag 300
gttccgtctc ttcatTTtga ctactggggT cagggaaccc tggTaccgt cTcgagc 357

<210> 631
<211> 357
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 631
gaggTgcagc TgtTggagTc Tgggggaggc Ttggtacagc ctgggggTc cctgcgtctc 60
Tcctgtgcag cctccggatt cacctttagg acgatggata TgtctTgggt ccgccaggct 120
ccagggaagg gTctagagTg ggtctcacgt attacgggtg atggTatgaa tacatactac 180
gcagactccg Tgaagggccg gTtaccatc Tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg Tgccgggac accgcggtat attactgtgc gaaaggggTg 300
actccggatt TgactttTga ctactggggT cagggaaccc TggTaccgt cTcgagc 357

<210> 632
<211> 357
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 632
gaggTgcagc TgtTggagTc Tgggggaggc Ttggtacagc ctgggggTc cctgcgtctc 60
Tcctgtgcag cctccggatt caccTttagg cgtgatgata Tgacgtgggt ccgccaggct 120
ccagggaagg gTctagagTg ggtctcacgt attaatgctg ggggtgtgca tacatactac 180
gcagactccg Tgaagggccg gTtaccatc Tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg Tgccgggat accgcggtat attactgtgc gaaaggggTg 300
actccggatt TgactttTga ctactggggT cagggaaccc TggTaccgt cTcgagc 357

<210> 633
<211> 357
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 633
gaggTgcagc TgtTggagTc Tgggggaggc Ttggtacagc ctgggggTc cctgcgtctc 60
Tcctgtgcag cctccggatt caccTttagt gatgattcta Tgacgtgggt ccgccaggct 120
ccagggaagg gTctagagTg ggtctcacgg atttcgagTg atggTgcgag tacatactac 180
gcagactccg Tgaagggccg gTtaccatc Tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg Tgccgaggac accgcggtat attactgtgc gaaaggggTg 300
actccggatt TgactttTga ctactggggT cagggaaccc TggTaccgt cTcgagc 357

<210> 634

<211> 357
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 634
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt cacccttact gaggaggata tgacgtgggt ccgccaggct 120
 ccagggaagg gcttagagtg ggcttcacgt attgatagtg ttggtagagg gacatactac 180
 gcagactccg tgaaggcccg gtccaccatc tcccgcgaca attccaagaa cagcgtgtat 240
 ctgcaaatga acagccctgc tgcgaggac accgcggtat attactgtgc gaaaggggtg 300
 actccggatt tgacititga ctactgggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 635
 <211> 357
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 635
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt cacccttctt gattcggcga tgagtgggt ccgccaggct 120
 ccagggaagg gcttagagtg ggcttcacgg attgataatc ctggtcagca tacatactac 180
 gcagactccg tgaaggcccg gtccaccatc tcccgcgaca attccaagaa cagcgtgtat 240
 ctgcaaatga acagccctgc tgcgaggat accgcggtat attactgtgc gaaagggtat 300
 gtccctacgc tggagtitga ctactgggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 636
 <211> 357
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 636
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt cacccttggg cagcatagta tgaattgggt ccgccaggct 120
 ccagggaagg gcttagagtg ggcttcacgt attgatgggt ggggttataa tacatactac 180
 gcagactccg tgaaggcccg gtccaccatc tcccgcgaca attccaagaa cagcgtgtat 240
 ctgcaaatga acagccctgc tgcgaggac accgcggtat attactgtgc gaaaggggag 300
 gtccctcgtc ttcatititga ctactgggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 637
 <211> 357
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸



<400> 637
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt caccitttggc caggagccta tgacttgggt ccgccaggct 120
 ccagggaagg gtctagagtg ggtctcacgc attgcgtata atggttggtga tacatactac 180
 gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cagcctgtat 240
 ctgcaaatga acagccttgcg tgcggaggac accgcggtat attactgtgc gaaagggtt 300
 actcctaatt tgacttttga ctactggggc cagggaaccc tggtcaccgt ctcgagc 357

<210> 638
 <211> 357
 <212> DNA
 <213> 人工序列
 <220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 638
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt caccitttggc aattatccga tgccttgggt ccgccaggct 120
 ccagggaagg gtctagagtg ggtctcacgt attaatgcta cgggttctat tacatactac 180
 gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cagcctgtat 240
 ctgcaaatga acagccttgcg tgcggaggac accgcggtat attactgtgc gaaagggtt 300
 attcctcatt tgatgttga ctactggggc cagggaaccc tggtcaccgt ctcgagc 357

<210> 639
 <211> 357
 <212> DNA
 <213> 人工序列
 <220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 639
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt caccitttgcg gattatgata tgagtgggt ccgccaggct 120
 ccagggaagg gtctagagtg ggtctcacgt attactggtg ctggtaatag tacatactac 180
 gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cagcctgtat 240
 ctgcaaatga acagccttgcg tgcggaggac accgcggtat attactgtgc gcaagggtg 300
 gtgccgtatc ttgcttttga ctactggggc cagggaaccc tggtcaccgt ctcgagc 357

<210> 640
 <211> 357
 <212> DNA
 <213> 人工序列
 <220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 640
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt caccitttggc gctgatgcga tgacttgggt ccgccaggct 120

ccaggggaagg gtcitagagtg ggtctcaagg attaatgttg atggtgacg gacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagccctgcg tgcgaggac accgcggtat attactgtgc gaaagggtact 300
gttcctacgc tggagtttga ctactggggc cagggaaacc tggtcaccgt ctcgagc 357

<210> 641

<211> 357

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 641
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tccgtgtcag cctccggatt cacccttcat cgggcggata tgacgtgggt ccgccaggct 120
ccaggggaagg gtcitagagtg ggtctcaagg atttcggggg agggtaagtg tacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagccctgcg tgcgaggac accgcggtat attactgtgc gaaagggtatg 300
gttcctaatt tggtttttga ctactggggc cagggaaacc tggtcaccgt ctcgagc 357

<210> 642

<211> 357

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 642
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tccgtgtcag cctccggatt cacccttcat tgggagccga tgccttgggt ccgccaggct 120
ccaggggaagg gtcitagagtg ggtctcacgt attaatctt ctggttggga tacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagccctgcg tgcgaggac accgcggtat attactgtgc gaaagggtatg 300
gttcctaatt tggtttttga ctactggggc cagggaaacc tggtcaccgt ctcgagc 357

<210> 643

<211> 357

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 643
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tccgtgtcag cctccggatt cacccttgcg gatgagccga tgacttgggt ccgccaggct 120
ccaggggaagg gtcitagagtg ggtctcacgt attcctctg agggctctcc gacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagccctgcg tgcgaggac accgcggtat attactgtgc gaaagggtat 300

actcctaatt tgacttttga ctactggggg caggggaaccc tggtcaccgt ctcgagc 357

<210> 644

<211> 357

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 644

gagggtgcagc tgttggagtc tgggggagggc ttggtacagc ctgggggggc cctgcgtctc 60

tcctgtgcag cctccggatt cacctttcat aatcatgata tgtcttgggt ccgccaggct 120

ccagggaagg gtctagagtg ggtctcacgt attagtcggg gttgtcttca gacatactac 180

gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240

ctgcaaatga acagcctgcg tggcgaggac accgcgggat attactgtgc gaaagggtat 300

gtgccggatc tgcattttga ctactggggg caggggaaccc tggtcaccgt ctcgagc 357

<210> 645

<211> 357

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 645

gagggtgcagc tgttggagtc tgggggagggc ttggtacagc ctgggggggc cctgcgtctc 60

tcctgtgcag cctccggatt cacctttaa gagtacccta tgtcgtgggt ccgccaggct 120

ccagggaagg gtctagagtg ggtctcacgt attaatgggg atggtgctaa tacatactac 180

gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240

ctgcaaatga acagcctgcg tggcgaggac accgcgggat attactgtgc gaaagggtat 300

attccggcta tgcagtttga ctactggggg caggggaaccc tggtcaccgt ctcgagc 357

<210> 646

<211> 357

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 646

gagggtgcagc tgttggagtc tgggggagggc ttggtacagc ctgggggggc cctgcgtctc 60

tcctgtgcag cctccggatt cacctttggg gatgtgccta tgtcgtgggt ccgccaggct 120

ccagggaagg gtctagagtg ggtctcaagg attgatacct atggttctaa tacatactac 180

gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240

ctgcaaatga acagcctgcg tggcgaggac accgcgggat attactgtgc gaaagggtat 300

atgcctagtc ttacttttga ctactggggg caggggaaccc tggtcaccgt ctcgagc 357

<210> 647

<211> 357

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 647

gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc	60
tcctgtgcag cctccggatt cacccttgcg gattatgata tgcttgggt ccgccaggct	120
ccagggaagg gtctagagtg ggtctcacgt atttcggcgc ttggtgclac tacatactac	180
gcagactccg tgaaggcccg gttcaccatc tcccgcgaca attccaagaa cacgcgtgat	240
ctgcaaatga acagcctgcg tgcggaggac accgcgggat attactgtgc gaaaggtag	300
cttccggcgt tggagttga ctactgggt cagggaaccc tggtcaccgt ctcgagc	357

<210> 648

<211> 357

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 648

gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc	60
tcctgtgcag cctccggatt cacccttaag cgltattata tgacttgggt ccgccaggct	120
ccagggaagg atctagagtg ggtctcaggt attgttcctt ctggtaatag gacatactac	180
gcagactccg tgaaggcccg gttcaccatc tcccgcgaca attccaagaa cacgcgtgat	240
ctgcaaatga acagcctgcg tgcggaggac accgcgggat attactgtgc gaaaggtagg	300
attccggatc tgcattitga ctactgggt cagggaaccc tggtcaccgt ctcgagc	357

<210> 649

<211> 366

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 649

gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc	60
tcctgtgcag cctccggatt cacccttgcg gallatgata tgacttgggt ccgccaggct	120
ccagggaagg gtctagagtg ggtctcaagg attctccga cgggtgggca gacatactac	180
gcagactccg tgaaggcccg gttcaccatc tcccgcgaca attccaagaa cacgcgtgat	240
ctgcaaatga acagcctgcg tgcggaggac accgcgggat attactgtgc gaaagggtt	300
attccgtatt tgccttttcc tccgtttgac tactggggtc aggggaaccc tggtcaccgt	360
tcgagc	366

<210> 650

<211> 366

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 650

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gagggtgcagc tgttggagtc tgggggagggc ttggtacagc ctgggggggc cctgcgtctc    60
tcctgtgcag cctccggatt caccitttct aagtattgga tgggttgggc ccgccaggct    120
ccagggaagg gcttagagtg ggtctcatcg attgattcgc atggtgctgg tacatactac    180
gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat    240
ctgcaaatga acagccctgcg tgcgaggac accgcggtat attactgtgc gaaagggtgct    300
cctaagtitta tgactacgta tacgtttgac tactgggggc aggggaaccct gggtaccgctc    360
tcgagc                                     366
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<210> 651

<211> 351

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 651

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gagggtgcagc tgttggagtc tgggggagggc ttggtacagc ctgggggggc cctgcgtctc    60
tcctgtgcag cctccggatt caccitttct tcttatccga tgcattgggt ccgccaggct    120
ccagggaagg gcttagagtg ggtctcatcg attgattcga ggggttcggt tacatactac    180
gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat    240
ctgcaaatga acagccctgcg tgcgaggac accgcggtat attactgtgc gaaagggtcat    300
agttggacgt ttgactactg gggtcaggga accctggtca ccgtctcgag c                351
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<210> 652

<211> 357

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 652

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gagggtgcagc tgttggagtc tgggggagggc ttggtacagc ctgggggggc cctgcgtctc    60
tcctgtgcag cctccggatt caccitttgc aatagtaata tgacttgggt ccgccaggct    120
ccagggaagg gcttagagtg ggtctcacgt attaatccgg atggtgggtc tacatactac    180
gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat    240
ctgcaaatga acagccctgcg tgcgaggac accgcggtat attactgtgc ggaagggcgt    300
attcctactc ttcatittga ctactggggt cagggaaccc tggtcaccgt ctcgagc        357
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<210> 653

<211> 357

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 653

gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt cacccttggg ccgaggagga tgggttgggt ccgccaggct 120
 ccagggaagg gtcctagagtg ggtctcatcg attgatgata ttggtcgtag gacatactac 180
 gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagccctgcg tgcgaggac accgcggtat attactgtgc ggaaggggcg 300
 cagggtgtgt tgttgttga ctactgggt cagggaacc ttggtaccgt ctcgagc 357

<210> 654
 <211> 351
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 654
 gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt cacccttggg gattatagga tgggttgggt ccgccaggct 120
 ccagggaagg gtcctagagtg ggtctcatcg atttctactt ctggtgagct gacatactac 180
 gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagccctgcg tgcgaggac accgcggtat attactgtgc ggaacggcg 300
 ggtcagtttt ttgactactg ggttcaggga accctgggtc ccgtctcgag c 351

<210> 655
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 655
 gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt cacccttccg gattatgaga tgggttgggt ccgccaggct 120
 ccagggaagg gtcctagagtg ggtctcagcg atttcgctg agggctcggc tacatactac 180
 gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acaaccctgcg tgcgaggat accgcggtat attactgtgc gaaagagcct 300
 gttcgttttg actactgggg tcagggaacc ctgggtaccg tctcgagc 348

<210> 656
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 656
 gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt caccctttcg acttatgaga tgccttgggt ccgccaggct 120
 ccagggaagg gtcctagagtg ggtctcatct atttctctt ctggttaatta tacatactac 180

gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcgaggac accgcggtat attactgtgc gaaagagccg 300
 ctgatgtttg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 657
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 657
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt caccctttagt actgaggaga tgagttgggt ccgccaggct 120
 ccagggaagg gtctagagtg ggtctcagcg attagtccta atggtgcttt tacattctac 180
 gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcgaggac accgcggtat attactgtgc gaaagagcc 300
 attctgtttg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 658
 <211> 351
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 658
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc ccigcgtctc 60
 tcctgtgcag cctccggatt caccctttagt cattatgata tgggttgggt ccgccaggct 120
 ccagggaggg gtctagagtg ggtctcaact attaatgggt ctgggtcgaa tacatactac 180
 gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcgaggac accgcggtat attactgtgc gaaagtgct 300
 agtcgtatct ttgactactg gggtcaggga accctgggtc ccgtctcgag c 351

<210> 659
 <211> 351
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 659
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt cacccttagg agttatgaga tggcgtgggt ccgccaggct 120
 ccagggaagg gtctagagtg ggtctcatct attagtlactc tgggtacgaa gacatactac 180
 gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcgaggac accgcggtat attactgtgc gcaatcttct 300
 acitcatatt ttgactactg gggtcaggga accctgggtc ccgtctcgag c 351

<210> 660
<211> 351
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 660
gagggtgcagc tgttggagtc tgggggagggc ttggtacagc ctgggggggc cctgcgtctc 60
tccctgtcag cctccggatt caccctttatt aggtatgaga tggcttgggt ccgccaggct 120
ccagggaagg gtcctagagt ggtctcaagt atttcgtcgt ctggttggac gacatactac 180
gcagactccg tgaaggggccg gttcaccaic tcccgcgaca attccaagaa cacgctglat 240
ctgcaaaalga acagccctgcg tgcggaggat accgcgglat attactgtgc gaaaagtgat 300
gctcataatit ttgactactg gggtcaggga accctggica ccgtctcgag c 351

<210> 661
<211> 351
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 661
gagggtgcagc tgttggagtc tgggggagggc ttggtacagc ctgggggggc cctgcgtctc 60
tccctgtcag cctccggatt caccctttat gcttatgaga tggcttgggt ccgccaggct 120
ccagggaagg gtcctagagt ggtctcaict atttcggatg atggtacgcg gacatactac 180
gcagactccg tgaaggggccg gttcaccaic tcccgcgaca attccaagaa cacgctglat 240
ctgcaaatga acagccctgcg tgcggaggac accgcgglat attactgtgc gaaagatcig 300
gggcaggggt ttgactactg gggtcaggga accctggica ccgtctcgag c 351

<210> 662
<211> 357
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 662
gagggtgcagc tgttggagtc tgggggagggc ttggtacagc ctgggggggc cctgcgtctc 60
tccctgtcag cctccggatt caccctttgct gatcatggga tgacgtgggt ccgccaggct 120
ccagggaagg gtcctagagt ggtctcaggg attggtccgt ctggtgaggc gacatactac 180
gcagactccg tgaaggggccg gttcaccaic tcccgcgaca attccaagaa cacgctglat 240
ctgcaaaalga acagccctgcg tgcggaggac accgcgglat attactgtgc gaaagatcgt 300
attcctaatic ttgtgttllga ctactgggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 663
<211> 348
<212> DNA
<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 663

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gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc      60
tccgtgtcag cctccggatt cacctttgag tctcaggata tgtcttgggt ccgccaggct      120
ccagggaagg gcttagagtg ggtctcaggt attagtccga atggttggga tacatactac      180
gcagactccg tgaaggcccg gtaccatc tcccgcgaca attccaagaa cacgctgtat      240
ctgcaaatga acagccttgc tgcggaggat accgcggtat attactgtgc gaaagatagg      300
tctgattttg actactgggg tcagggaacc ctggtcaccg tctcgagc      348

```

<210> 664

<211> 351

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 664

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gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc      60
tccgtgtcag cctccggatt caccittggg gattatgata tgtggtgggt ccgccaggct      120
ccagggaagg gcttagagtg ggtctcaagg attcgtcatc cgggtgggtg tacatactac      180
gcagactccg tgaaggcccg gtaccatc tcccgcgaca attccaagaa cacgctgtat      240
ctgcaaatga acagccttgc tgcggaggac accgcggtat attactgtgc gaaagctgtt      300
ccaaaggggt ttgactactg gggtcaggga accctgggca ccgtctcgag c      351

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<210> 665

<211> 357

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 665

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gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc      60
tccgtgtcag cctccggatt caccittcgg gtttatigga tgacttgggt ccgccaggct      120
ccagggaagg gcttagagtg ggtctcatct attgatccgc aggggtgggt gacatactac      180
gcagactccg tgaaggcccg gtaccatc tctcgcgaca attccaagaa cacgcigtat      240
ctgcaaatga acagccttgc tgcggaggat accgcggtat attactgtgc gaaagcgcgt      300
attcctaalt tggagtttga ctactggggt cagggaaccc tggtcaccgt ctcgagc      357

```

<210> 666

<211> 357

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 666

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gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggagtc cctgcgtctc      60

```

tcctgtgcag cctccggatt cacctttagt gcttatgata tgacgtgggt ccgccaggct 120
ccagggaagg gtcttgagtg ggtctcacgt attaatccga cgggttctta tacatactac 180
gcagactccg tgaagggccg gttcaccaic tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagccctgcg tgccgaggat accgcggtat attactgtgc gaaagctaag 300
attccgaatt tggtttttga clactgggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 667
<211> 363
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 667
gaggtgcagc tgttgagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgcg gatagtgaga tgatgtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcaggt attgcgcata atggtgggca tacatactac 180
gcagactccg tgaagggccg gttcaccaic tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagccctgcg tgccgaggac accgcggtat attactgtgc gaaagctggc 300
catcttcagc agactgaggc ttltgactac tggggtcagg gaaccctggc caccgtctcg 360
agc 363

<210> 668
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 668
gagatgcagc tgttgagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgct acttatgata tgatgtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcaaaag attcttccga atggttggag tacatactac 180
gcagactccg tgaagggccg gttcaccaic tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagccctgcg tgccgaggac accgcggtat attactgtgc gaaatatcag 300
acgcattttg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 669
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 669
gaggtgcagc tgttgagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttagt gtttatgata tgaggltgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcaacg atttcttctt cgggtacgta tacatactac 180

gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcgaggac accgcggtat attactgtgc gaaalatcct 300
 aagaattttg actactgggg tcaggggaacc ctgggtaccg tctcgagc 348

<210> 670
 <211> 351
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 670
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt caccttttct catgaggata tgacttgggt ccgccaggct 120
 ccagggaagg gtcctagagtg ggctcaagt attagtccga atgggttggga tacatactac 180
 gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcgaggac accgcggtat attactgtgc gaaacgtact 300
 aggagtaagt ttgactactg gggtcaggga accctgggtca ccgtctcgag c 351

<210> 671
 <211> 360
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 671
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt cacctttgag aagtatatta tgggttgggc ccgccaggct 120
 ccagggaagg gtcctagagtg ggctcaacg attgattatt ggggtcagca tacatactac 180
 gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcgaggac accgcggtat attactgtgc gaaacgtagt 300
 catcttattc ctctgcagtt tgactactgg ggtcaggga ccctgggtcac cgtctcgagc 360

<210> 672
 <211> 369
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 672
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt caccttttct gattatgcga tgggttgggt ccgccaggct 120
 ccagggaagg gtcctagagtg ggtctcaacg atttcgtatg tgggttatta tacatactac 180
 gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcgaggac accgcggtat attactgtgc gaaaaaggct 300
 ctgcgggggg aggcgtttac ggagcgtttt gactactggg gtcagggaac cctgggtcacc 360

gtctcgagc

369

<210> 673
 <211> 369
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 673
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tccctgtcag cctccggatt caccttttgt ccgtataiga tgcattgggt ccgccaggct 120
 ccagggaagg gcttagagtg ggtctcaacg attgaggta atggtaatag gacatactac 180
 gcagactccg tgaaggcccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagccttgcg tgcggaggac accgcggtat attactgtgc gaaatgggtt 300
 ggttcgaaga cgtcgtcgga taagagtttt gactactggg gtcagggaac cctggtcacc 360
 gtctcgagc 369

<210> 674
 <211> 360
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 674
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tccctgtcag cctccggatt caccttttgt acgacggaga tggcttgggt ccgccaggct 120
 ccagggaagg gcttagagtg ggtctcaagt attggtagt ctgggtgttg gacatactac 180
 gcagactccg tgaaggcccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagccttgcg tgcggaggat accgcggtat attactgtgc gaaaatttgt 300
 gggcatcctc agggtcagtt tgactactgg ggtcagggaa ccttgggtac cgtctcgagc 360

<210> 675
 <211> 357
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 675
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgcctc 60
 tccctgtcag cctccggatt cacctttcct agggagtgga tggcttgggt ccgccaggct 120
 ccagggaagg gcttagagtg ggtctcaagt attcagccia tgggtcagac tacatactac 180
 gcagactccg tgaaggcccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagccttgcg tgcggaggat accgcggtat attactgtgc gaaataattt 300
 cggaataagg ggllttttga ctactggggg cagggaaccc tggtcaccgt ctcgagc 357

<210> 676
 <211> 357
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 676
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt caccctttacg agtgagtata tgggttgggt ccgccaggct 120
 ccagggaagg gtctagagtg ggtctcatct attcagaggt atggtagtac gacatactac 180
 gcagactccg tgaagggccg gtccaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagccctgcg tgcgaggat accgcgggat attactgtgc gaaacatgag 300
 tctaattggg agacttttga ctactgggt cagggaaccc tggcacccgt ctcgagc 357

<210> 677
 <211> 369
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 677
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt caccctttcg gtgtatagta tgcagtgggt ccgccaggct 120
 ccagggaagg gtctagagtg ggtctcagcg attactccta atggtactcg gacatactac 180
 gcagactccg tgaagggccg gtccaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagccctgcg tgcgaggac accgcgggat attactgtgc gaaaactctt 300
 ggtcggggtt ctatccctgg tgttgatttt gactactggg gtcagggaac cctggtcacc 360
 gtctcgagc 369

<210> 678
 <211> 357
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 678
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt cacccttccg agttatgcta tgacgtgggt ccgccaggct 120
 ccagggaagg gtctggagtg gggtcacgt attacggcgg atggtactgt tacatactac 180
 gcagactccg tgaagggccg gtccaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagccctgcg tgcgaggac accgcgggat attactgtgc gaaaggttct 300
 attccgatgc ttacgtttga ctactgggt cagggaaccc tggcacccgt ctcgagc 357

<210> 679
 <211> 360
 <212> DNA
 <213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 679

gagggtgcagc tgttggagtc tgggggagggc ttggtacagc ctgggggggc cctgcgtctc	60
tccigtgcag cctccggatt caccctttcg acttatgaia tgatttgggt ccgccaggct	120
ccagggaagg gtctagagtg ggtctcagct atttctccta atggtactgg tatatactac	180
gcagactccg tgaaggggccg gtccaccatc tcccgcgaca attccaagaa cacgctgtat	240
ctgcaaatga acagccctgcg tgccgaggac accgcggtat attactgtgc gaaaaatcag	300
agtgttcatc atgctgtttt tgactactgg ggtcaggga ccttgggtcac cgtctcgagc	360

<210> 680

<211> 357

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 680

gagggtgcagc tgttggagtc tgggggagggc ttggtacagc ctgggggggc cctgcgtctc	60
tccigtgcag cctccggatt cacccttgag aattatgaga tgacgtgggt ccgccaggct	120
ccagggaagg gtctagagtg ggtctcacgt attgcgccgc atggtcggct tacatactac	180
gcagactccg tgaaggggccg gtccaccatc tcccgcgaca attccaagaa cacgctgtat	240
ctgcaaatga acagccctgcg tgccgaggat accgcggtat attactgtgc gaaaggctcag	300
attccgatgc ttgatttga ctactgggggt cagggaaccc tggtcaccgt ctcgagc	357

<210> 681

<211> 363

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 681

gagggtgcagc tgttggagtc tgggggagggc ttggtacagc ctgggggggc cctgcgtctc	60
tccigtgcag cctccggatt caccctttcg cattatatga tgatgtgggt ccgccaggct	120
ccagggaagg gtctagagtg ggtctcaacg atttctcatt ttggtgatal tacatactac	180
gcagactccg tgaaggggccg gtccaccatc tcccgcgaca attccaagaa cacgctgtat	240
ctgcaaatga acagccctgcg tgccgaggat accgcggtat attactgtgc gaaaaatgat	300
atggtgatga agaattggggg glltgactac tggggtcagg gaacccctggc caccgtctcg	360
agc	363

<210> 682

<211> 357

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 682
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt caccctttag aggtatgata tgagtgggt ccgccaggct 120
 ccagggaagg gtctagagtg ggtctcacgt attgattcgc ggggttggtc tacatactac 180
 gcagactccg tgaagggccg gtccaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagccttgcg tggcgaggac accgcggtat attactgtgc gaaagggttg 300
 gtgccgcacg tgagggttga ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 683
 <211> 351
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 683
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt caccctttag aatgcgcaga tgacttgggt ccgccaggct 120
 ccagggaagg gtctagagtg ggtctcaagg attgatgcta tgggtgatgc tacatactac 180
 gcagactccg tgaagggccg gtccaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagccttgcg tggcgaggac accgcggtat attactgtgc gaaaggtaag 300
 gttccgagta ttgactactg gggtcaggga accctggtca ccgtctcgag c 351

<210> 684
 <211> 351
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 684
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt caccctttag aatgcgcaga tgacttgggt ccgccaggct 120
 ccagggaagg gtctagagtg ggtctcaagg attgatgcta tgggtgatgc tacatactac 180
 gcagactccg tgaagggccg gtccaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagccttgcg tggcgaggat accgcggtat attactgtgc gaaagggtt 300
 attccggcgt ttgactactg gggtcaggga accctggtca ccgtctcgag c 351

<210> 685
 <211> 354
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 685
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt caccctttag aatgatcgga tgcatlgggt ccgccaggct 120

ccaggggaagg gcttagagtg ggtctcatcg atttcigtcta ctgggtgggtga tacatactac 180
gcagactccg tgaagggccg gticaccatc tcccgcgaca attccaagaa cacgcigtat 240
ctgcaaatga acagcctgcg tgcggaggac accgcgggat attactgtgc gaaacagacg 300
ggtagcaatc gttttagacta ctgggggtcag ggaaccctgg tcaccgtctc gagc 354

<210> 686
<211> 357
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 686
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tccigtgcag cctccgatt cacccttaat cagccttata tgtcgtgggt ccgccaggct 120
ccaggggaagg gtttggagtg ggtctcatct attgatgcct cgggtgggtac tacatactac 180
gcagactccg tgaagggccg gticaccatc tcccgcgaca attccaagaa cacgcigtat 240
ctgcaaatga acagcctgcg tgcggaggac gccgcgggat attactgtgc gaaagatcgt 300
attcctaate ttgtgttga ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 687
<211> 357
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 687
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tccigtgcag cctccgatt cacccttgat aatgagaata tgacttgggt ccgccaggct 120
ccaggggaagg gcttagagtg ggtctcacgt attgatggtg ggggttataa tacatactac 180
gcagactccg tgaagggccg gticaccatc tcccgcgaca attccaagaa cacgcigtat 240
ctgcaaatga acagcctgcg tgcggaggac accgcgggat attactgtgc gaaagggcag 300
gttcctgagc tgcgtttga ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 688
<211> 357
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 688
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tccigtgcag cctccgatt cacccttggt tcttgaata tgacttgggt ccgccaggct 120
ccaggggaagg gcttagagtg ggtctcagct attagtggtg gtgtgggtg cacatactat 180
gcagactccg tgaagggccg gticaccatc tcccgcgaca attccaagaa cacgcigtat 240
ctgcaaatga acagcctgcg tgcggaggac accgcgggat attactgtgc gaaaggtcgg 300

attccctacgt tgggtgttga ctactgggggt caggggaaccc tgggtaccgt ctcgagc 357

<210> 689
<211> 357
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 689
gaggatgcagc tgggtggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tctgtgcag cctccggatt caccitigt tgcgtgaata tgacttgggt ccgccaggct 120
ccaggggaagg gtctagagtg ggtctcagct attagtggta gtggltggtag cacatactat 180
gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcggaggac accgcgggtat attactgtgc gaaagatcgt 300
attcctaatic ttgtgttga ctactgggggt caggggaaccc tgggtaccgt ctcgagc 357

<210> 690
<211> 357
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 690
gaggatgcagc tgggtggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tctgtgcag cctccggatt caccititct gatgattcga tgagttgggt ccgccaggct 120
ccaggggaagg gtctagagtg ggtctcacgt attaatgatg ctggtagttc tacatactac 180
gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcggaggac accgcgggtat attactgtgc gaaagggtact 300
attcctcttc tggagtgtga ctactgggggt caggggaaccc tgggtaccgt ctcgagc 357

<210> 691
<211> 357
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 691
gagatgcagc tgggtggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tctgtgcag cctccggatt caccitigt tgcgatacta tgagttgggt ccgccaggct 120
ccaggggaagg gtctagagtg ggtctcacgt attgatggga ctggtggtag tacatactac 180
gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcgggggac accgcgggtat attactgtgc gaaagggttt 300
attcctgac ttcagtgtga ctactgggggt caggggaaccc tgggtaccgt ctcgagc 357

<210> 692
<211> 357
<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 692

gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc	60
tcctgtgcag cctccggatt cacccttcat gaggaggaga tgacgtgggt ccgccaggct	120
ccagggaagg gtctagagtg ggtctcacgt attatitgtg gtggtaiga gacatactac	180
gcagactccg tgaaggccg gttcacatc tcccgcgaca attccaagaa cacgctgtat	240
ctgcaaatga acagccttgc tgcggaggac accgcggtat attactgtgc gaaaggtaact	300
attcctcttc tggagtltga ctactgggt cagggaaccc tggtcaccgt ctcgagc	357

<210> 693

<211> 357

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 693

gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc	60
tcctgtgcag cctccggatt cacccttcat aatgagaata tgacttgggt ccgccaggct	120
ccagggaagg atctagagtg ggtctcacgg attactgaga ggggtgatgt gacatactac	180
gcagactccg tgaaggccg gttcacatc tcccgcgaca attccaagaa cacgctgtat	240
ctgcaaatga acagccttgc tgcggaggac accgcggtat attactgtgc gaaaggtaact	300
gttcctacgc tggagtltga ctactgggt cagggaaccc tggtcaccgt ctcgagc	357

<210> 694

<211> 357

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 694

gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc	60
tcctgtgcag cctccggatt cacccttcat gaggaggaga tgacgtgggt ccgccaggct	120
ccagggaagg gtctagagtg ggtctcacgt attatitgtg gtggtaiga gacatactac	180
gcagactccg tgaaggccg gttcacatc tcccgcgaca attccaagaa cacgctgtat	240
ctgcaaatga acagccttgc tgcggaggac accgcggtat attactgtgc gaaaggtaact	300
gttcctacgc tggagtltga ctactgggt cagggaaccc tggtcaccgt ctcgagc	357

<210> 695

<211> 357

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 695
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacccttcat gagacggaga tgacgtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcagct attaatcggc tgggtcagga tacatactac 180
gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagccctgcg tggcgaggac accgcgggat attactgtgc gaaaggtagg 300
attcttgggc tggtttttga ctactgggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 696
<211> 357
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 696
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacccttctc gatgattcga tgagttgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcagct attaatgatg ctggtagtgc tacatactac 180
gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagccctgcg tggcgaggac accgcgggat attactgtgc gaaaggtagt 300
gttcttaccg tggagtttga ctactgggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 697
<211> 357
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 697
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacccttcat aatgagaata tgacttgggt ccgccaggct 120
ccagggaagg atctagagtg ggtctcagcg attactgaga ggggtgatgt gacatactac 180
gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagccctgcg tggcgaggac accgcgggat attactgtgc gaaaggtagg 300
attcttaccg tgggtgtttga ctactgggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 698
<211> 357
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 698
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacccttctc gatgattcga tgagttgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcagct attaatgatg ctggtagtgc tacatactac 180

gcagaciccg tgaaggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagccctgcg tgcgaggac accgcggtat attactgtgc gaaagggtat 300
attcctaatt tgacttttga ctactgggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 699
<211> 357
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 699
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacccttgcg gatgagccga tgacttgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacgt attcctcctg aggggtgctcc gacatactac 180
gcagaciccg tgaaggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagccctgcg tgcgaggac accgcggtat attactgtgc gaaagggtat 300
attcctgacg ttacgttga ctactgggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 700
<211> 357
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 700
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacccttcag gatagtata tgacgtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacgt attgctgcgc ctgggtggag tacatactac 180
gcagaciccg tgaaggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagccctgcg tgcgaggac accgcggtat attactgtgc gaaagatcgt 300
attcctaatt ttagggttga ctactgggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 701
<211> 357
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 701
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacccttgtt tggatacta tgagtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacgt attgatggga ctgggtgga tacatactac 180
gcagaciccg tgaaggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagccctgcg tgcgaggac accgcggtat attactgtgc gaaagggtcag 300
gttcttgagc tgcgttga ctactgggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 702
 <211> 357
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 702
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt caccittcag gatagtata tgacgtgggt ccgccaggct 120
 ccagggaagg gtctagagtg ggtctcagct attgctgcgc ctggtggtag tacatactac 180
 gcagactccg tgaagggccg gttcaccaic tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaaatga acagcctgcg tgcggaggat accgcggtat attactgtgc gaaagatcgt 300
 attcctaatic ttgtgttga ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 703
 <211> 357
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 703
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag ccgccggatt caccittgat ctggcggaga tgacttgggt ccgccaggct 120
 ccagggaagg gtctagagtg ggtctcacgt attgatgagg atggtgcttc tacatactac 180
 gcagactccg tgaagggccg gttcaccaic tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaaatga acagcctgcg tgcggaggac gccgcggtat attactgtgc ggaagggtgt 300
 attccgtctc tgacttttga ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 704
 <211> 357
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 704
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt caccittact gataagcata tgagtgggt ccgccaggct 120
 ccagggaagg gtctagagtg ggtctcacgg atttcgctg atggtacgta tacatactac 180
 gcagactccg tgaagggccg gttcaccaic tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcggaggac gccgcggtat attactgtgc ggaagggtgt 300
 attccgtctc tgacttttga ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 705
 <211> 357
 <212> DNA
 <213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 705

gagggtgcagc tgttggagtc tgggggagggc ttggtacagc ctggggggtc cctgcgtctc	60
tcctgtgcag cctccggatt cacctttgcl gaggaigata tgacttgggt ccgccaggct	120
ccagggaagg gtcctagagtg ggtctcacgt attgcggttg atggtgatcg gacatactac	180
gcagactccg tgaaggggccg gttcaccaic tcccgcgaca attccaagaa cacgctgtat	240
ctgcaaatga acagccttgcg taccgaggac accgcgggat attactgtgc gaaagggaag	300
acgccgcatic ttgtgtttga ctactggggc cagggaaccc tggtcaccgt ctcgagc	357

<210> 706

<211> 357

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 706

gagggtgcagc tgttggagtc tgggggagggc ttggtacagc ctggggggtc cctgcgtctc	60
tcctgtgcag ccgccggatt cacctttgat ctggcgagga tgacttgggt ccgccaggct	120
ccagggaagg gtcctagagtg ggtctcacgt attgatgagg atggctcttc tacatactac	180
gcagactccg tgaaggggccg gttcaccaic tcccgcgaca attccaagaa cacgctgtat	240
ctgcaaatga acagccttgcg tgccgaggac accgcgggat attactgtgc gaaagggtcag	300
gttctgtcct tggtttttga ctactggggc cagggaaccc tggtcaccgt ctcgagc	357

<210> 707

<211> 357

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 707

gagggtgcagc tgttggagtc tgggggagggc ttggtacagc ctggggggtc cctgcgtctc	60
tcctgtgcag cctccggatt caccittgag gattcgaiga tgtcgtgggt ccgccaggcg	120
ccagggaagg gtcctagagtg ggtctcacgg attgatcctg ggggtgctca gacatactac	180
gcagactccg tgaaggggccg gttcaccaic tcccgcgaca attccaagaa cacgctgtat	240
ctgcaaatga acagccttgcg tgccgaggac accgcgggat attactgtgc gaaagggtg	300
actccggatt tgacttttga ctactggggc cagggaaccc tggtcaccgt ctcgagc	357

<210> 708

<211> 357

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 708

gaggtagcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt caccittgag catgcggata tgagtgggt ccgccaggct 120
 tcagggaagg gtcctagagt gggtcacgt attgataata gtggtcagtc tacatactac 180
 gcagactccg tgaaggggccg gttcacatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tggcgaggac accgcggtat attactgtgc gaaaggggtg 300
 actccggatt tgacgtttga ctactggggc cagggaaccc tggtcaccgt ctcgagc 357

<210> 709
 <211> 357
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 709
 gaggtagcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt caccittagt gaggcggaga tgaattgggt ccgccaggct 120
 ccagggaagg gtcctagagt gggtcacgt attacgacgg atggtgattc tacatactac 180
 gcagactccg tgaaggggccg gttcacatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tggcgaggac accgcggtat attactgtgc gaaagggcgt 300
 attcctactc ttcatittga ctactggggc cagggaaccc tggtcaccgt ctcgagc 357

<210> 710
 <211> 357
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 710
 gaggtagcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctcaggatt caccittgat gatagigata tgacttgggt ccgccaggct 120
 ccagggaagg gtcctagagt gggtcctatc attcgggggt atgatgatga gacatactac 180
 gcagactccg tgaaggggccg gttcacatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tggcgaggac accgcggtat attactgtgc gaaaaatcgg 300
 attcctgac ttgtgtttga ctactggggc cagggaaccc tggtcaccgt ctcgagc 357

<210> 711
 <211> 363
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 711
 gaggtagcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt caccittaat gtggcggata tgcatgggt ccgccaggct 120
 ccagggaagg gtcctagagt gggtcctaat attagtccga atggttggga tacatactac 180

gcagactccg tgaaggccg gttcaccaatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagccctgcg tgcgaggac accgcggtat attactgtgc gaaacatgct 300
 tctacggagg ggccgactgc ttttgactac tggggtcagg gaacctggc caccgtctcg 360
 agc 363

<210> 712
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 712
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tccgtgcag cctccggatt cacccttggg ccgtatgata tggggtgggt ccgccaggct 120
 ccagggaagg gtctggagtg ggtctcatgg atttctgtc atgggtcgtt tacatactac 180
 gcagactccg tgaaggccg gttcaccaatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagccctgcg tgcgaggac accgcggtat attactgtgc gaaatggcct 300
 tataagttg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 713
 <211> 357
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 713
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tccgtgcag cctccggatt cacccttggg agtgggtcta tgagttgggt ccgccaggct 120
 ccagggaagg gtctagagtg ggtctcacgg attggtagta atggtgcgga tacatactac 180
 gcagactccg tgaaggccg gttcaccaatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagccctgcg tgcgaggac accgcggtat attactgtgc gaaaggatg 300
 gttcctaatt tggttttga ctactgggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 714
 <211> 357
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 714
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tccgtgcag cctccggatt caccctttaa cgtttggata tgacgtgggt ccgccaggct 120
 ccagggaagg gtctagagtg ggtctcagct attagtggta gtggtggtag cacatactac 180
 gcagactccg tgaaggccg gttcaccaatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagccctgcg tgcgaggac accgcggtat attactgtgc gaaagatcgt 300

attcclaattc ttgtgtttga ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 715
<211> 357
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 715
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacccttggg gagagtgata tgaagtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcaagt attagtcga atggttggga tacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcggaggac accgcggtat attactgtgc gaaatctcct 300
tcttctcgtc ttaagtttga ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 716
<211> 357
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 716
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacccttgat agtagtgaga tgagttgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcatcg attgagaatc aggttgggtc gacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcggaggat accgcggtat attactgtgc gaaagatcgt 300
attcclaattc ttgtgtttga ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 717
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 717
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacccttcat gcgtatccta tgtattgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcatgg attgcttcgg gtggtgggtc gacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcggaggac accgcggtat attactgtgc gaaacgtacg 300
aagaattttg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 718
<211> 360
<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 718

gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc	60
tccigtgcag cctccggatt caccittatg agttattcta tggcttgggt ccgccaggct	120
ccagggaagg gtctagagtg ggtctcaggg attacttcta atgglaatcg gacatactac	180
gcagactccg tgaaggggccg gttcaccaic tcccgcgaca attccaagaa cacgctgtat	240
ctgcaaatga acagccttgcg tggcgaggat accgcggtat attactgtgc gaaatcgact	300
ggggcttaata gtaggaattt tgactacttg ggtcagggaa ccctgggtcac cgtctcgagc	360

<210> 719

<211> 363

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 719

gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc	60
tccigtgcag cctccggatt caccittgag gggtatctga tgtcgtgggt ccgccaggct	120
ccagggaagg gtctagagtg ggtctcaagt attgcggcta atggtaigca gacatactac	180
gcagactccg tgaaggggccg gttcaccaic lcccgcgaca attccaagaa cacgctgtat	240
ctgcaaatga acagccttgcg tggcgaggac accgcggtat attactgtgc gaaaaagccg	300
aggggtattt gggaatggga tttgacttac tggggtcagg gaaccctggt caccgtctcg	360
agc	363

<210> 720

<211> 357

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 720

gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc	60
tccigtgcag cctccggatt caccittcat gagtctacga tgacgtgggt ccgccaggct	120
ccagggaagg gtctagagtg ggtctcaact attcggcacc cgggtgagtt tacatactac	180
gcagactccg tgaaggggccg gttcaccaic tcccgcgaca attccaagaa cacgctgtat	240
ctgcaaatga acagccttgcg tggcggggac accgcggtat attactgtgc gaaagggttt	300
attcctgaic ttcagtttga ctactggggt cagggaaccc tggtcaccgt ctcgagc	357

<210> 721

<211> 363

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 721
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt cacctttgcg atgtatagta tgagttgggt ccgccaggct 120
 ccagggaagg gtcctagagt ggtctcatcg attgcgccgc cgggtggtag gacatactac 180
 gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagccttgcg tgcggaggat accgcggtat attactgtgc gaaacagtcg 300
 ctgacggggi atagtaggic ttttgactac tggggtcagg gaacctgtgt caccgtctcg 360
 agc 363

<210> 722
 <211> 360
 <212> DNA
 <213> 人工序列
 <220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 722
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt caccttttcg cagaatccga tgcgtgggt ccgccacgct 120
 ccagggaagg gtcctagagt ggtctcaacg attcctgcga atggctgtcc tacaacctac 180
 gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagccttgcg tgcggaggat accgcggtat attactgtgc gaaatagat 300
 cagcagccgg gtcgtcgggt tgactactgg ggtcagggaa ccttgggtac cgtctcgagc 360

<210> 723
 <211> 357
 <212> DNA
 <213> 人工序列
 <220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 723
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt cacctttgct aattatcata tgacgtgggt ccgccaggct 120
 ccagggaagg gtcctagagt ggtctcatcg attcctgata tgggtaagca gacatactac 180
 gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctacaaatga acagccttgcg tgcggaggac accgcggtat attactgtgc gaaaggtagg 300
 attcgtctc tttttttga ctactgggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 724
 <211> 360
 <212> DNA
 <213> 人工序列
 <220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 724
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60

tcctgtgcag cctccggatt cacctttgcg cagtatcala tgcgtlgggt ccgccaggct 120
ccaggggaagg gtcctagagtg ggtctcaacg attaatgata ttggtagtaa tacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaaiga acagcctgcg tgcggaggac accgcggtat attactgtgc gaaagtggg 300
gggcggggga gtttttcttt tgactactgg ggtcagggaa ccctgggtcac cgtctcgagc 360

<210> 725
<211> 360
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 725
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt caccttttct tcgtatgata tgaagtgggt ccgccaggct 120
ccaggggaagg gtcctagagtg ggtctcaacg attagtgcgt ctgggtggtt tacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaaiga acagcctgcg tgcggaggac accgcggtat attactgtgc gaaacgggag 300
catgcgggtc agccgccctt tgactactgg ggtcagggaa ccctgggtcac cgtctcgagc 360

<210> 726
<211> 360
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 726
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttaat ggttatgcta tgagttgggt ccgccaggct 120
ccaggggaagg gtcctagagtg ggtctcaact attaatgcta atggtaagta tacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcggaggac accgcggtat attactgtgc gaaaaagttg 300
actcttgcct ctaattattt tgactactgg ggtcagggaa ccctgggtcac cgtctcgagc 360

<210> 727
<211> 363
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 727
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttatg gattatgata tgaagtgggt ccgccaggct 120
ccaggggaagg gtcctagagtg ggtctcaagt attactgcgc ttggttaagaa gacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240

ctgcaaatga acagccctgcg tgccgaggac accgcggtat attactgtgc gaaagatagt 300
 gtttaaglatc ctttaatacti ttttgactac tgggggtcagg gaaccctggc caccgtctcg 360
 agc 363

<210> 728
 <211> 360
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 728
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggggc cctgcgtctc 60
 tcctgtgcag cctccggatt cacccttccg catlatacga tggcgtgggt ccgccaggct 120
 ccagggaagg gtcctggagtg ggtctcatct attcagtcgc ctgggtggcg gacatactac 180
 gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagccctgcg tgccgaggat accgcggtat attactgtgc gaaataagg 300
 gatggtcttc ctttacttct tgactactgg ggtcaggga cccctggtcac cgtctcgagc 360

<210> 729
 <211> 357
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 729
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggggc cctgcgtctc 60
 tcctgtgcag cctccggatt cacccttagt ggtacgccga tgtcttgggt ccgccaggct 120
 ccagggaagg gtcctagagtg ggtctcacgt attggggatg agggtcagga gacatactac 180
 gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagccctgcg tgccgaggac accgcggtat attactgtgc gaaagggtg 300
 actccggatt tgacttttga ctactgggtt cagggaaccc tggtcaccgt ctcgagc 357

<210> 730
 <211> 357
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 730
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggggc cctgcgtctc 60
 tcctgtgcag cctccggatt cacccttagt agtagttcga tgtcttgggt ccgccaggct 120
 ccagggaagg gtcctagagtg ggtctcagcg attgggtctg atggtcagag tacatactac 180
 gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagccctgcg tgccgaggac accgcggtat attactgtgc gaaagggtg 300
 attcctactc ttcattttga ctactgggtt cagggaaccc tggtcaccgt ctcgagc 357

<210> 731
 <211> 357
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 731
 gaggtgcagc tgttggagtc tgggggaggc ttggtaacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt cacccttaac cctggtaga tgacgtgggt ccgccaggct 120
 ccagggaagg gtctagagtg ggtctcaagt attgatgggt cgggtcttc gacatactac 180
 gcagactccg tgaagggccg gtccacatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcgagac accgcggtat attactgtgc gaaaggcgt 300
 attcttactc ttcatlllga ctactgggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 732
 <211> 357
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 732
 gaggtgcagc tgttggagtc tgggggaggc ttggtaacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt cacccttccct gactctatga tgggtgggt ccgccaggct 120
 ccagggaagg gtctagagtg ggtctcatcg attgggtatc cgggtgctac tacatactac 180
 gcagactccg tgaagggccg gtccacatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcgaggat accgcggtat attactgtgc gaaagggtgt 300
 agtcgggatg ataattllga ctactgggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 733
 <211> 372
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 733
 gaggtgcagc tgttggagtc tgggggaggc ttggtaacagc ctggggggtc cctgcgcctc 60
 tcctgtgcag cctccggatt cacccttgggt cagcatagta tgcatlgggt ccgccaggct 120
 ccagggaagg gtctagagtg ggtctcaagt attagtgttc cgggtccgaa gacatactac 180
 gcagactccg tgaagggccg gtccacatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcgaggac accgcggtat attactgtgc gaaagtcct 300
 agggatttgc gtccgggtga tagtaagagt ttgactact ggggtcaggg aaccttggtc 360
 accgtctcga gc 372

<210> 734
 <211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 734

gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc	60
tcctgtgcag cctccggatt cacccttggc tctgtctgca tggattgggt ccgccaggct	120
ccagggaagg gtctagagtg ggtctcatct attaatgata tgggttctaa tacatactac	180
gcagactccg tgaagggccg gtccaccatc tcccgcgaca attccaagaa cacgctgtat	240
ctgcaaatga acagcctgcg tgcggaggac accgcggtat attactgtgc gaaacagggt	300
ggtcgttttg actactgggg tcagggaacc ctggtcaccg tctcgagc	348

<210> 735

<211> 354

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 735

gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc	60
tcctgtgcag cctccggatt cacccttggc tatgatagga tggcttgggt ccgccaggct	120
ccagggaagg gtctagagtg ggtctcatct attgatggtc ctggggggtc tacatactac	180
gcagactccg tgaagggccg gtccaccatc tcccgcgaca attccaagaa cacgctgtat	240
ctgcaaatga acagcctgcg tgcggaggac accgcggtat attactgtgc ggaaggagg	300
agggttcttg attttgacta ctgggggtcag ggaaccttgg tcaccgtctc gagg	354

<210> 736

<211> 357

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 736

gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc	60
tcctgtgcag cctccggatt cacccttggc gattatgaga tgacttgggt ccgccaggct	120
ccagggaagg gtctagagtg ggtctcaagg attgatccgt ttgggtctga gacatactac	180
gcagactccg tgaagggccg gtccaccatc tcccgcgaca attccaagaa cacgctgtat	240
ctgcaaatga acagcctgcg tgcggaggac accgcggtat attactgtgc ggaagggttg	300
gttcttgatt tgaatttga ctactgggt cagggaaccc tggtcaccgt ctcgagc	357

<210> 737

<211> 360

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 737
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt cacctttgat aagtaigtta tgggtgggt ccgccaggct 120
 ccagggaagg gtctagagtg ggtctcaact atggtagt atggltggggc tacatactac 180
 gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagccttgc tgccgaggac accgcggtat attactgtgc gaaaaggctt 300
 actcttagtg cgactaagtt tgactactgg ggtcagggaa ccttgggtcac cgtctcgagc 360

<210> 738
 <211> 360
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 738
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt cacctttgag gattatgtga tgggttgggt ccgccaggct 120
 ccagggaagg gtctagagtg ggtctcaact atlgcgcatc ggggtgatat tacatactac 180
 gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagccttgc tgccgaggac accgcggtat attactgtgc gaaacgtagg 300
 cgtcttagtg attatcggtt tgactactgg ggtcagggaa ccttgggtcac cgtctcgagc 360

<210> 739
 <211> 357
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 739
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt cacctttggg cagtttgata tgtattgggt ccgccaggct 120
 ccagggaagg gtctagagtg ggtctcagcg attagtcagg ctggtacttg tacatactac 180
 gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagccttgc tgccgaggac accgcggtat attactgtgc gaaagcgggg 300
 gatcgggtcta gtccttttga ctacaggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 740
 <211> 354
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 740
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt caccitttaag gatacgggta tgacgtgggt ccgccaggct 120

ccagggaagg gcttagagtg ggtctcaagt atttctagtt atggctctga tacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcggaggac gccgcggtat attactgtgc gaaattgaat 300
gcggcgcttg gttttgacta ctggggtcag ggaaccctgg tcaccgtctc gagg 354

<210> 741
<211> 354
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 741
gaggtagcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcttgtgcag cctccggatt cacccttggc cgtatccga tgaattgggt ccgccaggct 120
ccagggaagg gcttagagtg ggtctcaggt attaatgcgc cgggtacgag gacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcggaggac accgcggtat attactgtgc gcaacagatg 300
tctagtgggg tttttgacta ctggggtcag ggaaccctgg tcaccgtctc gagg 354

<210> 742
<211> 354
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 742
gaggtagcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcttgtgcag cctccggatt caccctttcg aatcaggata tgaattgggt ccgccaggct 120
ccagggaagg gcttagagtg ggtctcaagt attgatagtt ctggtcagct tacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcggaggac accgcggtat attactgtgc gaaagttaag 300
tctcttgcgc ggtttgacta ctggggtcag ggaaccctgg tcaccgtctc gagg 354

<210> 743
<211> 351
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 743
gaggtagcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcttgcgcag cctccggatt cacccttctt gactctgata tgaattgggt ccgccaggct 120
ccagggaagg gcttagagtg ggtctcaagt attagtccga atggttggga tacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcggaggat accgcggtat attactgtgc gaaaccggct 300

caggcttcgt tlgactactg gggtcaggga accctgggca ccgtctcgag c 351

<210> 744
<211> 360
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 744
gagggtgcagc tgltaggagtc tgggggaggc ttggtagcgc ctggggggc cctgcgtctc 60
tctctgicag cctccggatt cacccttgag cagtatgiga tgggttgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcaacg attggtacgt cgggttaagia tacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcggaggac accgcgggat attactgtgc gcaacgtagg 300
tctctgactc ggggtcattt tlgactactg ggtcaggga cccgggtcac cgtctcgagc 360

<210> 745
<211> 357
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 745
gagggtgcagc tgltaggagtc tgggggaggc ttggtagcgc ctggggggc cctgcgtctc 60
tctctgicag cctccggatt cacccttgggt gtggagcata tgagttgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcagcg attacgggtg atggtgatcg tacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcggaggac accgcgggat attactgtgc gaaaacggtt 300
tcgtggaatg gtcgttttga ctactgggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 746
<211> 351
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 746
gagggtgcagc tgltaggagtc tgggggaggc ttggtagcgc ctggggggc cctgcgtctc 60
tctctgicag cctccggatt cacccttgcg tggataata tgggttgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcaagg atgctccgt ctggtattat tacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcggaggac accgcgggat attactgtgc gaaagggttg 300
cgtggtaagt ttgactactg gggtcaggga accctgggtca ccgtctcgag c 351

<210> 747
<211> 348
<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 747

gaggatgcagc tggtaggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc	60
tccigtgcag cctccggatt caccititcg aattatgaga tgaggtaggt ccgccaggct	120
ccagggaagg gtctagagtg ggtctcatct atttcttcgg ctggtagtga tacatactac	180
gcagactccg tgaagggccg gtaccatc tcccgcgaca attccaagaa cagctgtat	240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gaaacagtcg	300
cttaattttg actactgggg tcagggaacc ctggcaccg tctcgagc	348

<210> 748

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 748

gaggatgcagc tggtaggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc	60
tccigtgtag cctccggatt caccititgat gaggagccga tgacttgggt ccgccaggct	120
ccagggaagg gtctagagtg ggtctcaatt atgatccgg gtggtagggc gacatactac	180
gcagactccg tgaagggccg gtaccatc tcccgcgaca attccaagaa cagctgtat	240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gaaatctaat	300
agtatgtttg actactgggg tcagggaacc ctggcaccg tctcgagc	348

<210> 749

<211> 363

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 749

gaggatgcagc tggtaggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc	60
tccigtgcag cctccggatt caccititct gcgtatccta tgcattgggt ccgccaggct	120
ccagggaagg gtctagagtg ggtctcatct attgcttctt cgggtattac gacatactac	180
gcagactccg tgaagggccg gtaccatc tcccgcgaca attccaagaa cagctgtat	240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gaaatttact	300
cggctgcatt ttccctgcga gtttagctac tggggcagg gaaccttgggt caccgtctcg	360
agc	363

<210> 750

<211> 357

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 750
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggc cctgcgtctc 60
tccctgtcag cctccggatt cacccttgcg gallatgcga tgggttgggt ccgccaggct 120
ccagggaagg gcttagagtg ggtctcaagg atttctcctg agggttctag gacatactac 180
gcagactccg tgaagggccg gttcaccaac tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaaiga acagccttgcg tgcggaggac accgcgggat attactgtgc gaaattgcgg 300
ccglatgcgt cgaagtttga ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 751
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 751
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggc cctgcgtctc 60
tccctgtcag cctccggatt cacccttagg ccgtatgata tgggttgggt ccgccaggct 120
ccagggaagg gcttagagtg ggtctcaacg atttctcctc agggtaatcg gacatactac 180
gcagactccg tgaagggccg gttcaccaac tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaaiga acagccttgcg tgcggaggac accgcgggat attactgtgc gaaagtgtct 300
catcattttg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 752
<211> 354
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 752
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggc cctgcgtctc 60
tccctgtcag cctccggatt caccctttct gcgtataata tgtgttgggc ccgccaggct 120
ccagggaagg gtttagagtg ggtctcatgg attaatcga ctggttctcg tacatactac 180
gcagactccg tgaagggccg gttcaccaac tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaaiga acagccttgcg tgcggaggat accgcgggat attactgtgc gaaaaattgg 300
catcggggga ggtttgacta ctggggtcag ggaaccctgg tcaccgtctc gagc 354

<210> 753
<211> 351
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 753
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggc cctgcgtctc 60
tccctgtcag cctccggatt cacccttgcg aggtatcgga tgggttgggt ccgccaggct 120

ccagggaagg gcttagagtg ggctcaacg attaatcggc tgggtcagag tacatactac 180
gcagactccg tgaagggccg gtccaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcgaggac accgcggtat attactgtgc gaaagtgaag 300
aagcataagt ttgactactg gggtcaggga accctgggca ccgtctcgag c 351

<210> 754
<211> 351
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 754
gaggtagcagc tgttggagtc tgggggaggc ttggtagcagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacccttgcg cattataata tgcggtgggt ccgccaggct 120
ccagggaagg gcttagagtg ggctcaacg attacgaaga ctggttttcg tacatactac 180
gcagactccg tgaagggccg gtccaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcgaggac accgcggtat attactgtgc gaaagcgggg 300
cagtttgatt ttgactactg gggtcaggga accctgggca ccgtctcgag c 351

<210> 755
<211> 354
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 755
gaggtagcagc tgttggagtc tgggggaggc ttagtagcagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt caccctttat ccctatagta tgcattgggt ccgccaggct 120
ccagggaagg gcttggagtg ggctcaact attgatgga tgggtatgtt tacatactac 180
gcagactccg tgaagggccg gtccaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcgaggac accgcggtat attactgtgc ggaagattct 300
ctgaaggctt ctlltacta ctggggtagc ggaaccctgg tcaccgtctc gagg 354

<210> 756
<211> 351
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 756
gaggtagcagc tgttggagtc tgggggaggc ttggtagcagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacccttccg ctltatggga tgtggtgggt ccgccaggct 120
ccagggaagg gcttagagtg ggctcatat attgggcctt atggtcatac tacatactac 180
gcagactccg tgaagggccg gtccaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcgaggat accgcggtat attactgtgc gaaaaagcgg 300

aagaagaagi ttgactactg gggtcaggga accctgggtca ccgtctcgag c 351

<210> 757
<211> 351
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 757
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tccigtgcag cctccggatt cacctttcct aggtatcgga tgagttgggt ccgccaggct 120
ccagggaagg gtcctagagtg ggtctcaagt attactccgt atgggtctca tacatactac 180
gcagactccg tgaaggggccg gttcaccaic tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagccttgcg tgcggaggac accgcgglat attactgtgc gaaatatggt 300
aagtggtatt ttgactactg gggtcaggga accctgggtca ccgtctcgag c 351

<210> 758
<211> 351
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 758
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tccigtgcag cctccggatt cacctttaat gaggatcgga tgaggttgggt ccgccaggct 120
ccagggaagg gtcctagagtg ggtctcaacg atggtatcgtc tgggtcttca tacatactac 180
gcagactccg tgaaggggccg gttcaccaic tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagccttgcg tgcggaggac accgcgglat attactgtgc gaaaagtggt 300
ccttttacgt ttgactactg gggtcaggga accctgggtca ccgtctcgag c 351

<210> 759
<211> 351
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 759
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tccigtgcag cctccggatt cacctttgag cggatataata tgcgttgggt ccgccaggct 120
ccagggaagg gtcctagagtg ggtctcaacg attgatcggtc tgggtcttgc tacatactac 180
gcagactccg tgaaggggccg gttcaccaic tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagccttgcg tgcggaggac accgcgglat attactgtgc gaaagcgggt 300
tcgtgggtctt ttgactactg gggtcaggga accctgggtca ccgtctcgag c 351

<210> 760
<211> 354

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 760

gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc	60
tcctgtgcag cctccggatt cacctttggg atttatgata tgaagtgggt ccgccaggct	120
ccagggaagg gcttagagtg ggtctcaacg atttcgtcgt cgggtactca tacatactac	180
gcagactccg tgaaggggccg gttcaccaic tcccgcgaca attccaagaa cagcgtgtat	240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gaaatatcct	300
cagcccttalc cttttgacta ctgggggtcag ggaacccctgg tcaccgtctc gage	354

<210> 761

<211> 354

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 761

gagggtgcagc tattggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc	60
tcctgtgcag cctccggatt caccttttgg gtgtatgata tgcgttgggt ccgccaggct	120
ccagggaagg gcttagagtg ggtctcaacg atttctcga ctgggtgtga tacatactac	180
gcagactccg tgaaggggccg gttcaccaic tcccgcgaca attccaagaa cagcgtgtat	240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gaaatatccg	300
cctgcctgtc ggtttgacta ctgggggtcag ggaacccctgg tcaccgtctc gage	354

<210> 762

<211> 357

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 762

gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc	60
tcctgtgcag cctccggatt caccttttcg acttatgata tgatttgggt ccgccaggct	120
ccagggaagg gcttagagtg ggtctcagct atttctccta atggtactgg tacatactac	180
gcagactccg tgaaggggccg gttcaccaic tcccgcgaca attccaagaa cagcgtgtat	240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gaaacctccg	300
cagggtgaata ctgagtttga ctaccgggggt cagggaaccc tggtcaccgt ctcgagc	357

<210> 763

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 763
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgag aaggaggata tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacat atttcgccga atggltatgc gacatactac 180
gcagactccg tgaagggccg gttcaccaic tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcggaggac accgcggat attactgtgc gaaaagtgg 300
tctagtittg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 764
<211> 354
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 764
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttagt gclactccga tggagtgggc ccgccaggct 120
ccagggaagg gtctagagtg ggtctcaact attctgaga ggggttatag tacatactac 180
gcagactccg tgaagggccg gttcaccaic tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcggaggac accgcggat attactgtgc gaaatggaat 300
tcgactactg gttttgacta ctggggtcag ggaaccctgg tcaccgtctc gagc 354

<210> 765
<211> 351
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 765
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttaat acggtggata tggagtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcaagt attagtccga atggttggga tacatactac 180
gcagactccg tgaagggccg gttcaccaic tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcggaggac accgcggat attactgtgc ggaagctccg 300
catcgggcgt ttgactactg gggtcaggga accctggica ccgtctcgag c 351

<210> 766
<211> 357
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 766
gagggtgcagc tgttggagtc tggggggggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgag gataaggaga tgagtgggt ccgccaggct 120

ccagggaagg gcttagagtg ggcttcacgg attgatgctt tgggtgaltc tacatactac 180
gcagactccg tgaagggccg gttcaccaic tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcggaggac accgcggtat attactgtgc ggaagggatg 300
gtlccctcgtc tgaagtiiga ctactggggg cagggaaccc tggtcaccgt ctcgagc 357

<210> 767

<211> 342

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 767

gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt caccitttagt gatcaltcga tgaatgggt cgcgcaggct 120
ccagggaagg gcttagagtg ggcttcagat attgagccgc atgggtgtca tacatactac 180
gcagactccg tgaagggccg gttcaccaic tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcggaggac accgcggtat attactgtgc gaatcctact 300
tttgactact ggggtcaggg aaccttggc accgtctcga gc 342

<210> 768

<211> 366

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 768

gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt caccitttagt cgcatacta tgcattgggt cgcgcaggct 120
ccagggaagg gcttagagtg ggcttcaggt attggtccgg atgggtactac tacatactac 180
gcagactccg tgaagggccg gttcaccaic tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcggaggac accgcggtat attactgtgc gaaacgttcg 300
tatagttggg atcgtgggtg gacgtttgac tactggggtc aggggaacct ggtcacgctc 360
tcgagc 366

<210> 769

<211> 357

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 769

gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt caccitttagt gcttcggata tgaatgggt cgcgcaggct 120
ccagggaagg gcttagagtg ggcttcaagt attagtcga atgggtggga tacatactac 180
gcagactccg tgaagggccg gttcaccaic tcccgcgaca attccaagaa cacgctgtat 240

ctgcaaatga acagcctgcg tggcgaggac accgcggtat attactgtgc gaaagctgat 300

tatacttata attcttllga ctactggggt caggggaccc tggtcaccgt clcgagc 357

<210> 770

<211> 351

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 770

gaggtgcagc tgltagagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60

tcctgtgcag cctccggatt caccctttcg cattataata tgcggtgggt ccgccaggct 120

ccagggaagg gtctagagtg ggtctcaacg attacgaaga ctgggttttcg tacatactac 180

gcagactccg tgaaggccg gttcaccatc tcccgtaga attccaagaa cacgctgtat 240

ctgcaaatga acagcctgcg tggcgaggac accgcggtat attactgtgc gaaagcgggg 300

cagtttgatt ttgactactg gggtcaggga accctgggtca ccgtctcgag c 351

<210> 771

<211> 354

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 771

gaggtgcagc tgltagagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60

tcctgtgcag cctccggatt cacccttttcg cattatcata tgggttgggc ccgccaggct 120

ccagggaagg gtctagagtg ggtctcagtt attgggccga ggggtatttc tacatactac 180

gcagactccg tgaaggccg gttcaccatc tcccgtaga attccaagaa cacgctgtat 240

ctgcaaatga acagcctgcg tggcgaggac accgcggtat attactgtgc gaaatcgctt 300

tcgcgtcata ggtttgacta ctggggtcag ggaacccttg tcaccgtctc gagc 354

<210> 772

<211> 351

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 772

gaggtgcagc tgltagagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60

tcctgtgcag cctccggatt caccctttaa gaggatgcga tgaggagggt ccgccaggct 120

ccagggaagg gtctagagtg ggtctcaacg attgaltcgtc tgggtcttca tacatactac 180

gcagactccg tgaaggccg gttcaccatc tcccgtaga attccaagaa cacgctgtat 240

ctgcaaatga acagcctgcg tggcgaggac accgcggtat attactgtgc gaaaagtggg 300

ccttttacgt ttgactactg gggtcaggga accctgggtca ccgtctcgag c 351

<210> 773

<211> 369
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 773
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggc cctgcgtctc 60
 tcctgtgcag cctccggatt caccitttggg aattatagla tgaagtgggc ccgccaggct 120
 ccagggaagg gcttagagtg ggctcactt attactcctg atggttggta tacatactac 180
 gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tggcgaggac accgcggtat attactgtgc gaaagtgggg 300
 gatgctgttt ggggggtggat tgggtgggtt gactactggg gtcagggaac cctggtcacc 360
 gtctcgagc 369

<210> 774
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 774
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggc cctgcgtctc 60
 tcctgtgcag cctccggatt caccitttggg gattatggla tgaagtgggt ccgccaggct 120
 ccagggaagg gcttagagtg ggctcactt attactcctg atggttgattt tacatactac 180
 gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tggcgaggac accgcggtat attactgtgc gaaatctttg 300
 tataagtgtt actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 775
 <211> 369
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 775
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggc cctgcgtctc 60
 tcctgtgcag gctccggatt caccitttccct acttataaga tgggttgggt ccgccaggct 120
 ccagggaagg gcttagagtg ggctcattt attgattatt ggggttggcg gacatactac 180
 gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tggcgaggac accgcggtat attactgtgc gaaaagtccg 300
 tattcttggg ctcatgatag tcctcatttt gactactggg gtcagggaac cctggtcacc 360
 gtctcgagc 369

<210> 776
 <211> 348
 <212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 776

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gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggggc cctgcgtctc      60
tcctgtgcag cctccggatt cacccttagg ccttatacga tgtgttgggc ccgccaggct      120
ccaggaagg gtctagagtg ggtctcatgt attagtgatg ctggttcttt tacatactac      180
gcagactccg tgaaggggccg gttcacatc tcccgcgaca attccaagaa cacgctgtat      240
ctgcaaatga acagccttgcg tgccgaggat accgcggtat attactgtgc gaaaaggatg      300
tcctcttttg actactgggg tcagggaacc ctggtcaccg tctcgagc      348
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<210> 777

<211> 366

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 777

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gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggggc cctgcgtctc      60
tcctgtgcag cctccggatt cacccttcag aattatcaga ttgcttgggt ccgccaggct      120
ccaggaagg gtctagagtg ggtctcaact attagtggga ctggtaagaa tacatactac      180
gcagactccg tgaaggggccg gttcacatc tcccgcgaca attccaagaa cacgctgtat      240
ctgcaaatga acagccttgcg tgccgaggac accgcggtat attactgtgc gaaaactcct      300
cagaattatt ttagtgtgcg tcggtttgac tactgggggc aggggaaccct ggtcacccgtc      360
tcgagc      366
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<210> 778

<211> 354

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 778

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gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggggc cctgcgtctc      60
tcctgtgcag cctccggatt cacccttggg gcgtatacta tggggtgggt ccgccaggct      120
ccaggaagg gctagagtg ggtctcaaag atttcgacgt ctggttggca gacatactac      180
gcagactccg tgaaggggccg gttcacatc tcccgcgaca attccaagaa cacgctgtat      240
ctgcaaatga acagccttgcg tgccgaggac accgcggtat attactgtgc gaaacctttg      300
aattggtggg cgtttgacta ctggggtcag ggaaccctgg tcaccgtctc gagc      354
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<210> 779

<211> 351

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 779
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt caccttlaat gcgtalccta tgacttgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacgg attgatgtt atggtcggca tacatactac 180
gcagactccg tgaagggccg gttcaccaac tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tggcgaggac accgcggtat attactgtgc gaaaggagat 300
attcctaatt ttgactactg gggtcaggga accctgggtca ccgtctcgag c 351

<210> 780
<211> 357
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 780
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt caccttggg gcggttgata tgacttgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacgg atttcgcta gtggttctgc tacatactac 180
gcagactccg tgaagggccg gttcaccaac tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tggcgaggac accgcggtat attactgtgc gaaaggcggt 300
gtgccggatc ttggttttga ctacttgggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 781
<211> 351
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 781
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgat agttatgcga tggggtgggc ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacgt attggggcta agggtttgc tacatactac 180
gcagactccg tgaagggccg gttcaccaac tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tggcgaggac accgcggtat attactgtgc gaaagcggct 300
agggglaagt ttgactactg gggtcaggga accctgggtca ccgtctcgag c 351

<210> 782
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 782
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttact cggtatcaga tgggttgggt ccgccaggct 120

ccaggaagg gcttagagtg ggtctcagtt attaatgttt ggggttcgag tacatactac 180
gcagactccg tgaaggcccg gttcaccaatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcggaggac accgcggtat attactgtgc gaaaatgtct 300
gggaagtltg cctactgggg tcaggaacc ctggcaccg tctcgagc 348

<210> 783
<211> 351
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 783
gaggtagcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctt 60
tcctgtgcag cctccggatt cacccttggg aattatagta tgatgtgggt ccgccaggct 120
ccaggaagg gcttagagtg ggtctcaacg attatctctg ctggtagcgc tacatactac 180
gcagactccg tgaaggcccg gttcaccaatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcggaggac accgcggtat attactgtgc gaaaccgtcg 300
attaggtltg ttgactacig gggtcaggga accctgggtca ccgtctcgag c 351

<210> 784
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 784
gaggtagcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacccttgggt gcgtatgata tgggttgggt ccgccaggct 120
ccaggaagg gcttagagtg ggtctcatgg atttctccga atggttatga tacatactac 180
gcagactccg tgaaggcccg gttcaccaatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcggaggac accgcggtat attactgtgc gaaagggggt 300
gtgaagtltg actactgggg tcaggaacc ctggcaccg tctcgagc 348

<210> 785
<211> 369
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 785
gaggtagcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacccttgggt tggatgaga tggcttgggt ccgccaggct 120
ccaggaagg gcttagagtg ggtctcaacg attcaggcig atggttagca gacatactac 180
gcagactccg tgaaggcccg gttcaccaatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcggaggat accgcggtat attactgtgc gaaagcctcg 300

taigtctttg tgatcctcc tgaggagitt gactactggg gtcagggaac cctggtcacc	360
gtctcgagc	369
<210> 786 <211> 366 <212> DNA <213> 人工序列	
<220> <223> 人工序列之描述：合成聚核苷酸	
<400> 786 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc	
tcctgtgcag cctccggatt cacccttacg aattatagga tglcttgggt ccgccaggct	60
ccagggaagg gtctagagtg ggtctcagct attgatgac tgggtgtgtc gacatactac	120
gcagactccg tgaaggcccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat	180
ctgcaaatga acagccttgcg tggcaggagc accgcggtat attactgtgc gaaatggagg	240
cttaagaata gtcagccgac ggattttgac tactggggtc agggaaacct ggtcaccgtc	300
tcgagc	366
<210> 787 <211> 357 <212> DNA <213> 人工序列	
<220> <223> 人工序列之描述：合成聚核苷酸	
<400> 787 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc	
tcctgtgcag cctccggatt cacccttgat caggctcata tgtggtgggt ccgccaggct	60
ccagggaagg gtctagagtg ggtctcattt attaatcctt cgggttatta tacatactac	120
gcagactccg tgaaggcccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat	180
ctgcaaatga acagccttgcg tggcaggagc accgcggtat attactgtgc gaaaccttcg	240
cttagtccgt ctcttttga ctactggggc cagggaacct tggtcaccgt ctcgagc	300
	357
<210> 788 <211> 354 <212> DNA <213> 人工序列	
<220> <223> 人工序列之描述：合成聚核苷酸	
<400> 788 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc	
tcctgtgcag cctccggatt cacccttgag actggtcaga tgggttgggc ccgccaggct	60
ccagggaagg gtctagagtg ggtctcaaat attgatgggt ctggtacgta tacatactac	120
gcagactccg tgaaggcccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat	180
ctgcaaatga acagccttgcg tggcaggagc accgcggtat attactgtgc gaaaagtacg	240
cagaattatc gggtttgacta ctgggggtcag ggaaccttgg tcaccgtctc gaggc	300
	354

<210> 789
<211> 357
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 789
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgctc 60
tcctgtgcag cctccggatt cacccttggg gcttatccga tgtattgggt ccgccaggct 120
ccagggaagg gtctagagtg ggctcactc attcataagg atggtaggat tacatactac 180
gcagactccg tgaagggccg gttcaccatc tccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tggcgaggac accgcggtat attactgtgc gaaacagggt 300
acgccggttg atgggttga ctactggggt cagggaacc tggtcaccgt ctcgagc 357

<210> 790
<211> 363
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 790
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgctc 60
tcctgtgcag cctccggatt cacccttcct gatgagggtg tgacgtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggctcactc attgagactg gtggtacggt gacatactac 180
gcagactccg tgaagggccg gttcaccatc tccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tggcgaggac accgcggtat attactgtgc gaaaatggat 300
gggtctggta catggcagac gtttactac tggggtcagg gaacccttgt caccgtctcg 360
agc 363

<210> 791
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 791
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgctc 60
tcctgtgcag cctccggatt cacccttgat agtctgggtg tgggttggc ccgccaggct 120
ccagggaagg gtctagagtg ggctcactc attcgggctg aggtgtctta tacatactac 180
gcagactccg tgaagggccg gttcaccatc tccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tggcgaggat accgcggtat attactgtgc gaaatatctt 300
gcggattctg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 792
<211> 360

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 792

gaggtagcagc	tggttgaatc	tgggggaggc	tgggtacagc	ctggggggtc	cctgcgtctc	60
tcctgtgcag	cctccggatt	cacctttagt	gagtcgtata	tggagtgggt	ccgccaggct	120
ccagggaagg	gcttagagtg	ggcttcaggt	attgatcata	tgggtgggtg	gacatactac	180
gcagactccg	tgaagggccg	gttcacatc	tcccgcgaca	attccaagaa	cacgctgtat	240
ctgcaaatga	acagcctgcg	tgccgaggac	accgcggtat	attactgtgc	gaaagatgat	300
ggtcgtgggt	ggctctatgt	tgactactgg	ggtcagggaa	ccctgggtcac	cgctcgcagc	360

<210> 793

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 793

gaggtagcagc	tggttgaatc	tgggggaggc	tgggtacagc	ctggggggtc	cctgcgtctc	60
tcctgtgcag	cctccggatt	caccttttct	ggtaggtata	tgtgggtgggt	ccgccaggct	120
ccagggaagg	gtctagagtg	ggcttcaagt	attggggcta	gtgggtgcgt	acatactac	180
gcagactccg	tgaagggccg	gttcacatc	tcccgcgaca	attccaagaa	cacgctgtat	240
ctgcaaatga	acagcctgcg	tgccgaggac	accgcggtat	attactgtgc	gaaaacgggg	300
ggtaggttag	actactgggg	tcagggaacc	ctgggtcaccg	tctcgagc		348

<210> 794

<211> 357

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 794

gaggtagcagc	tggttgaatc	tgggggaggc	tgggtacagc	ctggggggtc	cctgcgtctc	60
tcctgtgcag	cctccggatt	cacctttgat	gaggggcata	tgggggggt	ccgccaggct	120
ccagggaagg	atctagagtg	ggcttcata	attggggagtc	tgggtttgca	acatactac	180
gcagactccg	tgaagggccg	gttcacatc	tcccgcgaca	attccaagaa	cacgctgtat	240
ctgcaaatga	acagcctgcg	tgccgaggac	accgcggtat	attactgtgc	gaaacgggag	300
tttagtaatg	gggggtttga	ctactgggggt	cagggaaccc	tgggtcacgt	ctcgagc	357

<210> 795

<211> 363

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 795
gaggatgcagc tgttggagtc tgggggaggc ttggatcagc ctggggggtc cctgcgtctc 60
tccigtgcag cctccggatt caccttlaag actagtccta tgtattgggt ccgccaggct 120
ccagggaagg gtcctagatg ggtctcagc attgacgga ctgggtggca tacatactac 180
gcagactccg tgaagggccg gttcaccaic tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcgaggac accgcggtat attactgtgc gaaacaggct 300
ctgcttactg atcggaagcg ttttacttac tggggtcagg gaacctgggt caccgtctcg 360
agc 363

<210> 796
<211> 360
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 796
gaggatgcagc tgttggagtc tgggggaggc ttggatcagc ctggggggtc cctgcgtctc 60
tccigtgcag cctccggatt cacctttagt ggtcgggata tggtttgggt ccgccaggct 120
ccagggaagg gtcctagatg ggtctcagct attagtccga gtggcttgga tacatactac 180
gcagactccg tgaagggccg gttcaccaic tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcgaggac accgcggtat attactgtgc ggaacgtcct 300
cagatgctgg ttactaatit tgactactgg ggtcagggaa ccctggcac cgtctcgagc 360

<210> 797
<211> 357
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 797
gaggatgcagc tgttggagtc tgggggaggc ttggatcagc ctggggggtc cctgcgtctc 60
tccigtgcag cctccggatt cacctttagt aatgatccga tgagttgggt ccgccaggct 120
ccagggaagg gtcctagatg ggtctcaggg attggtcggg agggatgatt tacatactac 180
gcagactccg tgaagggccg gttcaccaic tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcgaggac accgcggtat attactgtgc gaaagattct 300
atcgggcalt agccgtttga ctactggggt cagggaacct tggtcaccgt ctcgagc 357

<210> 798
<211> 357
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 798
gaggatgcagc tgttggagtc tgggggaggc ttggatcagc ctggggggtc cctgcgtctc 60

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tcctgtgcag cctccggatt caccittgat gagacttata tgaagtgggt cgcgcaggct 120
ccagggaagg gtctagagtg ggtctcagcg attggggcgt cgggtgctga tacatactac 180
gcagactccg tgaagggccg gtccaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagccttgcg tgcgaggac accgcggtat attactgtgc gaaatttacg 300
catctgaatg gtcggtttga ctactggggg cagggaaccc tggtcaccgt ctcgagc 357

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<210> 799
 <211> 357
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

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<400> 799
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt caccittggg ggttggccia tgggttgggt cgcgcaggct 120
ccagggaagg gtctagagtg ggtctcaggt atgatatgtg atggtgtctc gacatactac 180
gcagactccg tgaagggccg gtccaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagccttgcg tgcgaggac accgcggtat attactgtgc gaaagaggag 300
gagggttctt ggtcttttga ctactggggg cagggaaccc tggtcaccgt ctcgagc 357

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<210> 800
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

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<400> 800
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt caccittagt gatcaggcga tgttgggggc cgcgcaggct 120
ccagggaagg gtctagagtg ggtctcattt attcagggtg atggtgtgtt tacatactac 180
gcagactccg tgaagggccg gtccaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagccttgcg tgcgaggac accgcggtat attactgtgc gaaacctagt 300
aagccgtttg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

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<210> 801
 <211> 354
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

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<400> 801
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt caccittgag aciggtcaga tgggttgggc cgcgcaggct 120
ccagggaagg gtctagagtg ggtctcaaat attgatgggt ctgggtacgt tacatactac 180
gcagactccg tgaagggccg gtccaccatc tcccgcgaca attccaagaa cacgctgtat 240

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cigcaaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gaaagcggig 300

cgggaatttgg cttttgacta ctgggggtcag ggaacccctgg tcaccgtctc gage 354

<210> 802

<211> 372

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 802

gagggtgcagc tgttggagtc tgggggaggc ttgggtacagc ctggggggtc cctgcgtctc 60

tcctgtgcag cctccggalt cacccttagt gggcatgata tgctttgggt ccgccaggct 120

ccaggggaagg gtctagagtg ggtctcagct attagtcctc algggtacgca tacatactac 180

gcagactccg tgaagggccg gttcaccaic tcccgcgaca attccaagaa cacgctgtat 240

ctgcaaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gaaagggalt 300

aggggttggg ttgggtcaltg tacgcagcct ttgtactact ggggtcaggg aaccttggtc 360

accgtctcga gc 372

<210> 803

<211> 357

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 803

gagggtgcagc tgttggagtc tgggggaggc ttgggtacagc ctggggggtc cctgcgtctc 60

tcctgtgcag cctccggalt cacccttagt agtaaggata tgctttgggt ccgccaggct 120

ccaggggaagg gtctagagtg ggtctcatct atttcgtcgg atgggtactca tacatactac 180

gcagactccg tgaagggccg gttcaccaic tcccgcgaca attccaagaa cacgctgtat 240

ctgcaaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gcaagagctg 300

ggtagggctct ggtagtttga ctactgggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 804

<211> 366

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 804

gagggtgcagc tgttggagtc tgggggaggc ttgggtacagc ctggggggtc cctgcgtctc 60

tcctgtgcag cctccggalt cacccttagt gattcgtgata tgggttgggt ccgccaggct 120

ccaggggaagg gtctagagtg ggtctcaggt attggggcgt cgggtacgtc tacatactac 180

gcagactccg tgaagggccg gttcaccaic tcccgcgaca attccaagaa cacgctgtat 240

cigcaaaatga acagcctgcg tgccgaggac gccgcggtat attactgtgc gaaaggtggg 300

acgggtccta ctgatttgig ggaatttgac tactggggtc aggggaacct ggtcacccgc 360

tcgagc

366

<210> 805
 <211> 357
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 805
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggc cctgcgtctc 60
 tcctgtgcag cctccggatt cacctttagt gatgagaaga tgctttgggt ccgccaggct 120
 ccagggaagg gtctagagtg ggctcagat attagtgtga gtggctgca tacatactac 180
 gcagactccg tgaaggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcgaggac accgcggtat attactgtgc gaaagaggag 300
 gcgggttctt ggcttttga ctactgggt cagggaacct tggtcaccgt ctcgagc 357

<210> 806
 <211> 357
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 806
 gaggtgcagc tgttggagtc cgggggaggc ttggtacagc ctggggggc cctgcgtctc 60
 tcctgtgcag cctccggatt caccttggg caggagagga tgatttgggt ccgccaggct 120
 cctgggaagg gtctagagtg ggctcagat attcggctt cgggtgggac tacatactac 180
 gcagactccg tgaaggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcgaggac accgcggtat attactgtgc gaaagaggag 300
 gcgggttctt ggcttttga ctactgggt cagggaacct tggtcaccgt ctcgagc 357

<210> 807
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 807
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggc tctgcgtctc 60
 tcctgtgcag cctccggatt cacctttagt tggatgaga tgcagtgggt ccgccaggct 120
 ccagggaagg gtctagagtg ggctcagc atttctgtg atggttatcg tacatactac 180
 gcagactccg tgaaggccg gttcaccatc tcccgcgaca attccatgaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcgaggac accgcggtat attactgtgc gaaagagctt 300
 gggtatttgc actacagggg tcgggaacc ctggtcaccg tctcgagc 348

<210> 808
 <211> 348
 <212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 808

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gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc      60
tcctgtgcag cctccggait caccittgag ttggtatgaga tgcagtggtt ccgccgggct      120
ccagggaagg gactagagtg ggtctcagcg atttctggtg atggitatcg tacatactac      180
gcagactccg tgaaggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat      240
ctgcaaatga acagccttgc tgcggaggac accgcggtat attactgtgc gaaagagctt      300
gggtattttg actactgggg tcggggaacc ctggtcaccg tctcgagc      348
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<210> 809

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 809

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gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc      60
tcctgtgcag cctccggait caccittgag ttggtatgaga tgcagtggtt ccgccgggct      120
ccagggaagg gctagagtg ggtctcagcg atttctggtg atggitatcg tacatactac      180
gcagactccg tgaaggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat      240
ctgcaaatga acagccttgc tgcggaggac accgcggtat attactgtgc gaaagagctt      300
gggtattttg actaccgggt tcagggaacc ctggtcaccg tctcgagc      348
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<210> 810

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 810

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gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc      60
tcctgtgcag cctccggait caccittgag ttggtatgaga tgcagtggtt ccgcaaggct      120
ccagggaagg gctagagtg ggtctcagcg atttctggtg atggitatcg tacatactac      180
gcagactccg tgaaggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat      240
ctgcaaatga acagccttgc tgcggaggac accgcggtat attactgtgc gaaagagctt      300
gggtattttg actactgggg tcggggaacc ctggtcaccg tctcgagc      348
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<210> 811

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 811
gagggtgcagc tglttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgag tggtaigaga tgcagtgggt ccgccaggct 120
ccagggaagg gtcctagagt ggtctcagcg atttctggig atggttatcg tacatactac 180
gcagactccg tgaaggccg gttcaccaic tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcgaggac accgcggtat attactgtgc gaaagagctt 300
gggtattttg actacagggt tcagggaacc ctggtcaccg tctcgagc 348

<210> 812
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 812
gagggtgcagc tglttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgag tggtaigaga tgcagtgggt ccgccaggct 120
ccagggaagg gtcctagagt ggtctcagcg atttctggig atggttatcg tacatactac 180
gcagactccg tgaaggccg gttcaccaic tcccgcgaca attccgagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcgaggac accgcggtat attactgtgc gaaagagctt 300
gggtattttg actactgggg tcggggaacc ctggtcaccg tctcgagc 348

<210> 813
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 813
gagggtgcagc tglttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgag tggtaigaga tgcagtgggt ccgccaggct 120
ccagggaagg gtcctagagt ggtctcagcg atttctggig atggttatcg tacatactac 180
gcagactccg tgaaggccg gttcaccaic tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatgg acagcctgcg tgcgaggac accgcggtat attactgtgc gaaagagctt 300
gggtattttg actactgggg tcggggaacc ctggtcaccg tcacgagc 348

<210> 814
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 814
gagggtgcagc tglttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgag tggtaigaga tgcagtgggt ccgccaggct 120
ccagggaagg gtcctagagt ggtctcagcg atttctggig atggttatcg tacatactac 180

gcagactccg tgaaggccg gttcaccatc tcacgcgaca attccaagaa cacgcigtat 240
 ctgcaaatga acagcctgcg tgcgaggac accgcggtat attactgtgc gaaagagcct 300
 gggtattttc actactgggg tcggggaacc ctggcaccg tctcgagc 348

<210> 815
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 815
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgtag cctccggatt cacccttgag tggatgaga tgcagtgggt ccgccaggct 120
 ccagggaatg gtctagagtg gatctcagcg attcttggtg atggttatcg tacatactac 180
 gcagactccg tgaaggccg gttcaccatc tccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcgaggac accgcggtat attactgtgc gaaagagcct 300
 gggtattttg actactgggg tcggggaacc ctggcaccg tctcgagc 348

<210> 816
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 816
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctctggatt cacccttgag tggatgaga tgcagtgggt ccgccgggct 120
 ccagggaagg gtctagagtg ggtctcagcg atatcttggtg atggttatcg tacatactac 180
 gcagactccg tgaaggccg gttcaccatc tccgcgaca attccaagaa cacgctgtat 240
 ctgctaatga acagcctgcg tgcgaggac accgcggtat attactgtgc gaaagagcct 300
 gggtatttcg actactgggg tcggggaacc ctggtcaccg tctcgagc 348

<210> 817
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 817
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt cacccttgag tggatgaga tgcagtgggt ccgcaaggct 120
 ccagggaagg gtctagagtg ggtctcagcg attcttggtg atggttatcg tacatactac 180
 gcagactccg tgaaggccg gttcaccatc tccgcgaca attccaagaa cacgcigtat 240
 ctgcaaatga acagcctgcg tgcgaggac accgcggtat attactgtgc gaaagagcct 300
 gggtattttg actacagggg tcggggaacc ctggcaccg tctcgagc 348

<210> 818
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 818	
gaggatgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggggtc catgcgtctc	60
tccgtgacag cctccggatt cacctttgag tggatgaga tgcagtgggt ccgccgggct	120
ccagggaagg gctagagtg ggtctcagcg atttctggtg atggttatcg tacatactac	180
gcagactccg tgaaggccg gttcaccaic tcccgcgaca attccaagaa cacgctgtat	240
ctgcaaatga acagcctgcg tggcgaggac acccgggat attactgtgc gaaagagctt	300
gggtattttg actacagggg tcggggaacc ctggtcaccg tctcgagc	348

<210> 819
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 819	
gaggatgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggggtc cctgcgtctc	60
tccgtgacag cctccggatt cacctttgag tggatgaga tgcagtgggt ccgccgggct	120
ccagggaagg gattagagtg ggtctcaatg atttccgggg atggttatcg tacatactac	180
gcagactccg tgaaggccg gttcaccaic tcccgcgaca attccaagaa cacgctgtat	240
ctgcaaatga acagcctgcg tggcgaggac acccgggat attactgtgc gaaagagctt	300
gggtattttg actactgggg tcggggaacc ctggtcaccg tctcgagc	348

<210> 820
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 820	
gaggatgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggggtc cctgcgtctc	60
tccgtgacag cctccggatt cacctttgag tggatgaga tgcagtgggt ccgccgggct	120
ccagggaagg gactagagtg ggtctcagcg atttctggtg acggttggcg cacatactac	180
gcagactccg tgaaggccg gttcaccaic tcccgcgaca attccaagaa cacgctgtat	240
ctgcaaatga acagcctgcg tggcgaggac acccgggat attactgtgc gaaagagctt	300
gggtattttg actactgggg tcggggaacc ctggtcaccg tctcgagc	348

<210> 821
 <211> 348
 <212> DNA
 <213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 821

gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccgatt cacctttggg tggatgaga tgcagtgggt ccgccgggct 120
 ccagggaagg gactagagtg ggtctcagcg atttctggig atggltatcg tacatactac 180
 gcagactccg tgaaggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagccttgc tgcggaggac accgcggtat attactgtgc gaaagagctg 300
 ctctactttg actactgggg tcggggaacc ctggtcaccg tctcgagc 348

<210> 822

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 822

gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccgatt cacctttgag tggatgaga tgcagtgggt ccgccgggct 120
 ccagggaagg gactagagtg ggtctcagcg atttctggig atggltatcg tacatactac 180
 gcagactccg tgaaggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagccttgc tgcggaggac accgcggtat attactgtgc gaaagagctg 300
 gggttctttg actactgggg tcggggaacc ctggtcaccg tctcgagc 348

<210> 823

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 823

gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccgatt cacctttgag tggatgaga tgcagtgggt ccgccgggct 120
 ccagggaagg gactagagtg ggtctcagcg atttctggig atggltatcg tacatactac 180
 gcagactccg tgaaggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagccttgc tgcggaggac accgcggtat attactgtgc gaaagagttg 300
 gagiattttg actactgggg tcggggaacc ctggtcaccg tctcgagc 348

<210> 824

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 824

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gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc      60
tcctgtgcag cctccggatt cacctttgag tggtaigaga tgcagtgggt ccgccgggct      120
ccagggaagg gactagagtg ggtctcagcg atttctggtg atggttatcg tacatactac      180
gcagactccg tgaaggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat      240
ctgcaaatga acagcctgcg tgcggaggat accgcggtat attactgtgc gaaagggttg      300
gagtattttg actactgggg tcggggaacc ctggtcaccg tctcgagc      348

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<210> 825

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 825

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gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc      60
tcctgtgcag cctccggatt cacctttgag tggtaigaga tgcagtgggt ccgccgggct      120
ccagggaagg gactagagtg ggtctcagcg atttctggtg atggttatcg tacatactac      180
gcagactccg tgaaggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat      240
ctgcaaatga acagcctgcg tgcggaggat accgcggtat attactgtgc gaaagagctg      300
gccttctttg actactgggg tcggggaacc ctggtcaccg tctcgagc      348

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<210> 826

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 826

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gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc      60
tcctgtgcag cctccggatt cacctttgag tggtaigaga tgcagtgggt ccgccgggct      120
ccagggaagg gactagagtg ggtctcagcg atttctggtg atggttatcg tacatactac      180
gcagactccg tgaaggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat      240
ctgcaaatga acagcctgcg tgcggaggat accgcggtat attactgtgc gaaagagctc      300
ttgtactttg actactgggg tcggggaacc ctggtcaccg tctcgagc      348

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<210> 827

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 827

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gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc      60
tcctgtgcag cctccggatt cacctttgag tggtaigaga tgcagtgggt ccgccgggct      120
ccagggaagg gactagagtg ggtctcagcg atttctggtg atggttatcg tacatactac      180

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gcagactccg tgaaggccg gttcaccaic tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcgaggac accgcggtat attactgtgc gaaagagttg 300
 gatttctttg actactgggg tcggggaacc ctggtcaccg tctcgagc 348

<210> 828
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 828
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggc cctgcgctc 60
 tccgtgcag cctccggaat cacccttgag tggatgaga tgcagtgggt ccgccgggt 120
 ccagggaagg gactagagtg ggtctcagcg atttctggg atggttatcg tacatactac 180
 gcagactccg tgaaggccg gttcaccaic tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcgaggac accgcggtat attactgtgc gaaagagctg 300
 cagttctttg actactgggg tcggggaacc ctggtcaccg tctcgagc 348

<210> 829
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 829
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggc cctgcgctc 60
 tccgtgcag cctccggaat cacccttgag tggatgaga tgcagtgggt ccgccgggt 120
 ccagggaagg gactagagtg ggtctcagcg atttctggg atggttatcg tacatactac 180
 gcagactccg tgaaggccg gttcaccaic tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcgaggat accgcggtat attactgtgc gaaagagctg 300
 ctcttctttg actactgggg tcggggaacc ctggtcaccg tctcgagc 348

<210> 830
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 830
 gaggtgcagc tgttggagtc tgggggaggc ttggtacgac ctggggggc cctgcgctc 60
 tccgtgcag cctccggaat cacccttgag tggatgaga tgcagtgggt ccgccgggt 120
 ccagggaagg gactagagtg ggtctcagcg atttctggg atggttatcg tacatactac 180
 gcagactccg tgaaggccg gttcaccaic tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcgaggat accgcggtat attactgtgc gaaagagttg 300
 gatttctttg actactgggg tcggggaacc ctggtcaccg tctcgagc 348

<210> 831
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 831
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggggc cctgcgtctc 60
 tcctgtgcag cctccggatt cacctttgag tggatgaga tgcagtggtt ccgccgggct 120
 ccagggaagg gactagagtg ggtctcagcg atttctggig atggttatcg tacatactac 180
 gcagactccg tgaaggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcgaggac accgcggtat attactgtgc gaaagagttg 300
 ctcttctttg actaccgggg tcggggaacc ctggtcaccg tctcgagc 348

<210> 832
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 832
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggggc cctgcgtctc 60
 tcctgtgcag cctccggatt caictttgag tggatgaga tgcagtggtt ccgccgggct 120
 ccagggaagg gactagagtg ggtctcagcg atttctggig atggttatcg tacatactac 180
 gcagactccg tgaaggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcgaggat accgcggtat attactgtgc gaaaaacttg 300
 gagtattttg actactgggg tcggggaacc ctggtcaccg tctcgagc 348

<210> 833
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 833
 gaggtgcggc tgttggagtc tgggggaggc ttggtacagc ctgggggggc cctgcgtctc 60
 tcctgtgcag cctccggatt cacctttgag tggatgaga tgcagtggtt ccgccgggct 120
 ccagggaagg gactagagtg ggtctcagcg atttctggig atggttatcg tacatactac 180
 gcagactccg tgaaggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcgaggac accgcggtat attactgtgc gaaagagttg 300
 cagtctttg actactgggg tcggggaacc ctggtcaccg tctcgagc 348

<210> 834
 <211> 348
 <212> DNA
 <213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 834

gagggtgcagc tgttggggc tgggggaggc ttggtacagc ctggggggc cctgcgtctc	60
tcctgtgcag cctccggatt caccctttag gaggaggaga tgatttgggt ccgccaggct	120
ccagggaagg gtctagagtg ggtctcagct attagtggta gtggtggtag cacatactac	180
gcagactccg tgaaggggc gttaccatc tcccgcgaca attccaagaa cacgctgtat	240
ctgcaaatga acagccttgc tgcggaggat accgcggtat attactgttc gaaagagccg	300
tttcgttttg actactgggg tcagggaacc ctggtcaccg tctcgagc	348

<210> 835

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 835

gagggtgcagc tgttggcgtc tgggggaggc ttggtacagc ctggggggc cctgcgtctc	60
tcctgtgcag cctccggatt caccctttag gaggaggaga tgatttgggt ccgtcaggct	120
ccagggaagg gtctagagtg ggtctcagct attagtggta gtggtggtag cacatactac	180
gcagactccg tgaaggggc gttaccatc tcccgcgaca attccaagaa cacgctgtat	240
ctgcaaatga acagccttgc tgcggaggat accgcggtat attactgttg gaaagagccg	300
tttcgtttatg actactgggg tcagggaacc ctggtcaccg tctcgagc	348

<210> 836

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 836

gagggtgcagc tgttggcgtc tgggggaggc ttggtacagc ctggggggc cctgcgtctc	60
tcctgtgcag cctccggatt caccctttag gaggaggaga tgatttgggt ccgccaggct	120
ccagggaagg gtctagagtg ggtctcagct attagtggaa gtggtggtag cacatactac	180
gcagactccg tgaaggggc gttaccatc tcccgcgaca attccaagaa cacgctgtat	240
ctgcaaatga acagccttgc tgcggaggat accgcggtat attactgttg gaaagagccg	300
tttcgttttg actactgggg tcagggaacc ctggtcaccg tctcgagc	348

<210> 837

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 837

gagggtgcagc tgttggatcc tgggggaggc ttggtacagc ctggggggc cctgcgtctc	60
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tccctgicag cctccggatt cacctttggg aaggaggaga tgatttgggt cgcagggt 120
ccagggaagg gctagagtg ggtctcatct attagtggta gtggtggtag cacatactac 180
gcagactccg tgaaggccg gttcaccatc tccgcgaca attccaggaa cagctgtat 240
ctgcaaatga acagcctgcg tgcggaggat accgcggtat attactgtgg gaaagagccg 300
tttcgttttg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

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<210> 838

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 838

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gaggigcagc tgttggggtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tccctgicag cctccggatt cacctttgag gaggaggaga tgatttgggt cgcagggt 120
ccagggaagg gctagagtg ggtctcagct attagtggta gtggtggtag cacatactac 180
gcagactccg tgaaggccg gttcaccatc tccgcgaca attccaagaa cagctgtat 240
ctgcaaatga acagcctgcg tgcggaggat accgcggtat attactgtgg gaaagagccg 300
tttcgttttg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

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<210> 839

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 839

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gaggigcagc tgttggagcc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tccctgicag cctccggatt cacctttgag gaggaggaga tgatttgggt cgcagggt 120
ccagggaagg gctagagtg ggtctcagct attagtggta gtggtggtag cacatactac 180
gcagactccg tgaaggccg gttcaccatc tccgcgaca attccaagaa cagctgtat 240
ctgctaatga acagcctgcg tgcggaggat accgcggtat attactgttc gaaagagccg 300
tttcgttttg actactgggg tcagggagcc ctggtcaccg tctcgagc 348

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<210> 840

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 840

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gaggigcagc tgttggatcc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tccctgicag cctccggatt cacctttggg aaggaggaga tgatttgggt cgcagggt 120
ccagggaagg gctagagtg ggtctcatct attagtggta gtggtggtag cacatactac 180
gcagactccg ttaaggccg gttcaccatc tccgcgaca attccaagaa cagctgtat 240

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ctgcaaatga acagcctgcg tgcgaggat accgcggtat attactgtgc gaaagagccg 300
ttacgttttg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 841
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 841
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tccgtgtagc cctccggatt caccctttag gaggaggaga tgaatgggt ccgccaggct 120
cctgggaagg gtctagagtg gatctcagct attagtggta gtggtagtag cacatactac 180
gcagactccg tgaaggcccg gtccaccatc cccgcgaca attctaagaa cactctgtat 240
ctgcaaatga acagcctgcg tgcgaggat accgcggtat attactgttc gaaagagccg 300
tttcgttttg actacagggg tctgggaacc ttggtcaccg tctcgagc 348

<210> 842
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 842
gagggtgcagc tgttggatcc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tccgtgtagc cctccggatt cacccttggg aaggaggaga tgatttgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcatct attagtggta gtggtagtag cacatactac 180
gcagactccg tgaaggcccg gtccaccatc tcccgcgaca attccaggaa cagctgtat 240
ctgcaaatga acagcctgcg tgcgaggat accgcggtat attactgtgc gaaagagccg 300
ttacgttttg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 843
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 843
gagggtgcagc tgttggatcc tgggggaggc ttgtacagc ctggggggtc cctgcgtctc 60
tccgtgtagc cctccggatt caccctttag gaggaggaga tgatttgggt ccgccaggct 120
ccagggaagg gtctagagtg gatctcagct attagtggta gtggtagtag cacatactac 180
gcagactccg tgaaggcccg gtccaccatc tcccgcgaca attccaagaa cagctgtat 240
ctgcaaatga acagcctgcg tgcgaggat accgcggtgt attactgtgc gaaagagccg 300
tttcgttttg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 844
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 844	
gaggtagcagc tgttggatcc tgggggaggc ttggtacagc ctgggggggc cctgcgtctc	60
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ccagggaagg gtctagagtg gatctcagct attagtggta gtggtagtag cacatactac	180
gcagacitccg tgaagggccg gttcaccatc tccgcgaca attccaataa cacgtgtat	240
ctgcaaatga acagcctgcg tggcgaggat accgcggtat attactgttg gagagagccg	300
tttcgttttg actactgggg tcagggaacc ctggtcaccg tctcgagc	348

<210> 845
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 845	
gaggtagcgc tgttggagtc tggggaaggc ttggtacagc ctgggggggc cctgcgtctc	60
tccgtgtagc cctccggatt cacctttgag gaggaggaga tgatttgggt ccgccaggct	120
ccagggaagg gtctagagtg ggtctcagct attagtggta gtggtagtag cacatactac	180
gcagacitccg tgaagggccg gttcaccatc tcacgcgaca attccaagaa cacgtgtat	240
ctgcaaatga acagcctgcg tggcgaggat accgcggtat attactgttg gaaagagccg	300
tttcgttttg actactgggg tcagggaacc ctggtcaccg tctcgagc	348

<210> 846
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 846	
gaggtagcagc agttaggagtc tgggggaggc ctggtagcgc ctgggggggc cctgcgtctc	60
tccgtgtagc cctccggatt cacctttgag gaggaggaga tgatttgggt ccgccaggct	120
ccagggaagg gtctagagtg ggtctcagct attagtggta gtggtagtag cacatactac	180
gcagacitccg tgaagggccg gttcaccatc tccgcgaca attccaagaa cacgtgtat	240
ctgcaaatga acagcctgcg tggcgaggat accgcggtat attactgttg gaaagagccg	300
tttcgttttg actactgggg tcagggaacc ctggtcaccg tctcgagc	348

<210> 847
 <211> 348
 <212> DNA
 <213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 847
gaggtgcagc tgttggcgtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgcgcag cctccggatt cacctttgag gaggaggaga tgatttgggt ccgtcaggct 120
ccagggaagg gcttagagtg ggtctcagct attagtggta gtggtggtag cacatactac 180
gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagccctgcg tgcgaggat accgcggtat attactgttg gaaagagccg 300
ttctactacg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 848
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 848
gaggtgcagc tgttggcgtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgcgcag cctccggatt cacctttgag gaggaggaga tgatttgggt ccgtcaggct 120
ccagggaagg gcttagagtg ggtctcagct attagtggta gtggtggtag cacatactac 180
gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagccctgcg tgcgaggat accgcggtat attactgttg gaaagagccg 300
ttctacttcg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 849
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 849
gaggtgcagc tgttggcgtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgcgcag cctccggatt cacctttgag gagaaggaga tgatttgggt ccgtcaggct 120
ccagggaagg gcttagagtg ggtctcagct attagtggta gtggtggtag cacatactac 180
gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagccctgcg tgcgaggat accgcggtat attactgttg gaaagagccg 300
ttcttctacg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 850
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 850
gaggtgcagc tgttggcgtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60

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tcctgcgcag cctccggatt caccitlccc caggaggaga tgatttgggt cctcaggct 120
ccagggaagg gctagagtg ggtctcagct attagtgga ggttggttag cacatactac 180
gcagactccg tgaaggcccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcgaggat accgcggtat attactgtgg gaaagagccg 300
tttcgttatg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

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<210> 851
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

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<400> 851
gaggtgcagc tgttggcgtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgcgcag cctccggatt caccitlccc gccgcgaga tgatttgggt ccgccaggct 120
ccagggaagg gctagagtg ggtctcagct attagtgga ggttggttag cacatactac 180
gcagactccg tgaaggcccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcgaggat accgcggtat attactgtgg gaaagagccg 300
tttcgttatg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

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<210> 852
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

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<400> 852
gaggtgcagc tgttggcgtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgcgcag cctccggatt caccitlccc gaggaggaga tgatttgggt ccgccaggct 120
ccagggaagg gctagagtg ggtctcagct attagtaggc ccggtacgag cacatactac 180
gcagactccg tgaaggcccg gttcaccatc tcccgcgaca attccaagaa cacgcigtat 240
ctgcaaatga acagcctgcg tgcgaggat accgcggtat attactgtgg gaaagagccg 300
tttcgttatg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

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<210> 853
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

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<400> 853
gaggtgcagc tgttggcgtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgcgcag cctccggatt caccitlccc gaggaggaga tgatttgggt ccgccaggct 120
ccagggaagg gctagagtg ggtctcagct attagtcgga tgggtttcag cacatactac 180
gcagactccg tgaaggcccg gttcaccatc tcccgcgaca attccaagaa cacgcigtat 240

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ctgcaaatga acagcctgcg tgcgaggat accgcggat attactgtgg gaaagagccg 300
 ttctgttatg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 854
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 854
 gaggtgcagc tgttggcgtc tggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tccitgcgag cctccggatt cacctttgag gaggaggaga tgatttgggt ccgccaggct 120
 ccagggaagg gtctagagt ggcttcagct attagtcgtt ggggtcacag cacatactac 180
 gcagactccg tgaagggccg gtaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcgaggat accgcggat attactgtgg gaaagagccg 300
 ttctgttatg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 855
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 855
 gaggtgcagc tgttggcgtc tggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tccitgcgag cctccggatt cacctttgag gaggaggaga tgatttgggt ccgccaggct 120
 ccagggaagg gtctagagt ggcttcagct attagtcgtt tgggttggag cacatactac 180
 gcagactccg tgaagggccg gtaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcgaggat accgcggat attactgtgg gaaagagccg 300
 ttctgttatg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 856
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 856
 gaggtgcagc tgttggcgtc tggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tccitgcgag cctccggatt cacctttgag gaggaggaga tgatttgggt ccgtcaggct 120
 ccagggaagg gtctagagt ggcttcagct attagtcgtt ggggtgccag cacatactac 180
 gcagactccg tgaagggccg gtaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcgaggat accgcggat attactgtgg gaaagagccg 300
 ttctgttatg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 857

<211> 348
 <212> DNA
 <213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 857

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gagggtgcagc tgttggcgtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc      60
tcctgcgcag cctccggatt cacctttgag gaggaggaga tgatttgggt ccgtcaggct      120
ccaggggaagg gtctagagtg ggtctcagct attagtaggc aggggtggag cacatactac      180
gcagactccg tgaagggccg gtaccatc tcccgtaga attccaagaa cacgtgtgat      240
ctgcaaatga acagcctgcg tgccgaggat accgcggtat attactgtgg gaaagagccg      300
tttcgttatg actactgggg tcaggggaacc ctggtcaccg tctcgagc      348
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<210> 858

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 858

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gagggtgcagc tgttggcgtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc      60
tcctgcgcag cctccggatt cacctttgag gaggaggaga tgatttgggt ccgccaggct      120
ccaggggaagg gtctagagtg ggtctcagct attagtgltt ccgggtggag cacatactac      180
gcagactccg tgaagggccg gtaccatc tcccgtaga attccaagaa cacgtgtgat      240
ctgcaaatga acagcctgcg tgccgaggat accgcggtat attactgtgg gaaagagccg      300
tttcgttatg actactgggg tcaggggaacc ctggtcaccg tctcgagc      348
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<210> 859

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 859

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gagggtgcagc tgttggcgtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc      60
tcctgcgcag cctccggatt cacctttgag gaggaggaga tgatttgggt ccgccaggct      120
ccaggggaagg gtctagagtg ggtctcagct attagtcggt ggggttggag cacatactac      180
gcagactccg tgaagggccg gtaccatc tcccgtaga attccaagaa cacgtgtgat      240
ctgcaaatga acagcctgcg tgccgaggat accgcggtat attactgtgg gaaagagccg      300
tttcgttatg actactgggg tcaggggaacc ctggtcaccg tctcgagc      348
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<210> 860

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 860
gagggtgcagc tgttggcgtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgcgcag cctccggatt caccittgag gaggaggaga tgatttgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcagct attagtcgga acggtctgag cacatactac 180
gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagccctgcg tgcgaggat accgcggat attactgttg gaaagagccg 300
tttcgttatg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 861
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 861
gagggtgcagc tgttggcgtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgcgcag cctccggatt caccittgag gaggaggaga tgatttgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcagct attagtgggc tgggttggag cacatactac 180
gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagccctgcg tgcgaggat accgcggat attactgttg gaaagagccg 300
tttcgttatg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 862
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 862
gagggtgcagc tgttggcgtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgcgcag cctccggatt caccittgag gaggaggaga tgatttgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcagct attagtcggt tgggttggag cacatactac 180
gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagccctgcg tgcgaggat accgcggat attactgttg gaaagagccg 300
tttcgttatg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 863
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 863
gagggtgcagc tgttggcgtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgcgcag cctccggatt caccittgag gaggaggaga tgatttgggt ccgccaggct 120

ccagggaagg gcttagagtg ggctcagct attagtcgca ggggttacag cacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcggaggat accgcggtat attactgttg gaaagagccg 300
tttcgttatg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 864
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 864
gaggatgcagc tgttggcgtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tccctgcgag cctccggatt cacccttgag gaggaggaga tgatttgggt ccgtcaggct 120
ccagggaagg gcttagagtg ggctcagct attagtaggc acggttgag cacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcggaggat accgcggtat attactgttg gaaagagccg 300
tttcgttatg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 865
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 865
gaggatgcagc tgttggcgtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tccctgcgag cctccggatt cacccttgag gaggaggaga tgatttgggt ccgccaggct 120
ccagggaagg gcttagagtg ggctcagc attagcagga gtggiggtag cacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcggaggat accgcggtat attactgttg gaaagagccg 300
tttcgttatg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 866
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 866
gaggatgcagc tgttggcgtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tccctgcgag cctccggatt cacccttgag gaggaggaga tgatttgggt ccgccaggct 120
ccagggaagg gcttagagtg ggctcagct attagtcgga tcggtaacag cacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcggaggat accgcggtat attactgttg gaaagagccg 300

tttcgttatg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 867
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 867
gaggtagcagc tgttggcgtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgcgcag cctccggatt cacccttgag gaggaggaga tgatttgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcagct attagtgggc acggttggag cacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggat accgcggat attactgttg gaaagagccg 300
tttcgttatg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 868
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 868
gaggtagcagc tgttggcgtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgcgcag cctccggatt cacccttgag gaggaggaga tgatttgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcagct atttcgaggt ggggtggtag cacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggat accgcggat attactgttg gaaagagccg 300
tttcgttatg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 869
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 869
gaggtagcagc tgttggcgtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgcgcag cctccggatt cacccttgag gaggaggaga tgatttgggt ccgctcaggct 120
ccagggaagg gtctagagtg ggtctcagct attagtggtt gttgtggtag cacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggat accgcggat attactgttg gaaagagccg 300
ttcatgtatg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 870
<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 870

gaggatgcagc tgttggcgtc tgggggagggc ttggtacagc ctggggggtc cctgcgtctc	60
tcctgcgcag cctccggatt cacctttgag gaggaggaga tgatttgggt ccgtcaggct	120
ccagggaagg gcttagagtg ggtctcagct attagtggta gtggtggtag cacatactac	180
gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat	240
ctgcaaatga acagcctgcg tgcggaggat accgcgggat attactgtgg gaaagagccg	300
ttcccgtagc actactgggg tcagggaacc ctggtcaccg tctcgagc	348

<210> 871

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 871

gaggatgcagc tgttggcgtc tgggggagggc ttggtgcagc ctggggggtc cctgcgtctc	60
tcctgcgcag cctccggatt cacctttgag gaggaggaga tgatttgggt ccgtcaggct	120
ccagggaagg gcttagagtg ggtctcagct attagtggta gtggtggtgg cacatactac	180
gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat	240
ctgcaaatga acagcctgcg tgcggaggat accgcgggat attactgtgg gaaagagccg	300
tttcgttatg actactgggg tcagggaacc ctggtcaccg tctcgagc	348

<210> 872

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 872

gaggatgcagc tgttggcgtc tgggggagggc ttggtacagc ctggggggtc cctgcgtctc	60
tcctgcgcag cctccggatt cacctttgag gaggaggaga tgatttgggt ccgtcaggct	120
ccagggaagg gcttagagtg ggtctcagct attagtggta gtggtggtag cacatactac	180
gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat	240
ctgcaaatga acagcctgcg tgcggaggat accgcgggat attactgtgg gaaagagccg	300
ttgtactatg actactgggg tcagggaacc ctggtcaccg tctcgagc	348

<210> 873

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 873
gagggtgcagc tglttggcgtc tgggggaggc ttggtacagc ctggggggc cctgcgtctc 60
tcctgcgcag cctccggatt cacctttgag gaggaggaga tgatttgggt ccgtcaggct 120
ccagggaagg gtltagagtg ggtctcagct attagtggta gtggtggtag cacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagccctgcg tgcggaggat accgcggtat attactgttg gaaagagccc 300
atgtactatg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 874
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 874
gagggtgcagc tglttggcgtc tgggggaggc ttggtacagc ctggggggc cctgcgtctc 60
tcctgcgcag cctccggatt cacctttgag gaggaggaga tgatttgggt ccgccaggct 120
ccagggaagg gtltagagtg ggtctcagct attagttaga acggtttcag cacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagccctgcg tgcggaggat accgcggtat attactgttg gaaagagccg 300
tttcgttatg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 875
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 875
gagggtgcagc tglttggcgtc tgggggaggc ttggtacagc ctggggggc cctgcgtctc 60
tcctgcgcag cctccggatt cacctttgag gaggaggaga tgatttgggt ccgccaggct 120
ccagggaagg gtltagagtg ggtctcagct attagtcgca cgggtgggag cacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagccctgcg tgcggaggat accgcggtat attactgttg gaaagagccg 300
tttcgttatg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 876
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 876
gagggtgcagc tglttggcgtc tgggggaggc ttggtacagc ctggggggc cctgcgtctc 60
tcctgcgcag cctccggatt cacctttgag gaggaggaga tgatttgggt ccgccaggct 120

ccagggaagg gctagagtg ggtctcagct attagtcggg aggggtggag cacatactac 180
gcagactccg tgaagggccg gtccaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcgaggat accgcggtat attactgttg gaaagagccg 300
tttcgttatg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 877
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 877
gagggtgcagc tgttggcgtc tgggggaggc ttggtagcgc ctggggggc cctgcgtctc 60
tccctgcgag cctccgggtt cccctttgag gaggaggaga tgatttgggt ccgccaggct 120
ccagggaagg gctagagtg ggtctcagct attagtcggc aggggtggag cacatactac 180
gcagactccg tgaagggccg gtccaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcgaggat accgcggtat attactgttg gaaagagccg 300
tttcgttatg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 878
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 878
gagggtgcagc tgttggcgtc tgggggaggc ttggtagcgc ctggggggc cctgcgtctc 60
tccctgcgag cctccggatt cacccttgag gaggaggaga tgatttgggt ccgccaggct 120
ccagggaagg gctagagtg ggtctcagct attagtaggg gcggtaggag cacatactac 180
gcagactccg tgaagggccg gtccaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcgaggat accgcggtat attactgttg gaaagagccg 300
tttcgttatg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 879
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 879
gagggtgcagc tgttggcgtc tgggggaggc ttggtagcgc ctggggggc cctgcgtctc 60
tccctgcgag cctccggatt cacccttgag gaggaggaga tgatttgggt ccgccaggct 120
ccagggaagg gctagagtg ggtctcagct attagtcgca cgggttagag cacatactac 180
gcagactccg tgaagggccg gtccaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcgaggat accgcggtat attactgttg gaaagagccg 300

tttcgttatg actactgggg tcaggggaacc ctgggtcaccg tctcgagc 348

<210> 880
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 880
gaggtgcagc tgttggcgtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgcgcag cctccggatt cacctttgag gaggaggaga tgatttgggt ccgccaggct 120
ccaggggaagg gtctagagtg ggtctcagct attagtagga acggtaggag cacatactac 180
gcagactccg tgaagggccg gttcaccaic tcccgcgaca attccaagaa cacgctglat 240
ctgcaaatga acagcctgcg tgcggaggat accgcggtat attactgtgg gaaagagccg 300
tttcgttatg actactgggg tcaggggaacc ctgggtcaccg tctcgagc 348

<210> 881
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 881
gaggtgcagc tgttggcgtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgcgcag cctccggatt cacctttgag gaggaggaga tgatttgggt ccgccaggct 120
ccaggggaagg gtctagagtg ggtctcagct attagtagga acggttacag cacatactac 180
gcagactccg tgaagggccg gttcaccaic tcccgcgaca attccaagaa cacgctglat 240
ctgcaaatga acagcctgcg tgcggaggat accgcggtat attactgtgg gaaagagccg 300
tttcgttatg actactgggg tcaggggaacc ctgggtcaccg tctcgagc 348

<210> 882
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 882
gaggtgcagc tgttggcgtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgcgcag cctccggatt cacctttgag gaggaggaga tgatttgggt ccgccaggct 120
ccaggggaagg gtctagagtg ggtctcagct attagtagga agggtagcag cacatactac 180
gcagactccg tgaagggccg gttcaccaic tcccgcgaca attccaagaa cacgctglat 240
ctgcaaatga acagcctgcg tgcggaggat accgcggtat attactgtgg gaaagagccg 300
tttcgttatg actactgggg tcaggggaacc ctgggtcaccg tctcgagc 348

<210> 883
<211> 348
<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 883

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gaggtagcagc tgttggcgtc tgggggaggc ttggtacagc ctggggggc cctgcgtctc      60
tcctgcgcag cctccggatt cacctttgag gaggaggaga tgatttgggt ccgccaggct      120
ccagggaagg gtctagagtg ggtctcagct attagtcggg gcggltggag cacatactac      180
gcagactccg tgaagggccg gttcaccaic tcccgcgaca attccaagaa cacgctgtat      240
ctgcaaatga acagcctgcg tgcggaggat accgcggtat attactgttg gaaagagccg      300
tttcgttatg actactgggg tcagggaacc ctggtcaccg tctcgagc      348
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<210> 884

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 884

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gaggtagcagc tgttggcgtc tgggggaggc ttggtacagc ctggggggc cctgcgtctc      60
tcctgcgcag cctccggatt cacctttgag gaggaggaga tgatttgggt ccgccaggct      120
ccagggaagg gtctagagtg ggtctcagct attagtcgct cgggttacag cacatactac      180
gcagactccg tgaagggccg gttcaccaic tcccgcgaca attccaagaa cacgctgtat      240
ctgcaaatga acagcctgcg tgcggaggat accgcggtat attactgttg gaaagagccg      300
tttcgttatg actactgggg tcagggaacc ctggtcaccg tctcgagc      348
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<210> 885

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 885

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gaggtagcagc tgttggcgtc tgggggaggc ttggtacagc ctggggggc cctgcgtctc      60
tcctgcgcag cctccggatt cacctttgag gaggaggaga tgatttgggt ccgccaggct      120
ccagggaagg gtctagagtg ggtctcagct attagtagga acggtatgag cacatactac      180
gcagactccg tgaagggccg gttcaccaic tcccgcgaca attccaagaa cacgctgtat      240
ctgcaaatga acagcctgcg tgcggaggat accgcggtat attactgttg gaaagagccg      300
tttcgttatg actactgggg tcagggaacc ctggtcaccg tctcgagc      348
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<210> 886

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 886
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctilgag gaggaggaga tgatttgggt ccgccaggct 120
ccagggaagg gtcagagtg ggtctcagct attagtagga acggttacag cacatactac 180
gcagactccg tgaagggccg gtccaccatc tcccgcgaca attccaagaa cacgcigtat 240
ctgcaaatga acagcctgcg tgcggaggat accgcggat attactgttg gaaagagccg 300
tttcgttatg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 887
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 887
gagggtgcagc tgttggagtc tggggaaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttact gagcatgaga tgatttgggt ccgccaggct 120
ccagggaagg gtcctggagt ggtctcatct atttcgggta atggtgctaa tacatactac 180
gcagactccg tgaagggccg gtccaccatc tcccgcgaca attccaagaa cacgcigtat 240
ctgcaaatga acagcctgcg tcccaggac accgcggat attactgtgc gaaagagccg 300
cttaggtttg actactgggg ccagggaacc ctggtcaccg tctcgagc 348

<210> 888
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 888
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatc cacctttact gagtatgaga tgatttgggt ccgccaggct 120
ccagggaagg gtcctggagt gatctcatct atttcgggta atggtgctaa tacatactac 180
gcagactccg tgaagggccg gtccaccatc tcccgcgaca attccaagaa cacgcigtat 240
ctgcaaatga acagcctgcg tgcggaggac accgcggat atttctgtgc gaaagagccg 300
cttaggtttg actacagggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 889
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 889
gagggtgcagc tgttggagcc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttact gagtatgaga tgatttgggt ccgcaaggct 120
ccagggaagg gtaaggagt ggtctcatct atttcgggta atggtgctaa tacatactac 180

gcagactccg tgaaggccg gttcaccatc tcccgcgaca attccaagaa catgctgtat 240
 ctgcaaatga acagccctgcg tgcggaggac accgcggtat attactgtgc gaaagagccg 300
 cttagggttg gctactgggg tcagggtacc ctggtcaccg tctcgagc 348

<210> 890
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 890
 gaggtgcagc tglgggagc tggggaggc ttggtacagc ctggggggc actgcgtctc 60
 tccctgcag cctccggatt cacccttact gattatgaga tgatttgggt ccgccaggct 120
 ccagggaagg gtctggagt ggctcatct atttcgggt atgggtctaa tacatactac 180
 gcagactccg tgaaggccg gttcaccatc tcccgcgaca attccaagaa cagctgtat 240
 ctgcaaatga acagccctgcg tgcggaggac accgcggtat attactgtgc gaaagagccg 300
 cttagggttg actactgggg tcggggaacc ctggtcaccg tctcgagc 348

<210> 891
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 891
 gaggtgcagc tglggggc agggggaggc ttggtacagc ctggggggc cctgcgtctc 60
 tccctgcag cctccggatt cacccttact gattatgaga tgatttgggt ccgccaggct 120
 ccagggaaga gtctggagt ggctcatct atttcgggt atgggtctaa tacatactac 180
 gcagactccg tgaaggccg gttcaccatc tcccgcgaca attccaagaa cagctgtat 240
 ctgcaaatga acagccctgcg tgcggaggac accgcggtat attactgtgc gaaagagccg 300
 cttagggttg acgactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 892
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 892
 gaggtgcagc cgttgggagc tggggaggc ttggtacagc ctggggggc cctgcgtctc 60
 tccctgtcag cctccggatt cacccttaat gattatgaga tgatttgggt ccgccaggct 120
 ccagggaagg gtctggagtg ggctcatct atttcgggt atgggtctaa tacatactac 180
 gcagactccg tgaaggccg gttcaccatc tcccgcgaca attccaagaa cagctgtat 240
 ctgcaaatga acagccctgcg tgcggaggac accgcggtat attactgtgc gaaagagccg 300
 cttagggttg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 893
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 893
 gaggtgcagc tgttggagtc tggggaaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt cacccttgc t ggtatgaga tgatttgggt ccgccaggct 120
 ccagggaagg gtcctggagt ggtctcatct atttcgggta atgggtgctaa tacatactac 180
 gcagactccg tgaaggggcc gttcaccaatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tcccgaggac accgcggtat attactgtgc gaaagagccg 300
 cttaggtttg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 894
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 894
 gaggtgcagc tgttggagcc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt cacccttact gagtctgaga tgatttgggt ccgccaggct 120
 ccagggaagg gtcctggagt ggtctcatct atttcgggaa atgggtgctaa tacatactac 180
 gcggactccg tgaaggggcc gttcaccaatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tcccgaggac accgcggtat attactgtgc gaaagagccg 300
 cttaggtttg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 895
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 895
 gaggtgcagc tgttggagcc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt cacccttact gagtctgaga tgatttgggt ccgcaaggct 120
 ccagggaagg gtttggagt ggtctcatct atttcgggta atgggtgctaa tacatactac 180
 gcagactccg tgaaggggcc gttcaccaatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tcccggaggac accgcggtat attactgtgc gaaagagccg 300
 cttaggtttg acgactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 896
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 896
gagggtgcagc tgttggagtc tggggtaggc ttggtacagc ctgggggggc cctgcgtctc 60
tcctgtgcag cctccggatt cacccttact gaggatgaga tgatttgggt ccgcaaggcc 120
ccagggaagg gtctggagtg ggtctcatct atttcgggta atgggtgctaa tacatactac 180
gcagactccg tgaagggccg gttcaccalc tcccgcgaca attccaagaa cacgcigtat 240
ctgcaaatga acagccctgcg tgcggaggac accgcggtat attactgtgc gaaagaaccg 300
cttaggtttg acaactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 897
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 897
gagggtgcagt tgttggagtc tcggggaggc ttggtacagc ctgggggggc cctgcgtctc 60
tcctgtgcag cctccggatt cacccttact gagcatgaga tgatttgggt ccgccaggct 120
ccagggaagg gtctggagtg ggtctcatct atttcgggta atgggtgctaa tacatactac 180
gcagactccg tgaagggccg gttctccgtc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagccctgcg tgcggaggac accgcggtat attactgtgc gaaagagccg 300
cttaggtttg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 898
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 898
gagggtgcagc cgttggagtc tgggggaggc ttggtacagc ctgggggggc cctgcgtctc 60
tcctgtgcig cctccggatt cacccttact gaggatgaga tgatttgggt ccgccaggct 120
ccagggaagg gtctggagtg ggtctcatct atttcgggta atgggtgctaa tacatactac 180
gcagactccg tgaagggccg gttcaccalc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagccctgcg tgcggaggac accgcggtat attactgtgc gaaagagccg 300
cttaggtttg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 899
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 899

gaggtgcagc tgttggagtc tgcgggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt cacctttgct gagtatgaga tgatttgggt ccgccaggct 120
 ccagggaagg gtcctggagtg ggctcctcatt atttcgggta atggtgctaa tacatactac 180
 gcagacitccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagccctgcg tgcggaggac accgcgggat attactgtgc gaaagagccg 300
 cttaggtttg actactgggg tcaggagacc ctggtcaccg tctcgagc 348

<210> 900
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 900
 gaggtgcagc tgttggagtc tgcgggaggc ttggtacagc ctggggggtc gctgcgtctc 60
 tcctgtgcag cctccggatt cacctttact gagtatgaga tgatttgggt ccgccaggct 120
 ccagggaagg gtcctggagtg ggctcctcatt atttcgggta atggtgctaa tacatactac 180
 gcagacitccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagccctgcg tgcggaggac accgcgggat attactgtgc gaaagagccg 300
 cttaggtttg acaactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 901
 <211> 369
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 901
 gaggtgcagc tgttggagtc tgcgggaggc ttggtacagc ctggggggtc tctgcgtctc 60
 tcctgtacag cctccggatt cacctttaat atgtatgaga tctcgtgggt ccgccaggct 120
 ccagggaagg gcttagagtg ggctcctcatt attagtagac gttgttttac tacatactac 180
 gcagacitccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagccctgcg tgcggaggat accgcgggat attactgtgc gaaagagccg 300
 attacgtatg atttggagta tgcgcgtttt gactactcgg gtcagggaac cctggtcacc 360
 gtcctgagc 369

<210> 902
 <211> 369
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 902
 gaggtgcagc tgttggagtc tgcgggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtacag cctccggatt cacctttaat atgtatgaga tctcgtgggt ccgccaggct 120

ccaggaagg gctagagtg ggtctcaggt attagtagac gtggttttac tacatactac 180
gcagactccg tgaaggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagccctgcg tgcggaggat accgcggtat attactgtgc gaaagagccg 300
attacgtatg ctacgaggta tgcgcgtttt gactactggg gtcaggaac cctggtcacc 360
gtctcgagc 369

<210> 903
<211> 369
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 903
gaggtgcagc tgttgagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtacag cctccggatt cacccttaat atgtatgaga tgtcgtgggt ccgccaggct 120
ccaggaagg gcttagagtg ggtctcaggt attagtaggc gttgttttac tacatactac 180
gcagactccg tgaaggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagccctgcg tgcggaggat accgcggtat attactgtgc gaaagagccg 300
attacgtatg atatgaggta tgcgcgtttt gactacgggg gtcaggaac cctggtcacc 360
gtctcgagc 369

<210> 904
<211> 369
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 904
gaggtgcagc tgttgagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtacag cctccggatt cacccttaat atgtatgaga tgtcgtgggt ccgccaggct 120
ccaggaagg gcttagagtg ggtctcaggt attagtaggc gttgttttac tacatactac 180
gcagactccg tgaaggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagccctgcg tgcggaggat accgcggtat attactgtgc gaaagagccg 300
attacgtatg atatgaggta tgcgcgtttt gactacgggg gtcaggaac cctggtcacc 360
gtctcgaac 369

<210> 905
<211> 369
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 905
gaggtgcagc tgttgagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtacag cctccggatt cacccttaat acgtatgaga tgtcgtgggt ccgccaggct 120

ccagggaagg gctagagtg ggtctcagggt attggttaggc gtggttttac tacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaaiga acagcctgcg tgcgaggat accgcggtat attactgtgc gaaagagccg 300
attacgtatg atttgaggta tgcgcgtttt gactactcgg gtcagggaac cctggtcacc 360
gtctcgagc 369

<210> 906
<211> 369
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 906
gaggtgcagc tgatggagtc agggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtacag cctccggatt ctcccttaat atgtatgaga tgcgtgggt ccgccaggct 120
ccagggaagg gctagagtg ggtctcagggt attagtaggc gtggttttac tacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga ncagcctgcg tgcgaggat accgcggtat attactgtgc gaaagagccg 300
attacgtatg atatgaggta tgcgcgtttt gactactggg gtcggggaac cctggtcacc 360
gtctcgagc 369

<210> 907
<211> 369
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 907
gaggtgcagc tgatggagtc agggggaggc ttggtgcagc ctggggggtc cctgcgtctc 60
tcctgtacag cctccggatt cgcctttaat atgtatgaga tgcgtgggt ccgccaggct 120
ccagggaagg gactagagtg ggtctcagggt attagtaggc atggttttac tacgtactac 180
gcagactccg tgaagggccg gttcaccgtc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaaiga acagcctgcg tgcgaggat accgcggtat attactgtgc gaaagagccg 300
attacgtatg atatgggta tgcgcgttct gactactggg gtcagggaac cctggtcacc 360
gtctcgagc 369

<210> 908
<211> 369
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 908
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtacag cctccggatt cacccttaat atgtatgaga tgcgtgggt ccgccaggct 120

ccagggaagg gcttagagtg ggtctcaggt attagtaggc glggttttac tacatactac 180
gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcgaggat accgcggtat atttctgtgc gaaagagccg 300
attacgtatg atatgaggta tgcgcgttct gactactggg gtcagggaac cctggtcacc 360
gtctcgagc 369

<210> 909
<211> 369
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 909
gaggtagcagc tgttggagtc tggggggggc ttggttcagc ctagggggtc cctgcgtctc 60
tctgtacag cctccgggtt caccctttaa atgtatgaga tgtcgtgggt ccgccaggct 120
ccagggaagg gcttagagtg ggtctcaggt attagtaggc glggttttac tacatactac 180
gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcgaggat accgcggtat attactgtgc gaaagagccg 300
attacgtatt ctatgaggta tgcgcgtttt gactactcgg gtcagggaac catggtcacc 360
gtctcgagc 369

<210> 910
<211> 369
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 910
gaggtagcagc tgttggagtc tggggggaggc ttggtacagc ctagggggtc ccttcgtctc 60
tccgtacag cctccggatt caccctttaa atgtatgaga tgtcgtgggt ccgccaggct 120
ccagggaagg gcttagagtg ggtctcaggt attagtaggc glggttttac tacatactac 180
gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcgaggat accgcggtat attactgtgc gaaagagccg 300
attacgtatg atatgaggta tgcgcgtttt gactacagig gtcagggaac cctggtcacc 360
gtctcgagc 369

<210> 911
<211> 369
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 911
gaggtagcagc tgttggagtc tggaggaggc ttggtacagc ctagggggtc cctgcgtctc 60
tccgtacag cctccggatt caccctttaa atgtatgaga tgtcgtgggt ccgcaaggct 120

ccagggaagg gctagagtg ggtctcagggt attagtaggc atggttttac tacatactac 180
gcagactccg tgaaggggccg gttcaccaic tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcgaggat accgcggtat attactgtgc gaaagagccg 300
attacgtatg alatgaggta tgcgcgtttt gactactggg gtcagggaac cctggtcacc 360
gtctcgagc 369

<210> 912
<211> 369
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 912
gagggtgcagc tgttcgagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtacag cctccggaat cacctttaat atgtatgaga tgcgtgggt ccgccaggct 120
ccagggaagg gctlagagtg ggtctcagggt attagtaggc gtggttttac tacatactac 180
gcagactccg tgaaggggccg gttcaccaic tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcgaggat accgcggtat attactgtgc gaaggagccg 300
attacgtatg alatgaggta tgcgcgtttt gactactggg gtcggggaac cctggtcacc 360
gtctcgagc 369

<210> 913
<211> 369
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 913
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggagc cctgcgtctc 60
tcctgtacag cctccggttt cacctttaat atgtatgaga tgcgtgggt ccgccaggct 120
ccagggaagg gctlagagtg ggtctcagggt attagtaggc gtggttttac tacatactac 180
gcagactccg tgaaggggccg gttcaccaic tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcgaggat accgcggtat attactgtgc gaaagagccg 300
attacgtatg alatgaggta tgcgcgtttt gactactggg gtcggggaac cctggtcacc 360
gtctcgagc 369

<210> 914
<211> 369
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 914
gagggtgcagc tgttggagtc tgggggaggc tcggtacagc ctggggggtc cctgcgtctc 60
tcctgtacag cctccggaat ctcctttaat atgtatgaga tgcgtgggt ccgccaggct 120

ccaggggaagg gtcIagagtg ggIcIcaggt attagtaggc gtggIitttac tacaIactac 180
gcagactccg tgaagggccg gItcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcgaggat accgcggtat attactgtgc gaaagagccg 300
attacgtatg atatgaggta tgcgcgtIIt gactactggg gtcagggaac cctggtcacc 360
gtctcgggc 369

<210> 915
<211> 369
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 915
gaggIgcagc tgttgagtc tgggggaggc ttggtacaac ctggggggtc cctgcgtctc 60
tcctgtacag cctccggatt caccIItaat atgtatgaga tgtcgtgggt ccgcaaggct 120
ccaggggaagg gtcIagagtg ggIcIcaggt attagtaggc gtggIitttac tacaIactac 180
gcagactccg tgaagggccg gItcaccatc tcccgIcaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcgaggat accgcggtat attactgtgc gaaagagccg 300
attacgtatg atatgaggta tgcgcgtIIt gactactggg gtcagggaac cctggtcacc 360
gtctcgagc 369

<210> 916
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 916
gaggIgcagc tgttgagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt caccIItcgg gattatgaga tgtggtgggt ccgccaggct 120
ccaggggaagg gtcIagagtg ggIcIcagct attaatccgc agggIacgcg tacaIactac 180
gcagactccg tgaagggccg gItcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcgaggat accgcggtat attactgtgc gaaacttccg 300
tttactIItg aggactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 917
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 917
gaggIgcagc tgttgagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt caccIItcgg gattatgaga tgtggtgggt ccgccaggct 120
ccaggggaagg gtcIagagtg ggIcIcagct attaatccgc agggIacgcg tacaIactac 180

gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcgaggat accgcggtat attactgtgc gaaacttccg 300
 ttacttttg acgactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 918
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 918
 gaggtgcagc tgttggagtc tgggggagggc ttggtacagc ctgggggggc cctgcgtctc 60
 tcctgtgcag cctccggatt cacccttcgg gattatgaga tgtggtgggt ccgccaggct 120
 ccagggaagg gtctagagcg ggtctcagct attaatccgc agggtagcgc tacatactac 180
 gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcgaggat accgcggtat attactgtac gaaacttccg 300
 ttatatttlig aatactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 919
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 919
 gaggtgcagc tgttggagtc cgggggagggc ttggtacagc ctgggggggc cctgcgtctc 60
 tcctgtgcag cctccggatt cacccttcgg gattatgaga tgtggtgggt ccgccaggct 120
 ccagggaagg gtctagagcg ggtctcagct attaatccgc agggtagcgc tacatactac 180
 gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcgaggat accgcggtat attactgtgc gaaacttccg 300
 ttatatttlig acgaccgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 920
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 920
 gaggtgcagc tgttggagtc tgggggagggc ttggtacagc ctgggggggc cctgcgtctc 60
 tcctgtgcag cctccggatt cacccttcgg gattatgaga tgtggtgggt ccgccaggct 120
 ccagggaagg gtctagagcg ggtctcagct attaatccgc agggtagcgc tacatactac 180
 gcagactccg tgatgggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcgaggat accgcggtat attactgtgc gaaacttccg 300
 ttacttttlig acgactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 921
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 921
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt ctcccttcgg gattatgaga tgggtggta ccgccaggct 120
 ccagggaagg gcttagagcg ggtctcagct attaatccgc agggtagcgc tacatattac 180
 gcagactccg tgaaggggcg gttcaccaic tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcgaggat accgcggtat attactgtgc gaaacttccg 300
 tttatttttg acaaccgggg lcagggaacc ctggtcaccg tctcgagc 348

<210> 922
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 922
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt cacccttcgg gattatgaga tgggtgggt ccgccaggct 120
 ccagggaagg gcttagagcg ggtctcagct attaatccgc agggtagcgc tacatactac 180
 gcagactccg tgaaggggcg gttcaccaic tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcgaggat acctcggtat atcaactgtgc gaaacctccg 300
 tttatttttg gcgactgggg tccgggaacc ctggtcaccg tctcgagc 348

<210> 923
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 923
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc ccggcgtctc 60
 tcctgtgcag cctccggatt cacccttcgg gattatgaga tgggtgggt ccgccaggct 120
 ccggggaagg gcttagagcg ggtctcagct attaatccgc agggtagcgc tacatactac 180
 gcagactccg tgaaggggcg gttcacgaic tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcgaggat accgcggtat attactgtgc gaaacttccg 300
 tttacltttg aggactgggg lcagggaacc ctggtcaccg tctcgagc 348

<210> 924
 <211> 348
 <212> DNA
 <213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 924

gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc	60
tcctgtgcag cctccggatt cacccttcgg gattatgaga tgtggtgggt ccgccaggct	120
ccagggaagg gcttagagcg ggtctcagct attaatccgc agggtagcgc tacatactac	180
gcagactccg tgaaggcccg gttcaccatc tcccgcgaca attccaagaa cagctgtat	240
ctgcaaatga acagcctgcg tgcggaggat actgcggtat attactgtgc gaaacttccg	300
tttatgtttg acgaccgggg tcagggaacc ctggtcaccg tctcgagc	348

<210> 925

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 925

gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc	60
tcctgtgcag cctccggatt cacccttcgg gattatgaga tgtggtgggt ccgccaggct	120
ccagggaagg tcttagagcg ggtctcagct attaatccgc agggtagcgc tacatactac	180
gcagactccg tgaaggcccg gttcaccatc tcccgcgaca attccaagaa catgtgtat	240
ctgcaaatga acagcctgcg tgcggaggat actgcggtat attactgtgc gaaacttccg	300
tttatgtttg acgaccgggg tcagggaacc ctggtcaccg tctcgagc	348

<210> 926

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 926

gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc	60
tcctgtgcag cctccggatt cacccttcgg gattatgaga tgtggtgggt ccgccaggct	120
ccagggaagg gcttagagcg ggtctcagct attaatccgc agggtagcgc tacatactac	180
gcagactccg tgaaggcccg gttcaccatc tcccgcgaca attccaagaa cagctgtat	240
ctgcaaatga acagcctgcg agccgaggat actgcggtat attactgtgc gaaacttccg	300
tttatgtttg acgaccgggg tcagggaacc ctggtcaccg tctcgagc	348

<210> 927

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 927

gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc	60
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tcctgtgcag cctccggatt cacctttcgg gattatgaga tgtggtgggt ccgccaggct	120
ccagggaagg gtctagagcg ggtctcagct attaatccgc agggtagcgc tacatactac	180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat	240
ctgcaaatga acagcctgcg tgcgaggat accgcggtat attactgttt gaaacttccg	300
tttattttcg actacigggg tcagggaacc ctggtcaccg tctcgagc	348

<210> 928
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 928	
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggggc cctgcgtcta	60
tcctgtgcag cctccggatt cacctttcgg gattatgaga tgtggtgggt ccgccaggct	120
ccagggaagg gtctagagcg ggtctcagct attaacccgc agggtagcgc tacatactat	180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat	240
ctgcaaatga acagcctgcg tgcgaggat accgcggtat atcacgtac gaaacttccg	300
tttatttttg actacigggg tcagggaacc ctggtcaccg tctcgagc	348

<210> 929
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 929	
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggggc cctgcgtctc	60
tcctgtgcag cctccggatt cacctttcgg gattatgaga tgtggtgggt ccgccaggct	120
ccagggaagg gtctagagcg ggtctcagct attaatccgc agggtagcgc tacatactac	180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctatat	240
ctgcaaatga acagcctgcg tgcgaggat accgcggtat attactgtgc gaaacttccg	300
tttttttttg actccagggg tcagggaacc ctggtcaccg tctcgagc	348

<210> 930
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 930	
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggggc cctgcgtctc	60
tcctgtgcag cctccggatt cacctttcgg gattatgaga tgtggtgggt ccgccaggct	120
ccagggaagg gtctagagcg ggtctcagct attaatccgc agggtagcgc tacatactac	180
gcagactctg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat	240

ctgcaaatga acagcctgcg tgccgaggat accgcggtat attactgtgc gaaacttccg 300

tttacttttg aggactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 931

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 931

gagggtgcagc tgltaggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60

tcctgtgcag cctccggatt cacccttcgg gattatgaga tglgtgggt cgcagggt 120

ccagggaagg gctagagcg ggtctcagct attaatccgc aggtacgcg tacatactac 180

gcagactccg tgatgggccc gtccaccatc tcccgcgaca attccaagaa cagctgtat 240

ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gaaacttccg 300

tttacttttg aggactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 932

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 932

gagggtgcagc tgltaggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60

tcctgtgcag cctccggatt ctccttcgg gattatgaga tglgtgggt cgcagggt 120

ccagggaagg gctagagcg ggtctcagct attaatccgc aggtacgcg tacatactac 180

gcagactccg tgaaggccc gtccaccatc tcccgcgaca attccaagaa cagctgtat 240

ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gaaacttccg 300

tttacttttg aggactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 933

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 933

gagggtgcagc tgltaggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60

tcctgtgcag cctccggatt cacccttcgg gattatgaga tglgtgggt cgcagggt 120

ccagggaagg ttctagagcg ggtctcagct attaatccgc aggtacgcg tacatactac 180

gcagactccg tgaaggccc gtccaccatc tcccgcgaca attccaagaa catctgtat 240

ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gaaacttccg 300

tttacttttg aggactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 934
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 934	
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc	60
tccigtgcag cctccggatt cacctttcgg gattatgaga tgtggtgggt ccgccaggct	120
ccagggaagg gtcitagagcg ggtctcagct attaatccgc agggtagcgc tacatactac	180
gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat	240
ctgcaaaiga acagcctgcg tgcggaggat accgcgggat atcactgtgc gaaacttccg	300
tttacttttg aggactgggg tcagggaacc ctggtcaccg tctcgagc	348

<210> 935
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 935	
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc	60
tccigtgcag cctccggatt cacctttcgg gattatgaga tgtggtgggt ccgccaggct	120
ccagggaagg gtcitagagcg ggtctcagct attaatccgc agggtagcgc tacatactac	180
gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat	240
ctgcaaaiga acagcctgcg tgcggaggat accgcgggat attactgtac gaaacttccg	300
tttacttttg aggactgggg tcagggaacc ctggtcaccg tctcgagc	348

<210> 936
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 936	
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc	60
tccigtgcag cctccggatt cacctttcgg gattatgaga tgtggtgggt ccgccaggct	120
ccagggaagg gtcitagagcg ggtctcagct attaatccgc agggtagcgc tacatactac	180
gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat	240
ctgcaaaiga acagcctgcg tgcggaggat accgcgggat attactgttt gaaacttccg	300
tttacttttg aggactgggg tcagggaacc ctggtcaccg tctcgagc	348

<210> 937
 <211> 348
 <212> DNA
 <213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 937

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gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtcta      60
tccigtgcag cctccggatt cacctttcgg gattatgaga tgtggigggt ccgccaggct      120
ccagggaagg gtcitagagcg ggtctcagct attaacccgc agggtagcgc tacatactat      180
gcagactccg tgaagggccg gttcaccaac tcccgcgaca attccaagaa cacgctgtat      240
ctgcaaatga acagccctgcg tgcctgatgat accgcggtat atcactgtac gaaacttccg      300
tttttttttg aatactgggg tcagggaacc ctggtcaccg tctcgagc      348
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<210> 938

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 938

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gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc      60
tccigtgcag cctccggatt cacctttcgg gattatgaga tgtggigggt ccgccaggct      120
ccagggaagg gtcitagagcg ggtctcagct attaatccgc agggtagcgc tacatactac      180
gcagactccg tgaagggccg gttcaccaac tcccgcgaca attccaagaa cacgctgtat      240
ctgcaaatga acagccctgcg tgcctgaggac accgcggtat attactgtgc gaaagaacct      300
tatagttttg actcctgggg tcagggaacc ctggtcaccg tctcgagc      348
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<210> 939

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 939

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gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc      60
tccigtgcag cctccggatt cacctttcgg gattatgaga tgtggigggt ccgccaggct      120
ccagggaagg gtcitagagcg ggtctcagct attaatccgc agggtagcgc tacatactac      180
gcagactccg tgaagggccg gttcaccaac tcccgcgaca attccaagaa cacgctgtat      240
ctgcaaatga acagccctgcg tgcctgaggat accgcggtat atcactgtgc gaaagaacct      300
tatagttatg actactgggg tcagggaacc ctggtcaccg tctcgagc      348
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<210> 940

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 940

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gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc      60
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```

tcctgtgcag cctccggatt cacccttcgg gattatgaga tgtgtgtgggt ccgccgggct 120
ccaggggaagg gtctagagcg ggtctcagct attaatccgc aggggtacgcg tacatactac 180
gcagactlccg tgatgggccc gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcggaggat accgcgggat attactgtgc gaaacttccg 300
tttacttttg acgactgggg tcaggggaacc ctgggtaccg tctcgagc 348

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<210> 941
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

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<400> 941
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtcta 60
tcctgtgcag cctccggatt cacccttcgg gattatgaga tgtgtgtgggt ccgccgggct 120
ccaggggaagg gtctagagcg ggtctcagct attaatccgc aggggtacgcg tacatactac 180
gcagactlccg tgatgggccc gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcggaggat actgcgggat attactgtgc gaaacttccg 300
tttatgtttg acgaccgggg tcaggggaacc ctgggtaccg tctcgagc 348

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<210> 942
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

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<400> 942
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtcta 60
tcctgtgcag cctccggatt cacccttcgg gattatgaga tgtgtgtgggt ccgccaggct 120
ccaggggaagg gtctagagcg ggtctcagct attaatccgc aggggtacgcg tacatactac 180
gcagactlccg tgatgggccc gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcggaggat actgcgggat attactgtgc gaaacttccg 300
tttatgtttg acgactgggg tcaggggaacc ctgggtaccg tctcgagc 348

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<210> 943
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

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<400> 943
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacccttgcg gggtatgagt tgtgtgtgggt ccgccaggct 120
ccaggggaagg gtctagagcg ggtctcagct attaatccgc aggggtacgcg tacatactac 180
gcagactlccg tgatgggccc gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240

```

ctgcaaatga acagcctgcg tgcgaggat accgcggtat attactgtgc gaaacttccg	300
tttacttttg acgactgggg tcaggggaacc ctggtcaccg tctcgagc	348
<210> 944	
<211> 348	
<212> DNA	
<213> 人工序列	
<220>	
<223> 人工序列之描述：合成聚核苷酸	
<400> 944	
gagggtgcagc tgttggagtc tgggggagggc ttggtacagc ctggggggc cctgcgtctc	60
tcctgtgcag cctccggatt cacccttgcg gggatagagt tgggtgggt ccgccaggct	120
ccaggggaagg gtctagagcg ggtctcagct attaatccgc agggtagcg tacatactac	180
gcagactccg tgatgggccc gttcaccaic tcccgcgaca attccaagaa cacgctgtat	240
ctgcaaatga acagcctgcg tgcgaggat actgcggtat attactgtgc gaaacttccg	300
tttacttttg acgaccgggg tcaggggaacc ctggtcaccg tctcgagc	348
<210> 945	
<211> 348	
<212> DNA	
<213> 人工序列	
<220>	
<223> 人工序列之描述：合成聚核苷酸	
<400> 945	
gagggtgcagc tgttggagtc tgggggagggc ttggtacagc ctggggggc cctgcgtctc	60
tcctgtgcag cctccggatt cacccttgcg gggatagaga tgggtgggt ccgccaggct	120
ccaggggaagg gtctagagcg ggtctcagct attaatccgc agggtagcg tacatactac	180
gcagactccg tgatgggccc gttcaccaic tcccgcgaca attccaagaa cacgctgtat	240
ctgcaaatga acagcctgcg tgcgaggat accgcggtat attactgtgc gaaacttccg	300
tttacttttg acgactgggg tcaggggaacc ctggtcaccg tctcgagc	348
<210> 946	
<211> 348	
<212> DNA	
<213> 人工序列	
<220>	
<223> 人工序列之描述：合成聚核苷酸	
<400> 946	
gagggtgcagc tgttggagtc tgggggagggc ttggtacagc ctggggggc cctgcgtctc	60
tcctgtgcag cctccggatt cacccttgcg gggatagaga tgggtgggt ccgccaggct	120
ccaggggaagg gtctagagcg ggtctcagct attaatccgc agggtagcg tacatactac	180
gcagactccg tgatgggccc gttcaccaic tcccgcgaca attccaagaa cacgctgtat	240
ctgcaaatga acagcctgcg tgcgaggat actgcggtat attactgtgc gaaacttccg	300
tttacttttg acgaccgggg tcaggggaacc ctggtcaccg tctcgagc	348
<210> 947	

<211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 947
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tccigtgcag cctccggatt cacctttcgg gattatgaga tgtggtgggt ccgccaggct 120
 ccagggaagg gctagagtg ggtctcagct attaatccgc agggtagcgc tacatactac 180
 gcagactccg tgaaggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcgaggat acccggtat attactgtgc gaaacttccg 300
 ttacttttg acgactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 948
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 948
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtcta 60
 tccigtgcag cctccggatt cacctttcgg gattatgaga tgtggtgggt ccgccaggct 120
 ccagggaagg gctagagtg ggtctcagct attaatccgc agggtagcgc tacatactac 180
 gcagactccg tgaaggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcgaggat actgcggtat attactgtgc gaaacttccg 300
 ttatgtttg acgacggggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 949
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 949
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tccigtgcag cctccggatt cacctttcgg gattatgaga tgtggtgggt ccgccaggct 120
 ccagggaagg gctagagtg ggtctcagct attaatccgc agggtagcgc tacatactac 180
 gcagactccg tgaaggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcgaggac acccggtat attactgtgc gaaacttccg 300
 acctactttt ccgacggggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 950
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 950
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt caccitcgg gattatgaga tgtgtgggt ccgccaggct 120
ccagggaagg gcttagagcg ggttcagct attaatccgc agggtagcg tacatactac 180
gcagactccg tgaagggccg gttcacatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcgaggac accgcggat attactgtgc gaaacttccg 300
ttttctttg agggatgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 951
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 951
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt caccitcgg gattatgaga tgtgtgggt ccgccaggct 120
ccagggaagg gcttagagcg ggttcagct attaatccgc agggtagcg tacatactac 180
gcagactccg tgaagggccg gttcacatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcgaggac accgcggat attactgtgc gaaacttccg 300
acgtacttta aggactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 952
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 952
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt caccitcgg gattatgaga tgtgtgggt ccgccaggct 120
ccagggaagg gcttagagcg ggttcagct attaatccgc agggtagcg tacatactac 180
gcagactccg tgaagggccg gttcacatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcgaggac accgcggat attactgtgc gaaacttccg 300
ttttactttt ccgagtgagg tcagggaacc ctggtcaccg tctcgagc 348

<210> 953
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 953
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt caccitcgg gattatgaga tgtgtgggt ccgccaggct 120

ccagggaagg gctagagcg ggctcagct attaatccgc agggtaacgc tacatactac 180
gcagactccg tgaagggccg gtccaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcgaggac accgcggtat atcactgtgc gaaacttccg 300
atgttctltg aggactgggg tcagggaacc ctggtcaccg tctcgaa 348

<210> 954
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 954
gaggtagcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tccgtgtagc cctccggtat caccttccg gattatgaga tgtgtgggt ccgccaggct 120
ccagggaagg gctagagcg ggtctcagct attaatccgc agggtaacgc tacatactac 180
gcagactccg tgaagggccg gtccaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcgaggac accgcggtat attactgtgc gaaacttccg 300
tttccglttt cggagtgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 955
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 955
gaggtagcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tccgtgtagc cctccggtat caccttccg gattatgaga tgtgtgggt ccgccaggct 120
ccagggaagg gctagagcg ggtctcagct attaatccgc agggtaacgc tacatactac 180
gcagactccg tgaagggccg gtccaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcgaggac accgcggtat attactgtgc gaaacttccg 300
ttttactttt ccgagtgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 956
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 956
gaggtagcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tccgtgtagc cctccggtat caccttccg gattatgaga tgtgtgggt ccgccaggct 120
ccagggaagg gctagagcg ggctcagct attaatccgt acggtaacct cacatactac 180
gcagactccg tgaagggccg gtccaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcgaggat accgcggtat attactgtgc gaaacttccg 300

tttacttttg aggactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 957
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 957
gaggatgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tccigtgcag cctccggatt cacccttcgg gattatgaga tgtggtgggt ccgccaggct 120
ccagggaagg gtctagagcg ggtctcagct attaatccgc ccggtacctt gacatactac 180
gcagactccg tgaaggcccg gtccaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagccctgc tgcgaggat accgcggat attactgtgc gaaacttccg 300
tttacttttg aggaccgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 958
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 958
gaggatgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tccigtgcag cctccggatt cacccttcgg gattatgaga tgtggtgggt ccgccaggct 120
ccagggaagg gtctagagcg ggtctcagct attaatccgt ggggtggcct gacatactac 180
gcagactccg tgaaggcccg gtccaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagccctgc tgcgaggat accgcggat attactgtgc gaaacttccg 300
tttacttttg aggactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 959
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 959
gaggatgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tccigtgcag cctccggatt cacccttcgg gattatgaga tgtggtgggt ccgccaggct 120
ccagggaagg gtctagagcg ggtctcagct attaatccga tgggtgggtt cacatactac 180
gcagactccg tgaaggcccg gtccaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagccctgc tgcgaggat accgcggat attactgtgc gaaacttccg 300
tttacttttg aggactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 960
<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 960

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gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc      60
tcctgtgcag cctccggatt cacctttcgg gattatgaga tgtggtgggt ccgccaggct      120
ccagggaagg gtctagagcg ggtctcagct attaatccgt ggggttcgca cacatactac      180
gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat      240
ctgcaaatga acagcctgcg tgcggaggat accgcggtat attactgtgc gaaacttccg      300
tttacttttg aggactgggg tcagggaacc ctggtcaccg tctcgagc      348

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<210> 961

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 961

```

gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc      60
tcctgtgcag cctccggatt cacctttcgg gattatgaga tgtggtgggt ccgccaggct      120
ccagggaagg gtctagagcg ggtctcagct attaatccgt ccggtgggct gacatactac      180
gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat      240
ctgcaaatga acagcctgcg tgcggaggat accgcggtat attactgtgc gaaacttccg      300
tttacttttg acgaccgggg tcagggaacc ctggtcaccg tctcgagc      348

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<210> 962

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 962

```

gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc      60
tcctgtgcag cctccggatt cacctttcgg gattatgaga tgtggtgggt ccgccaggct      120
ccagggaagg gtctagagcg ggtctcagct attaatccgc acggttcggt gacatactac      180
gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat      240
ctgcaaatga acagcctgcg tgcggaggat accgcggtat attactgtgc gaaacttccg      300
tttacttttg acgactgggg tcagggaacc ctggtcaccg tctcgagc      348

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<210> 963

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 963
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt cacctttcgg gattatgaga tgtgttgggt ccgccaggct 120
 ccaggggaagg gtctagagcg ggtctcagct attaatccgg ccggtcgggt gacatactac 180
 gcagactccg tgaagggccg gtccacatc tcccgcgaca attccaagaa cacgtgtat 240
 ctgcaaatga acagcctgcg tgcgaggat accgcggat attactgtgc gaaacttccg 300
 ttacttttg aggactgggg tcaggggaacc ctggtcaccg tctcgagc 348

<210> 964
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 964
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt cacctttcgg gattatgaga tgtgttgggt ccgccaggct 120
 ccaggggaagg gtctagagcg ggtctcagct attaatccgt ggggtagctt gacatactac 180
 gcagactccg tgaagggccg gtccacatc tcccgcgaca attccaagaa cacgtgtat 240
 ctgcaaatga acagcctgcg tgcgaggat accgcggat attactgtgc gaaacttccg 300
 ttacttttg aggactgggg tcaggggaacc ctggtcaccg tctcgagc 348

<210> 965
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 965
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt cacctttccc gactacgaga tgtgttgggt ccgccaggct 120
 ccaggggaagg gtctagagcg ggtctcagct attaatccgc agggtagcgc tacatactac 180
 gcagactccg tgaagggccg gtccacatc tcccgcgaca attccaagaa cacgtgtat 240
 ctgcaaatga acagcctgcg tgcgaggat accgcggat atcactgtgc gaaacttccg 300
 ttacttttg acgactgggg tcaggggaacc ctggtcaccg tctcgagc 348

<210> 966
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 966
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag actccggatt cacctttccg cccgtggaga tgtgttgggt ccgccaggct 120

ccagggaagg gctagagcg ggtctcagct attaatccgc agggtagcg tacatactac 180
gcagactccg tgaaggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggat accgcggtat attactgtgc gaaacttccg 300
tttacttttg aggactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 967
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 967
gaggtagcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tccgtgtagc cctccggatt cacccttcgg gattatgaga tgtggtaggt ccgccaggct 120
ccagggaagg gctagagcg ggtctcagct attaatccgt acggtaggct gacatactac 180
gcagactccg tgaaggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggat accgcggtat attactgtgc gaaacttccg 300
tttacttttg acgactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 968
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 968
gaggtagcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tccgtgtagc cctccggatt cacccttcgg gattatgaga tgtggtaggt ccgccaggct 120
ccagggaagg gctagagcg ggtctcagct attaatccgt ggggtaacca cacatactac 180
gcagactccg tgaaggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggat accgcggtat attactgtgc gaaacttccg 300
tttacttttg aggactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 969
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 969
gaggtagcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tccgtgtagc cctccggatt cacccttcgg gattatgaga tgtggtaggt ccgccaggct 120
ccagggaagg gctagagcg ggtctcagct attaatccgc acggtaggcta cacatactac 180
gcagactccg tgaaggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggat accgcggtat attactgtgc gaaacttccg 300

tttacttttg aggactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 970
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 970
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttcgg gattatgaga tgtggtgggt ccgccaggct 120
ccagggaagg gcttagagcg ggtctcagct attaatccgc cgggtatgct cacatactac 180
gcagactccg tgaaggggcg gtccaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcggaggat accgcggtat attactgtgc gaaacttccg 300
tttacttttg acgactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 971
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 971
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttcgg gattatgaga tgtggtgggt ccgccaggct 120
ccagggaagg gcttagagcg ggtctcagct attaatccgt ggggtcagtt gacatactac 180
gcagactccg tgaaggggcg gtccaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcggaggat accgcggtat attactgtgc gaaacttccg 300
tttacttttg aggactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 972
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 972
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttcgg gattatgaga tgtggtgggt ccgccaggct 120
ccagggaagg gcttagagcg ggtctcagct attaatccgt ggggtggcta cacatactac 180
gcagactccg tgaaggggcg attcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcggaggat accgcggtat attactgtgc gaaacttccg 300
tttacttttg acgactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 973
<211> 348
<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 973

gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc	60
tcctgtgcag cctccggatt cacctttcgg gattatgaga tgtggtaggt ccgccaggct	120
ccagggaagg gcttagagcg ggtctcagct attaatccgt cgggtgggct gacatactac	180
gcagactccg tgaaggggcg gttcaccatc tcccgcgaca attccaagaa cacgctgtat	240
ctgcaaatga acagcctgcg tgccgaggat accgcggtat attactgtgc gaaacttccg	300
tttacttttg aggactgggg tcagggaacc ctggtcaccg tctcgagc	348

<210> 974

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 974

gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc	60
tcctgtgcag cctccggatt cacctttcgg gattatgaga tgtggtaggt ccgccaggct	120
ccagggaagg gcttagagcg ggtctcagct attaatccgt cgggtgggtt gacatactac	180
gcagactccg tgaaggggcg gttcaccatc tcccgcgaca attccaagaa cacgctgtat	240
ctgcaaatga acagcctgcg tgccgaggat accgcggtat attactgtgc gaaacttccg	300
tttacttttg acgactgggg tcagggaacc ctggtcaccg tctcgagc	348

<210> 975

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 975

gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc	60
tcctgtgcag cctccggatt cacctttcgg gattatgaga tgtggtaggt ccgccaggct	120
ccagggaagg gcttagagcg ggtctcagct attaatccgt cgggtacgct cacatactac	180
gcagactccg tgaaggggcg gttcaccatc tcccgcgaca attccaagaa cacgctgtat	240
ctgcaaatga acagcctgcg tgccgaggat accgcggtat attactgtgc gaaacttccg	300
tttacttttg aggactgggg tcagggaacc ctggtcaccg tctcgagc	348

<210> 976

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 976
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttcgg gattatgaga tgtggtaggt ccgccaggct 120
ccagggaagg gtctagagcg ggtctcagct attaatccgt acggttcgtt gacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcggaggat accgcggtat attactgtgc gaaacttccg 300
tttacttttg acgactgggg tcagggaacc ctgggtaccg tctcgagc 348

<210> 977
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 977
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttcgg gattatgaga tgtggtaggt ccgccaggct 120
ccagggaagg gtctagagcg ggtctcagct attaatccgt ggggtggccta cacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcggaggat accgcggtat attactgtgc gaaacttccg 300
tttacttttg aggactgggg tcagggaacc ctgggtaccg tctcgagc 348

<210> 978
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 978
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttcgg gattatgaga tgtggtaggt ccgccaggct 120
ccagggaagg gtctagagcg ggtctcagct attaatccgc aggggtgggct gacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcggaggat accgcggtat attactgtgc gaaacttccg 300
tttacttttg aggactgggg tcagggaacc ctgggtaccg tctcgagc 348

<210> 979
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 979
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttcgg gattatgaga tgtggtaggt ccgccaggct 120
ccagggaagg gtctagagcg ggtctcagct attaatccgt ggggttccca cacatactac 180

gcagactccg tgaaggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagccctgcg tgcggaggat accgcgggat attactgtgc gaaacttccg 300
 ttacttttg acgactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 980
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 980
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tccctgtcag cctccggatt cacctttcgg gattatgaga tgtggtgggt ccgccaggct 120
 ccagggaagg gtctagagcg ggtctcagct attaatccgt ggggtaccct gacatactac 180
 gcagactccg tgaaggccg gttcaccatc tcccgcgaca attccaggaa cacgctgtat 240
 ctgcaaatga acagccctgcg tgcggaggat accgcgggat attactgtgc gaaacttccg 300
 ttacttttg acgactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 981
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 981
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tccctgtcag cctccggatt cacctttcgg gattatgaga tgtggtgggt ccgccaggct 120
 ccagggaagg gtctagagcg ggtctcagct attaatccga acggctcggct gacatactac 180
 gcagactccg tgaaggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagccctgcg tgcggaggat accgcgggat attactgtgc gaaacttccg 300
 ttacttttg cggactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 982
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 982
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc ccctgcgtctc 60
 tccctgtcag cctccggatt cacctttcgg gattatgaga tgtggtgggt ccgccaggct 120
 ccagggaagg gtctagagcg ggtctcagct attaatccgt ggggtcagct gacatactac 180
 gcagactccg tgaaggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagccctgcg tgcggaggat accgcgggat attactgtgc gaaacttccg 300
 ttacttttg acgactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 983
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 983
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tccgtgtcag cctccggatt cacctttcgg gattatgaga tgtggtgggt ccgccaggct 120
 ccagggaagg gtctagagcg ggtctcagct attaatccgc acgggtggcct cacatactac 180
 gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagccttgc tgcggaggat accgcggtat attactgtgc gaaacttccg 300
 ttactitttg acgactgggg tcagggaacc ctggtaaccg tctcgagc 348

<210> 984
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 984
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tccgtgtcag cctccggatt cacctttcgg gattatgaga tgtggtgggt ccgccaggct 120
 ccagggaagg gtctagagcg ggtctcagct attaatccgc cgggtatgtt gacatactac 180
 gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagccttgc tgcggaggat accgcggtat attactgtgc gaaacttccg 300
 ttactitttg acgactgggg tcagggaacc ctggtaaccg tctcgagc 348

<210> 985
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 985
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tccgtgtcag cctccggatt cacctttcgg gattatgaga tgtggtgggt ccgccaggct 120
 ccagggaagg gtctagagcg ggtctcagct attaatccgc acggtaacct gacatactac 180
 gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagccttgc tgcggaggat accgcggtat attactgtgc gaaacttccg 300
 ttactitttg aggactgggg tcagggaacc ctggtaaccg tctcgagc 348

<210> 986
 <211> 348
 <212> DNA
 <213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 986

gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc	60
tcctgtgcag cctccggatt cacctttcgg gattatgaga tgtggtggtt ccgccaggct	120
ccagggaagg gcttagagcg ggtctcagct attaatccgt ggggttcgtt gacatactac	180
gcagactccg tgaagggccg gtccaccatc tcccgcgaca attccaagaa cacgctgtat	240
ctgcaaatga acagcctgcg tgcggaggat accgcggtat attactgtgc gaaacttccg	300
tttacttttg acgactgggg tcagggaacc ctggtcaccg tctcgagc	348

<210> 987

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 987

gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc	60
tcctgtgcag cctccggatt cacctttcgg gattatgaga tgtggtgggt ccgccaggct	120
ccagggaagg gcttagagcg ggtctcagct attaatccgt acggtggcct gacatactac	180
gcagactccg tgaagggccg gtccaccatc tcccgcgaca attccaagaa cacgctgtat	240
ctgcaaatga acagcctgcg tgcggaggat accgcggtat attactgtgc gaaacttccg	300
tttacttttg aggactgggg tcagggaacc ctggtcaccg tctcgagc	348

<210> 988

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 988

gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc	60
tcctgtgcag cctccggatt cacctttcgg gattacgaga tgtggtgggt ccgccaggct	120
ccagggaagg gcttagagcg ggtctcagct attaatccgg ccggtttctt gacatactac	180
gcagactccg tgaagggccg gtccaccatc tcccgcgaca attccaagaa cacgctgtat	240
ctgcaaatga acagcctgcg tgcggaggat accgcggtat attactgtgc gaaacttccg	300
tttacttttg aggactgggg tcagggaacc ctggtcaccg tctcgagc	348

<210> 989

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 989

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gaggtgcagc tgttggagtc tgggggaggc ttggtacggc ctggggggtc cctgcgtctc      60
tccigtgcag cctccggaatt cacctttcgg gattatgaga tgtggtaggt ccgccaggct      120
ccagggaagg gtctagagcg ggtctcagct attaatccgt acggtaggct gacatactac      180
gcagactccg tgaaggggccg gttcaccaic tcccgcgaca attccaagaa cacgctgtat      240
ctgcaaaiga acagcctgcg tgcggaggat accgcgggat attactgtgc gaaacttccg      300
tttacttttg aggactgggg tcagggaacc ctggtcaccg tctcgagc      348

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<210> 990

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 990

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gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc      60
tccigtgcag cctccggaatt cacctttcgg gattatgaga tgtggtaggt ccgccaggct      120
ccagggaagg gtctagagcg ggtctcagct attaatccgt ggggtgggtt cncatactac      180
gcagactccg tgaaggggccg gttcaccaic tcccgcgaca attccaagaa cacgctgtat      240
ctgcaaaiga acagcctgcg tgcggaggat accgcgggat attactgtgc gaaacttccg      300
tttacttttg aggactgggg tcagggaacc ctggtcaccg tctcgagc      348

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<210> 991

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 991

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gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc      60
tccigtgcag cctccggaatt cacctttcgg gattatgaga tgtggtaggt ccgccaggct      120
ccagggaagg gtctagagcg ggtctcagct attaatccgt ggggtgggtt gacatactac      180
gcagactccg tgaaggggccg gttcaccaic tcccgcgaca attccaagaa cacgctgtat      240
ctgcaaaiga acagcctgcg tgcggaggat accgcgggat attactgtgc gaaacttccg      300
tttacttttg acgactgggg tcagggaacc ctggtcaccg tctcgagc      348

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<210> 992

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 992

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gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc      60
tccigtgcag cctccggaatt cacctttcgg gattatgaga tgtggtaggt ccgccaggct      120
ccagggaagg gtctagagcg ggtctcagct attaatccgt acggtaggct gacatactac      180

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gcagactccg tgaagggccg gtaccacatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatgg acagccttgcg tgcggaggat accgcgglat attactgtgc gaaacttccg 300
 ttacttttg aggactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 993
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 993
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt caccittcgg gattatgaga tgtgttgggt ccgccaggct 120
 ccagggaagg gtctagagcg ggcttcagct attaatccgt ggggtacggt gacatactac 180
 gcagactccg tgaagggccg gtaccacatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagccttgcg tgcggaggat accgcgglat attactgtgc gaaacttccg 300
 ttacttttg aggactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 994
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 994
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt caccittcgg gattatgaga tgtgttgggt ccgccaggct 120
 ccagggaagg gtctagagcg ggcttcagct attaatccgt ggggttgcta cacatactac 180
 gcagactccg tgaagggccg gtaccacatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagccttgcg tgcggaggat accgcgglat attactgtgc gaaacttccg 300
 ttacttttg aggactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 995
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 995
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt caccittcgg gattatgaga tgtgttgggt ccgccaggct 120
 ccagggaagg gtctagagcg ggcttcagct attaatccgt acggtaacct gacatactac 180
 gcagactccg tgaagggccg gtaccacatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagccttgcg tgcggaggat accgcgglat attactgtgc gaaacttccg 300
 ttacttttg acgactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 996
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 996
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt caccittcgg gattatgaga tgtgttgggt ccgccaggct 120
 ccagggaagg gtctagagcg ggtctcagct attaatccgc acggltgggt cacatactac 180
 gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcggaggat accgcgggat attactgtgc gaaacttccg 300
 ttactttttg aggactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 997
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 997
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 tcctgtgcag cctccggatt caccittcgg gattatgaga tgtgttgggt ccgccaggct 120
 ccagggaagg gtctagagcg ggtctcagct attaatccgc ccggtttcta cacatactac 180
 gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcggaggat accgcgggat attactgtgc gaaacttccg 300
 ttactttttg acgactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 998
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 998
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 tcctgtgcag cctccggatt caccittcgg gattatgaga tgtgttgggt ccgccaggct 120
 ccagggaagg gtctagagcg ggtctcagct attaatccgc ccggttggcct cacatactac 180
 gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcggaggat accgcgggat attactgtgc gaaacttccg 300
 ttactttttg acgactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 999
 <211> 348
 <212> DNA
 <213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 999

gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc	60
tcctgtgcag cctccggatt cgcctttcgg gattatgaga tgttgtgggt ccgccaggct	120
ccagggaagg gtctagagcg ggtctcagct attaatccgc acggttccct cacatactac	180
gcagactccg tgaaggggcg gtccaccatc tcccgcgaca attccaagaa cacgctgtat	240
ctgcaaatga acagccttgcg tgcggaggat accgcgggtat attactgtgc gaaacttccg	300
tttacttttg aggactgggg tcagggaacc ctggtcaccg tctcgagc	348

<210> 1000

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1000

gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc	60
tcctgtgcag cctccggatt caccctttcgt gattatgaga tgttgtgggt ccgccaggct	120
ccagggaagg gtctagagcg ggtctcagct attaatccgg ccggtgggta cacatactac	180
gcagactccg tgaaggggcg gtccaccatc tcccgcgaca attccaagaa cacgctgtat	240
ctgcaaatga acagccttgcg tgcggaggat accgcgggtat atcactgtgc gaaacttccg	300
tttacttttg aggactgggg tcagggaacc ctggtcaccg tctcgagc	348

<210> 1001

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1001

gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc	60
tcctgtgcag cctccggatt caccctttcgg gattatgaga tgttgtgggt ccgccaggct	120
ccagggaagg gtctagagcg ggtctcagct attaatccgc aggggtacgcg tacatactac	180
gcagactccg tgaaggggcg gtccaccatc tcccgcgaca attccaagaa cacgctgtat	240
ctgcaaatga acagccttgcg tgcggaggac accgcgggtat attactgtgc gaaacttccg	300
tttgtgttta cggagtgggg tcagggaacc ctggtcaccg tctcgagc	348

<210> 1002

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1002

gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc	60
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tcctgtgcag cctccggatt cacccttcgg gattatgaga tgtggtgggt ccgccaggct 120
ccaggggaagg gtctagagcg ggtctcagct attaatccgc aggggtacgcg tacatactac 180
gcagactccg tgaaggggccg gtccaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcggaggat accgcgggat attactgtgc gaaacttccg 300
ttcatgtttt ccgaccgggg tcaggggaacc ctggtcaccg tctcgagc 348

<210> 1003
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1003
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggggc cctgcgtctc 60
tcctgtgcag cctccggatt cacccttcgg gattatgaga tgtggtgggt ccgccaggct 120
ccaggggaagg gtctagagcg ggtctcagct attaatccgc aggggtacgcg tacatactac 180
gcagactccg tgaaggggccg gtccaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcggaggac accgcgggat attactgtgc gaaacttccg 300
tttttgtttc aggagtgggg tcaggggaacc ctggtcaccg tctcgagc 348

<210> 1004
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1004
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggggc cctgcgtctc 60
tcctgtgcag cctccggatt cacccttcgg gattatgaga tgtggtgggt ccgccaggct 120
ccaggggaagg gtctagagcg ggtctcagct attaatccgc aggggtacgcg tacatactac 180
gcagactccg tgaaggggccg gtccaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcggaggac accgcgggat attactgtgc gaaacttccg 300
acgcgglttg aggactgggg tcaggggaacc ctggtcaccg tctcgagc 348

<210> 1005
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1005
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggggc cctgcgtctc 60
tcctgtgcag cctccggatt cacccttcgg gattatgaga tgtggtgggt ccgccaggct 120
ccaggggaagg gtctagagcg ggtctcagct attaatccgc aggggtacgcg tacatactac 180
gcagactccg tgaaggggccg gtccaccatc tcccgcgaca attccaagaa cacgctgtat 240

ctgcaaatga acagcctgcg tgcggaggac accgcggtat attactgtgc gaaacttccg 300
 ttttactttc acgagtgggg tcagggaacc ctggtcaccg tctcgagc 348

 <210> 1006
 <211> 348
 <212> DNA
 <213> 人工序列

 <220>
 <223> 人工序列之描述：合成聚核苷酸

 <400> 1006
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggc cctgcgtctc 60
 tcctgtgcag cctccggatt cacccttcgg gattatgaga tgtggtaggt ccgccaggct 120
 ccagggaagg gtctagagcg ggtctcagct attaatccgc agggtagcgc tacatactac 180
 gcagactccg tgaaggggcg gtccaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcggaggat accgcggtat attactgtgc gaaagagccg 300
 tttcgttatg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

 <210> 1007
 <211> 348
 <212> DNA
 <213> 人工序列

 <220>
 <223> 人工序列之描述：合成聚核苷酸

 <400> 1007
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggc cctgcgtctc 60
 tcctgtgcag cctccggatt cacccttcgg gattatgaga tgtggtaggt ccgccaggct 120
 ccagggaagg gtctagagcg ggtctcagct attaatccgc agggtagcgc tacatactac 180
 gcagactccg tgaaggggcg gtccaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcggaggac accgcggtat attactgtgc gaaacttccg 300
 acgttcttta aggactgggg tcagggaacc ctggtcaccg tctcgagc 348

 <210> 1008
 <211> 348
 <212> DNA
 <213> 人工序列

 <220>
 <223> 人工序列之描述：合成聚核苷酸

 <400> 1008
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggc cctgcgtctc 60
 tcctgtgcag cctccggatt cacccttcgg gattatgaga tgtggtaggt ccgccaggct 120
 ccagggaagg gtctagagcg ggtctcagct attaatccgc agggtagcgc tacatactac 180
 gcagactccg tgaaggggcg gtccaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcggaggat accgcggtat attactgtgc gaaacttccg 300
 ttttcttcc aggagtgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 1009
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1009
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt cacccttcgg gattatgaga tgtggtgggt ccgccaggct 120
 ccagggaagg gtctagagcg ggtctcagct attaatccgc aggggtacgcg tacatactac 180
 gcagactccg tgaaggcccg gtaccacatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcggaggac accgcggat attactgtgc gaaacttccg 300
 cagttgttcc acgaccgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 1010
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1010
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt cacccttcgg gattatgaga tgtggtgggt ccgccaggct 120
 ccagggaagg gtctagagcg ggtctcagct attaatccgc aggggtacgcg tacatactac 180
 gcagactccg tgaaggcccg gtaccacatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcggaggac accgcggat attactgtgc gaaacttccg 300
 cagctctttg aggactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 1011
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1011
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt cacccttcgg gattatgaga tgtggtgggt ccgccaggct 120
 ccagggaagg gtctagagcg ggtctcagct attaatccgc aggggtacgcg tacatactac 180
 gcagactccg tgaaggcccg gtaccacatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcggaggat accgcggat atcactgtgc gaaacttccg 300
 ttgtgggttt ccgagtgagg tcagggaacc ctggtcaccg tctcgagc 348

<210> 1012
 <211> 348
 <212> DNA
 <213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1012

gaggtagcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tccitgicag cctccggatt cacccttcgg gattatgaga tgtggtgggt ccgccaggct 120
 ccagggaagg gtctagagcg ggtctcagct attaatccgc agggtagcgc tacatactac 180
 gcagactccg tgaaggggccg gttcaccaac tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcggaggac accgcggtat attactgtgc gaaacttccg 300
 cagttgtttc aggactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 1013

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1013

gaggtagcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tccitgicag cctccggatt cacccttcgg gattatgaga tgtggtgggt ccgccaggct 120
 ccagggaagg gtctagagcg ggtctcagct attaatccgc agggtagcgc tacatactac 180
 gcagactccg tgaaggggccg gttcaccaac tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcggaggac accgcggtat attactgtgc gaaacttccg 300
 tttttctttc acgagtgagg tcagggaacc ctggtcaccg tctcgagc 348

<210> 1014

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1014

gaggtagcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tccitgicag cctccggatt cacccttcgg gattatgaga tgtggtgggt ccgccaggct 120
 ccagggaagg gtctagagcg ggtctcagct attaatccgc agggtagcgc tacatactac 180
 gcagactccg tgaaggggccg gttcaccaac tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcggaggac accgcggtat attactgtgc gaaacttccg 300
 cactacttta aggactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 1015

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1015

gaggtagcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60

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tccgtgacag cctccggatt caccttccgg gattatgaga tgtggtgggt ccgccaggct 120
ccagggaagg gctagagcgg ggtctcagct attaatccgc agggtagcgg tacatactac 180
gcagactccg tgaagggccg gttcacatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcggaggat accgcgggat attactgtgc gaaacttccg 300
tttactttg aggagtgggg tcagggaacc cgggtaccg tctcgagc 348

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<210> 1016
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

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<400> 1016
gaggtagcagc tgttggagtc tgggggagggc ttggtacagc ctgggggggc cctgcgtctc 60
tcctgtgacag cctccggatt caccttccgg gattatgaga tgtggtgggt ccgccaggct 120
ccagggaagg gctagagcgg ggtctcagct attaatccgc agggtagcgg tacatactac 180
gcagactccg tgaagggccg gttcacatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcggaggat accgcgggat attactgtgc gaaacttccg 300
tttaggtttt ccgaccgggg tcagggaacc cgggtaccg tctcgagc 348

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<210> 1017
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

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<400> 1017
gaggtagcagc tgttggagtc tgggggagggc ttggtacagc ctgggggggc cctgcgtctc 60
tcctgtgacag cctccggatt caccttccgg gattatgaga tgtggtgggt ccgccaggct 120
ccagggaagg gctagagcgg ggtctcagct attaatccgc agggtagcgg tacatactac 180
gcagactccg tgaagggccg gttcacatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcggaggat accgcgggat attactgtgc gaaacttccg 300
acgctgtttc aggactgggg tcagggaacc cgggtaccg tctcgagc 348

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<210> 1018
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

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<400> 1018
gaggtagcagc tgttggagtc tgggggagggc ttggtacagc ctgggggggc cctgcgtctc 60
tcctgtgacag cctccggatt caccttccgg gattatgaga tgtggtgggt ccgccaggct 120
ccagggaagg gctagagcgg ggtctcagct attaatccgc agggtagcgg tacatactac 180
gcagactccg tgaagggccg gttcacatc tcccgcgaca attccaagaa cacgctgtat 240

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ctgcaaatga acagcctgcg tgcgaggac accgcggat attactgtgc gaaacttccg 300

ttttactttt ccgagtgagg tcagggaacc ctggtcaccg tctcgaac 348

<210> 1019

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1019

gaggtgcagc tgttgagtc tggggaggc ttggtacagc ctggggggc cctgcgtctc 60

tcctgtgcag cctccgatt cacccttcgg gattatgaga tgtggtgggt ccgccaggct 120

ccagggaagg gtctagagcg ggtctcagct attaatccgc aggggtacgc tacatactac 180

gcagactccg tgaaggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240

ctgcaaatga acagcctgcg tgcgaggac accgcggat attactgtgc gaaacttccg 300

ttttggtttc aggagtgagg tcagggaacc ctggtcaccg tctcgagc 348

<210> 1020

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1020

gaggtgcagc tgttgagtc tggggaggc ttggtacagc ctggggggc cctgcgtctc 60

tcctgtgcag cctccgatt cacccttcgg gattatgaga tgtggtgggt ccgccaggct 120

ccagggaagg gtctagagcg ggtctcagct attaatccgt ggggttcgtt gacatactac 180

gcagactccg tgaaggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240

ctgcaaatga acagcctgcg tgcgaggac accgcggat attactgtgc gaaacttccg 300

ttttactttc aggagtgagg tcagggaacc ctggtcaccg tctcgagc 348

<210> 1021

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1021

gaggtgcagc tgttgagtc tggggaggc ttggtacagc ctggggggc cctgcgtctc 60

tcctgtgcag cctccgatt cacccttcgg gattatgaga tgtggtgggt ccgccaggct 120

ccagggaagg gtctagagcg ggtctcagct attaatccgt ggggttcgtt gacatactac 180

gcagactccg tgaaggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240

ctgcaaatga acagcctgcg tgcgaggat accgcggat atcactgtgc gaaacttccg 300

atgttctttg aggactgggg tcagggaacc ctggtcaccg tctcgaac 348

<210> 1022

<211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1022
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggc cctgcgtctc 60
 tcctgtgcag cctccggatt cacccttcgg gattatgaga tgtggtgggt ccgccaggct 120
 ccagggaagg gtcctagagcg ggtctcagct attaatccgt ggggttcgtt gacatactac 180
 gcagactccg tgaaggggccg gttcaccaic tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcggaggac accgcgggat attactgtgc gaaacttccg 300
 ttttactttc acgagtgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 1023
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1023
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggc cctgcgtctc 60
 tcctgtgcag cctccggatt cacccttcgg gattatgaga tgtggtgggt ccgccaggct 120
 ccagggaagg gtcctagagcg ggtctcagct attaatccgt ggggttcgtt gacatactac 180
 gcagactccg tgaaggggccg gttcaccaic tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcggaggac accgcgggat attactgtgc gaaacttccg 300
 ttttcttctc aggagtgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 1024
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1024
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggc cctgcgtctc 60
 tcctgtgcag cctccggatt cacccttcgg gattatgaga tgtggtgggt ccgccaggct 120
 ccagggaagg gtcctagagcg ggtctcagct attaatccgt ggggttcgtt gacatactac 180
 gcagactccg tgaaggggccg gttcaccaic tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcggaggac accgcgggat attactgtgc gaaacttccg 300
 ttttcttctc acgagtgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 1025
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1025
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt cacctttcgg gattatgaga tgtggtgggt ccgccaggct 120
 ccagggaagg gtctagagcg ggtctcagct attaatccgt ggggtgggtt cacatactac 180
 gcagactccg tgaaggcccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgccgaggat accgcggtat attactgtgc gaaacttccg 300
 ttttactttc agggagtgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 1026
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1026
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt cacctttcgg gattatgaga tgtggtgggt ccgccaggct 120
 ccagggaagg gtctagagcg ggtctcagct attaatccgt ggggtgggtt cacatactac 180
 gcagactccg tgaaggcccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgccgaggat accgcggtat attactgtgc gaaacttccg 300
 atgttctttg aggactgggg tcagggaacc ctggtcaccg tctcgaac 348

<210> 1027
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1027
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt cacctttcgg gattatgaga tgtggtgggt ccgccaggct 120
 ccagggaagg gtctagagcg ggtctcagct attaatccgt ggggtgggtt cacatactac 180
 gcagactccg tgaaggcccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gaaacttccg 300
 ttttactttc acgagtgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 1028
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1028
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt cacctttcgg gattatgaga tgtggtgggt ccgccaggct 120

ccagggaagg gcttagagcg ggtctcagct attaatccgt ggggtgggtt cacatactac 180
gcagactccg tgaagggccg gttcaccaatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagccctgcg tgcggaggac accgcggtat attactgtgc gaaacttccg 300
ttttctttc aggagtgagg tcagggaacc ctggtcaccg tctcgagc 348

<210> 1029
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1029
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tccctgtcag cctccggatt cacccttcgg gattatgaga tgtgttgggt ccgccaggct 120
ccagggaagg gcttagagcg ggtctcagct attaatccgt ggggtgggtt cacatactac 180
gcagactccg tgaagggccg gttcaccaatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagccctgcg tgcggaggat accgcggtat attactgtgc gaaacttccg 300
ttttctttc acgagtgagg tcagggaacc ctggtcaccg tctcgagc 348

<210> 1030
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1030
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tccctgtcag cctccggatt cacccttcgg gattatgaga tgtgttgggt ccgccaggct 120
ccagggaagg gcttagagcg ggtctcagct attaatccgt ggggtgggtt gacatactac 180
gcagactccg tgaagggccg gttcaccaatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagccctgcg tgcggaggat accgcggtat attactgtgc gaaacttccg 300
ttttacttctc aggagtgagg tcagggaacc ctggtcaccg tctcgagc 348

<210> 1031
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1031
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tccctgtcag cctccggatt cacccttcgg gattatgaga tgtgttgggt ccgccaggct 120
ccagggaagg gcttagagcg ggtctcagct attaatccgt ggggtgggtt gacatactac 180
gcagactccg tgaagggccg gttcaccaatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagccctgcg tgcggaggat accgcggtat attactgtgc gaaacttccg 300

atgttctttg aggactgggg tcagggaacc ctggtcaccg tctcgaaac 348

<210> 1032
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1032
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggggc cctgcgtctc 60
tcctgtgcag cctccggatt cacccttcgg gattatgaga tgtggtgggt ccgccaggct 120
ccagggaagg gtctagagcg ggtctcagct attaatccgt ggggtgggtt gacatactac 180
gcagactccg tgaaggcccg gtaccatc tcccgcgaca attccaagaa cacgtgtat 240
ctgcaaatga acagcctgcg tgcgaggat accgcggtat attactgtgc gaaacttcg 300
ttttactttc acgagtgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 1033
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1033
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggggc cctgcgtctc 60
tcctgtgcag cctccggatt cacccttcgg gattatgaga tgtggtgggt ccgccaggct 120
ccagggaagg gtctagagcg ggtctcagct attaatccgt ggggtgggtt gacatactac 180
gcagactccg tgaaggcccg gtaccatc tcccgcgaca attccaagaa cacgtgtat 240
ctgcaaatga acagcctgcg tgcgaggat accgcggtat attactgtgc gaaacttcg 300
ttttctttc aggagtgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 1034
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1034
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggggc cctgcgtctc 60
tcctgtgcag cctccggatt cacccttcgg gattatgaga tgtggtgggt ccgccaggct 120
ccagggaagg gtctagagcg ggtctcagct attaatccgt ggggtgggtt gacatactac 180
gcagactccg tgaaggcccg gtaccatc tcccgcgaca attccaagaa cacgtgtat 240
ctgcaaatga acagcctgcg tgcgaggat accgcggtat attactgtgc gaaacttcg 300
ttttctttc acgagtgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 1035
<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1035

gagggtgcagc tgttggagtc tgggggaggc ttgggtacagc ctggggggtc cctgcgtctc	60
tcctgtgcag cctccggatt caccctttcgg gattatgaga tgtggtgggt ccgccaggct	120
ccagggaagg gtctagagcg ggcttcagct attaatccgc aggggtacgcg tacatactac	180
gcagactccg tgaaggggccg gttcaccaac tcccgcgaca attccaagaa cacgctgtat	240
ctgcaaatga acagccctgcg tgcggaggac accgcgggat aicactigtc gaaacttccg	300
atgttctttg aggactgggg tcagggaacc ctgggtaccg tctccagc	348

<210> 1036

<211> 357

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1036

gagggtgcagc tgttggagac tgggggaggc ttgggtacagc ctggggggtc cctgcgtctc	60
tcctgtgcag cctccggatt cacccttttcg acttatcata tgcagtggtt ccgccgggct	120
ccagggaagg gccctggagtg ggcttcaatg attgatgcgg atggctcttg gacatactac	180
gcagaccccc tgaaggggccg gttcaccaac tcccgcgaca attccaagaa cacgctgtat	240
ctgcaaatga acagccctgcg tgccaaggac accgcgggat attactigtc gagaccgggt	300
ccgcagtttg gtcagtttga ctacttgggt cagggaaccc tgggtaccgt ctcgagc	357

<210> 1037

<211> 357

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1037

gagggtgcagc tgttggagtc tgggggaggc ttgggtacaga ctggggggtc cctgcgtctc	60
tcctgtgcag cctccggatt cacccttttcg acttatcata tgcagtggtt ccgccaggct	120
ccagggaagg gtctggagtg ggcttcaatg attgatgcgg atggctcttg gaaatactac	180
gcagaccccc tgaaggggccg gttcaccaac tcccgcgaca attccaagaa cacgctgtat	240
ctgcaaatga acagccctgcg tgcggaggac accgcgggat attacttgtt gaaaccgggt	300
ccgcagtttg gtcagtaatga ctacttgggt cagggaaccc tgggtaccgt ctcgagc	357

<210> 1038

<211> 363

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1038
gaggtgcagc tgltagagtc agggggaggc ttggtacagc ctggggggtc cctgcggctc 60
tcctgttcag ctccggatt cacccttttcg gggtatgata tgcagtgggt ccgccaggct 120
ccagggaagg gcttagagtg ggtctcaacg attagtgcgt cgggtgitta tacatactac 180
gcagactccg tgaaggcccg gtccaccalc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagccctgcg tgcgaggac accgcggtat attactgtgc gaaatatcct 300
aatcgttttg cgccttaatag tttagactac agggggtcggg gaaccctggg caccgtctcg 360
agc 363

<210> 1039
<211> 363
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1039
gaggtgcagc tgltagagtc tggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgttcag ctccggatt cacccttttcg gggtatgata tgcagtgggt ccgccaggct 120
ccagggaagg gcttagagtg ggtctcaacg attagtgcgt cgggtgitta tacatactac 180
acagactccg tgaaggcccg gtccaccacc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagccctgcg tgcgaggac accgcggtat attactgtac gaaatatcca 300
aatcgttttg cgcgtataaa tttagactac tggggtcagg gaaccctggg caccgtctcg 360
agc 363

<210> 1040
<211> 324
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1040
gacatcctga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
atcacttgcc gggcaaatag ttctattttg tgggcgttag ctgtgtacca gcagaaacca 120
ggggaagccc ctaagctcct gatcgagagt tcttccggtt tgcaaatgg ggtcccatca 180
cgtttcagtg gcagtggatc tgggacagat ttactctca ccatcagcag tctgcaacct 240
gaagattttg ctacgtacta ctgtgttcag aatgcgggtt ggcctggtac gtccagccaa 300
gggaccaagg tggaaatcaa acgg 324

<210> 1041
<211> 324
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1041

gacatccaga lgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
 atcacttgcc gggcagacag ttctattttg tgggcgttag ctiggtacca gcagaaacca 120
 gggaaagccc ctaagctcct gatcgagagt tcatccgggt tgcaaagtg ggtcccatca 180
 cgtttcagtg gcagtggaic tgggacagat ttacacttca ccatcagcag tctgcaacct 240
 gaagattttg ctacgtacta ctgtgttcag aatgcgggtt ggccctgtac gttcgcccaa 300
 gggaccaagg tggaaatcaa acgg 324

<210> 1042
 <211> 324
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1042
 gacatccaga lgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
 atcacttgcc gggcagatag ttctattttg tgggcgttag ctiggtacca gcagaaacca 120
 gggaaagccc ctaagctcct gatcgagagt tcttccggat tgcaaagcgg ggtcccatca 180
 cgtttcagtg gcagtggaic tgggacagat ttacacttca ccatcagcag tctgcaacct 240
 gaagattttg ctacgtacta ctgtgttcag aatgcgggtt ggccctgtac gttcgcccaa 300
 gggaccaagg tggaaatcaa acgg 324

<210> 1043
 <211> 324
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1043
 gacatccaga lgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
 atcacttgcc gggcaaatag ttctattttg tgggcgttag ctiggtacca gcagaaacca 120
 gggaaagccc ctaagctcct gatcgagagt tcttccgggt tgcaaagtg ggtcccatca 180
 cgtttcagtg gcagtggaic tgggacagat ttacacttca ccatcagcag tctgcaacct 240
 gaagattttg ctacgtacta ctgtgttcag aatgcgggtt ggccctgtac gttcgaccaa 300
 gggaccaagg tggaaatcaa acgg 324

<210> 1044
 <211> 324
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1044
 gacatccaga lgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
 atcacttgcc gggcaaatag ttctattttg tgggcgttag ctiggtacca gcagaaacca 120
 gggaaagccc ctaagctcct gatcgagagt tctaccgggt tgcaaagtg ggtcccatca 180

cglttcagtg gcagtggaac tgggacagat ttacactctca ccatcagcag tctgcaacct 240
 gaagattttg ctacgtacta ctgtgttcag aatgcgggtt ggccctggtag gticggccaa 300
 gggaccaagg tggaaatcaa acgg 324

<210> 1045
 <211> 324
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1045
 gacatccaga tgaccgtgic tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
 atcacttgcc gggcaaatag ttctattttg tgggcgttag ctgtgtacca gcagaaacca 120
 gggaaagccc ctaagctcct gatcgagagt tcttccggtt tgcaaaagcgg ggtcccatca 180
 cglttcagtg gcagtggaac tgggacagat ttacactctca ccatcagcag tctgcaacct 240
 gaagattttg ctacgtacta ctgtgttcag aatgcgggtt ggccctggtag gticggccaa 300
 gggaccaagg tggaaatcaa acgg 324

<210> 1046
 <211> 324
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1046
 gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
 atcacttgcc gggcagatag ttctattttg tgggcgttag ctgtgtacca gcagaaacca 120
 gggaaagccc ctaagctcct gatcgagagt tcttccggtt tgcaaaagtg ggtcccatca 180
 cglttcagtg gcagtggaac tgggacagat ttacactctca ccatcagcag tctgcaacct 240
 gaagattttg ctacgtacta ctgtgttcag aatgcgggtt ggccctggtag gticggccaa 300
 gggaccaagg tggaaatcaa acgg 324

<210> 1047
 <211> 324
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1047
 gacatccaga tgaccagtc tccatcctca ctgtctgcat ctgtaggaga ccgtgtcacc 60
 atcacttgcc gggcaaatag ttctattttg tgggcgttag ctgtgtacca gcagaaacca 120
 gggaaagccc ctgagctcct gatcgagagt tcttccggtc tgcaaaagtg ggtcccatca 180
 cglttcagtg gcagtggaac tgggacagat ttacactctca ccatcagcag tctgcaacct 240
 gaagattttg ctacgtacta ctgtgttcag aatgcgggtt ggccctggtag gticggccaa 300
 gggaccaagg tggaaatcaa acgg 324

<210> 1048
<211> 324
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1048	
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc	60
atcacttgcc gggcgaatag ttctatatig tgggcgttgg ctgtgtacca gcagaaacca	120
gggaaagccc ctaagctcct gatcgagagt tcttccggtt tgcaaagtgg ggtcccatca	180
cgtttcagtg gcagtggatc tgggacagat ttactctca ccatcagcag tctgcaacct	240
gaagattttg ctacgtacta ctgtgttcag aatgcgggtt ggccctggtac gttcggccaa	300
gggaccaagg tggaaaacaa acgg	324

<210> 1049
<211> 324
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1049	
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc	60
atcacttgcc gggcaaatag ttctattctg tgggcgttag ctgtgtacca gcagaaacct	120
gggaaagccc ctaagctcct gatcgagagt tcttccggtt tgcaaagtgg ggtcccatca	180
cgtttcagtg gcagtggatc tgggacagat ttactctca ccatcagcag tctgcaacct	240
gaagattttg ctacgtacta ctgtgttcag aatgcgggtt ggccctggtac gttcggccaa	300
gggaccaagg tggaaatcaa acgg	324

<210> 1050
<211> 324
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1050	
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc	60
atcacttgcc gggcaaatag ttctattttg tgggcgttag ctgtgtacca gcagaaacca	120
gggaaagccc ctaagctcct gatcgagagt tcttccggtt tgcaaagtgg gatcccatca	180
cgtttcagtg gcagtggatc tgggacagat ttactctca ccatcagcag tctgcaacct	240
gaagattttg ctacgtacta ctgtgttcag aatgcgggtt ggccctggtac gttcggccaa	300
gggaccaagg tggaaatcaa acgg	324

<210> 1051
<211> 324
<212> DNA
<213> 人工序列



<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1051
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgttggaga ccgtgtcacc 60
atcacttgcc gggcaaatag ttctattttg tgggcgttag ctgtgtacca gcagaaacca 120
gggaaagccc ctaagctcct gatcgagagt tcttccggtt tgcaaagcgg ggtcccatca 180
cgtttcagt gacgtggatc tgggacagat ttacacttca ccatcagcag tctgcaacct 240
gaagattttg ctacgtacta ctgtgttcag aatgcggttt ggcctggtac gticggccaa 300
gggaccaagg tggaaatcaa acgg 324

<210> 1052
<211> 324
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1052
gacatcctgt tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
atcacttgcc gggcaaatag ttctattttg tgggcgttag ctgtgtacca gcagaaacca 120
gggaaagccc ctaagctcct gatcgagagt tcttccggtt tgcaaagtgg ggtcccatca 180
cgtttcagt gacgtggatc tgggacagat ttacacttca ccatcagcag tctgcaacct 240
gaagattttg ctacgtacta ctgtgttcag aatgcggttt ggcctggtac gticggccaa 300
gggaccaagg tggaaatcaa acgg 324

<210> 1053
<211> 324
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1053
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
atcacttgcc gggcaaatag ttctattttg tgggcgttag ctgtgtacca gcagaaacca 120
gggaaagccc ctaagctcct gatcgagagt tcttccggtt tgcaaagtgg ggtcccatca 180
cgtttcagt gaagtggaac tgggacagat ttacacttca ccatcagcgg tctgcaacct 240
gaagattttg ctacgtacta ctgtgttcag aatgcggttt ggcctggtac gticgaccaa 300
gggaccaagg tggaaatcaa acgg 324

<210> 1054
<211> 324
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1054
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60

atcccttgcc gggcaaatag ttctattttg tggcggttag ctgtglaacca gcagaaacca 120
 gggaaagccc ctaagctcct gatcgagagi tcttccggtt tgcaaagtgg ggtcccatca 180
 cgtttcagtg gcagtgcatc tgggacagat ttcactctca ccatcagcag tctgcaacct 240
 gaagattttg ctacgtacta ctgtgttcag aatgcgggtt ggcctggtac gttcggccaa 300
 gggaccaagg tggagatcaa acgg 324

<210> 1055
 <211> 324
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1055
 gacatccaga tggcccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
 atcacttgcc gggcaagtca gacgattgag cgctcgtttaa attggtatca gcagaaacca 120
 gggaaagccc ctaagctcct gatctatctt gcttcccgtt tgcaaagtgg ggtcccatca 180
 cgtttcagtg gcagtggtatc tgggacagat ttcactctca ccatcagcag tctgcaacct 240
 gaagattttg ctacgtacta ctgtcatcag tatgcgagtc caccattgac gttaggccaa 300
 gggaccnaag tggaaatcaa acgg 324

<210> 1056
 <211> 324
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1056
 gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga cagtgtcacc 60
 atcacttgcc gggcaagtca gacgattgag cgctcgtttaa attggtatca gcagaaacca 120
 ggggaagccc ctaagctcct gatctatctt gcttcccgtt tgcaaagtgg ggtcccatca 180
 cgtttcagtg gcagtggtatc tgggacagat ttcactctca ccatcagcag tctgcaacct 240
 gaagattttg ctacgtacta ctgcatcag tatgcgagtc caccattgac gttcggccaa 300
 gggaccaatg tggaaatcaa acgg 324

<210> 1057
 <211> 324
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1057
 gacatccaga tgaccagtc tccatcctcc ctatctgcat ctgtaggaga ccgtgtcacc 60
 atcacttgcc gggcaagtca gacgattgag cgctcgtttaa attggtatca gcagaaacca 120
 gggaaagccc ctaagctcct gatctatctt gcttcccgtt tgcaaagtgg ggtcccatca 180
 cgtttcagtg gcagtggtatc tgggacagat ttcactctca ccatcagcag tctgcaacct 240

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gaagatttg ctgcgtacta ctgtcatcag tacgagagtc cacccttgac gtttggccaa    300
gggaccaaag tggaaatcaa acgg                                           324

<210> 1058
<211> 324
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1058
gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc    60
atcacttgcc gggcaagtcg gacgatigag cgtcgtttaa attggtatca gcagaaacca    120
gggaaagccc ctaagctcct gatctatctt gcttcgcgtt tgcaaagtgg ggtcccatca    180
cgtttcagtg gcagtggaac tgggacagat ttactctca ccatcagcag tcigcaacct    240
gaagatttg ctacgtacta ctgtcatcag tatgagagtc cacccttgac gtttggccaa    300
gggaccaaag tggaaatcaa acgg                                           324

<210> 1059
<211> 324
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1059
gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga acgtgtcacc    60
atcacttgcc gggcaagtcg gacgatigag cgtcgtttaa attggtatca gcagaaacca    120
gggaaagccc ctaagctcct gatctatctt gcttcgcgtt tgcaaagtgg ggtcccatca    180
cgtttcagtg gcagtggaac tgggacagat ttactctca ccatcagcaa tcigcaacct    240
gaagatttg ctacgtacta ctgtcatcag tatgagagtc cacccttgac gtttggccaa    300
gggaccaaag tggaaatcaa acgg                                           324

<210> 1060
<211> 324
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1060
gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc    60
atcacttgcc gggcaagcca gacgatigag cgtcgtttaa attggtatca gcagaaacca    120
gggaaagccc ctaagctcct gatctatctt gcttcgcgtt tgcaaagtgg ggtcccatca    180
cgtttcagtg gcagtggaac tgggacagat ttactctca ccatcagcag tcigcaacct    240
gaagatttg ctacgtacta ctgtcatcag tatgagagtc cacccttgac gtttggccaa    300
gggaccaaag tggaaatcaa acgg                                           324

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<210> 1061
 <211> 324
 <212> DNA
 <213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1061
 gacatccaga taaccaggc tccatccccc cgtctgcat ctgtaggaga ccgtgtcacc 60
 atcacttgcc gggcaagtc gacgattgag cgtcggttaa attggtatca gcagaaacca 120
 gggaaagacc ctaagctcct gatctatctt gcttcccgtt tgcaaagtgg ggtcccatca 180
 cgtttcagtg gcagtggaic tgggacagat ttactcttca ccatcagcag tctgcaacct 240
 gaagattttg ctacgtacta ctgtcatcag tatgagagtc ctcctttgac gttcgcccaa 300
 gggaccaaag tggaaatcaa acgg 324

<210> 1062
 <211> 324
 <212> DNA
 <213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1062
 gacatccaga tgaccaggc tccatccccc cgtctgcat ctgtaggaga ccgtgtcacc 60
 atcacttgcc gggcaagtc gacgattgag cgtcggttaa attggtatca gcagaaacca 120
 ggggaagccc ctaagctcct gatctatctt gcttcccgtt tgcaaagtgg ggtcccatca 180
 cgtttcagtg gcagtggaic tgggacagat ttactcttca ccatcagcag tctgcaacct 240
 gaagattttg ctacgtacta ctgtcatcag tatgagagtc cacccttgac gttcgcccaa 300
 gggaccaaag tggaaatcaa atgg 324

<210> 1063
 <211> 324
 <212> DNA
 <213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1063
 gacatccagt tgaccaggc tccatccccc cgtctgcat ctgtaggaga ccgagtcacc 60
 atcacttgcc gggcaagtc gacgattgag cgtcggttaa attggtatca gcagaaacca 120
 gggaaagccc ctaagctcct gatctatctt gcttcccgtt tgcaaagtgg ggtcccatca 180
 cgtttcagtg gcagtggaic tgggacagaa ttactcttca ccatcagcag tctgcaacct 240
 gaagattttg ctacgtacta ctgtcatcag tatgagagtc cacccttgac gttcgcccaa 300
 gggaccaaag tggaaatcaa acgg 324

<210> 1064
 <211> 324
 <212> DNA
 <213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1064

```
gacatccaga tgtcccagtc tccatccacc ctgtctgcat ctgtaggaga ccgtgtcacc      60
atcacttgcc gggcaagtc gacgattgag cgtcgtttaa attggtatca gcagaaacca      120
gggaaagccc ctaagctcct gatctatctt gcttcccgtt tgcaaagtgg ggtcccatca      180
cgtttcagtg gcagtggaac tgggacagat ttcactctca ccatcagcag tctgcaacct      240
gaagattttg ctacgtacta ctgtcatcag tatgagagtc cacccttgat gttcggccaa      300
gggaccaaag tggaaatcaa acgg                                           324
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<210> 1065

<211> 324

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1065

```
gacatccaga tgacccagtc tccatccacc ctgtctgcat ctgtaggaga ccgtgtcacc      60
attacttgcc gggcaagtc gacgattgag cgtcgtttaa attggtatca gcagaaacca      120
gggaaagacc ctaagctcct gatctatctt gcttcccgtt tgcaaagtgg ggtcccatca      180
cgtttcagtg gcagtggaac tgggacagat ttcactctca ccatcagcag tctgcaacca      240
gaagattttg ctacgtacta ctgtcatcag tatgagagtc cacccttgac gttcggccaa      300
gggaccaaag tggaaatcaa acgg                                           324
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<210> 1066

<211> 324

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1066

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gacatccaga tgacccagtc tccatccacc ctgtctgcat ccgtaggaga ccgtgtcacc      60
atcacttgcc gggcaagtc gacgattgag cgtcgtttaa actggtatca gcagaaacca      120
gggaaagccc ctaagctcct gatctatctt gcttcccgtt tgcaaagtgg ggtcccatca      180
cgtttcagtg gcagtggaac tgggacagat ttcactctca ccatcagcag tctgcaacct      240
gaagattttg ctacgtacta ctgtcatcag tatgagagtc cacccttgac gttcggccaa      300
gggaccaaag tggaaatcaa acgg                                           324
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<210> 1067

<211> 324

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1067

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gacatccaga tgacccagtc tccatccacc ctgtttgcat ctgtaggaga ccgtgtcacc      60
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atcactigcc gggcaagica gacgattgag cgtcgtttaa attggtatca gcagaaacca 120
 gggaaagccc ctaagctcct gatctatctt gcttcccggt tgcaaagtgg ggtcccatca 180
 cgtttcagtg gcagtggatc tgggacagat ttacactica ccatcagcag tctgcaacct 240
 gaagatttgg ctacgtacta ctgtcatcag tatgagagtc caccittgac gttcggccaa 300
 gggaccaaag tggaaatcaa acgg 324

<210> 1068
 <211> 324
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1068
 gacatccaga tgaccagta tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
 atcactigcc gggcaagica gtcgattgag cgtcgtttaa attggtatca gcagaaacca 120
 gggaaagccc ctaagctcct gatctatctt gcttcccggt tgcaaagtgg ggtcccatca 180
 cgtttcagtg gcagtggatc tgggacagat ttacactica ccatcagcag tctgcaacct 240
 gaagatttgg ctacgtacta ctgtcatcag tatgagagtc caccittgac gttcggccaa 300
 gggactaaag tggaaatcaa acgg 324

<210> 1069
 <211> 324
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1069
 gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
 atcactigcc gggcaagtcg gacgattgag cgtcgtttaa attggtatca gcagaaacca 120
 gggaaagccc ctaagctcct gatctatctt gcttcccggt tgcaaagtgg ggtcccatca 180
 cgtttcagtg gcagtggatc tgggacagat ttacactica ccatcagcag tctgcaacct 240
 gaagatttgg ctacgtacta ctgtcatcag tatgagagtc caccittgac gttcggccaa 300
 gggaccaaag tggaaatcaa acgg 324

<210> 1070
 <211> 324
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1070
 gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
 atcactigcc gggcaagica ggcgattgag cgtcgtttaa attggtatca gcagaaacca 120
 gggaaagccc ctaagctcct gatctatctt gcttcccggt tgcaaagtgg ggtcccatct 180
 cgtttcagtg gcagtggatc tgggacagat ttacactica ccatcagcag tctgagccaa 240

gaagattitg ctacgtacta ctgtcatcag tatgcgagtc caccittgac gttcggccaa 300

gggaccaaag tggaaatcaa acgg 324

<210> 1071

<211> 324

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1071

aacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60

atcacttgcc gggcaagtca ggcgattgag cgtcgtttaa attggtatca gcagaaacca 120

gggaaagccc ctaagctcct gatctatctt gcttctcggt tgcaaagtgg ggtcccatca 180

cgtttcagtg gcagtggtac tgggacagat ttactctca ccatcagcag tctgcaacct 240

gaagattitg ctacgtacta ctgtcatcag tatgcgagtc caccittgac gttcggccaa 300

gggaccaaag tggaaatcaa acgg 324

<210> 1072

<211> 324

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1072

gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60

atcacttgcc gggcaagtca gacgattggg cgtcgtttaa attggtatca gcagaaacca 120

gggaaagccc ctaagctcct gatctatctt gcttcccggt tgcaaagtgg ggtcccatca 180

cgtttcagtg gcagtggtac tgggtcagat ttactctca ccatcagcag tctgcaacct 240

gaagattitg ctacgtacta ctgtcatcag tatgcgagtc caccittgac gttcggccaa 300

gggaccaaag tggaaatcaa acgg 324

<210> 1073

<211> 324

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1073

gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60

atcacttgcc gagcaagtca gacgattgag cgtcgtttaa attggtatca gcagaaacca 120

gggaaagccc ctaagctcct gatctatctt gcttcccggt tgcaaagtgg ggtcccatca 180

cgtttcagtg gcagtggtac tgggacagaa ttactctca ccatcagcag tctgcaacct 240

gaagattitg ctacgtacta ctgtcatcag tatgcgagtc caccittgac gttcggccaa 300

gggaccaaag tggaaatcaa acgg 324

<210> 1074

<211> 324
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1074
 gacatccaga tgaccagac tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
 atcacttgcc gggcaagtca gacgattgag cgtcgtttaa attggtatca gcagaaacca 120
 ggggaagccc ctaagctcct gatctatctt gcttcccgtt tgcaaagtgg ggtcccatca 180
 cgtttcagtg gcagtggatc tgggacagat ttactctca ccatcagcag tctgcaacct 240
 gaagattttg ccacgtacta ctgtcatcag tatgagagtc cacctttgac gttcggccaa 300
 gggaccaaaag tgaaaatcaa acgg 324

<210> 1075
 <211> 324
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1075
 gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga cagtgtcacc 60
 atcacttgcc gggcaagtca gacgattgag cgtcgtttaa attggtatca gcagaaacca 120
 gggaaagccc ctaagctcct gatctatctt gcttcccgtt tgcaaagtgg ggtcccatca 180
 cgtttcagtg gcagtggatc tgggacagat ttactctca ccatcagcag tctgcaaccc 240
 gaagattttg ctacgtacta ctgtcatcag tatgagagtc cacctttgac gttcggccaa 300
 gggaccaaaag tggaaatcaa acgg 324

<210> 1076
 <211> 324
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1076
 cacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
 atcacttgcc gggcaagtca gacgattgag cgtcgtttaa attggtatca gcagaaacca 120
 gggaaagccc ctaagctcct gatctatctt gcttcccgtt tgcaaagtgg ggtcccatca 180
 cgtttcagtg gcagtggatc tgggacagat ttactctca ccatcagcag tctgcaacct 240
 gaagattttg ctacgtacta ctgcatcag tatgagagtc cacctttgac gttcggccaa 300
 gggaccaaaag tggaaatcaa acgg 324

<210> 1077
 <211> 324
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1077
gacgtccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
atcacttgcc gggcaagtc gacgattgag cgtcgtttaa attggtatca gcagaaacca 120
ggggaagccc ctaagctcct gatctatctt acttcccgtt tgcaaagcgg ggtcccatca 180
cgtttcagtg gtagtggatc tgggacagat ttacacttca ccatcagcag tctgcaacct 240
gaagattttg ctacgtacta ctgccatcag tatgcgagtc caccittgac gttcggccaa 300
gggaccaagg tggaaatcaa acgg 324

<210> 1078
<211> 324
<212> DNA
<213> 人工序列
<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1078
gacatccaga tgacccagtc gccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
atcacttgcc gggcaagtc gacgattgag cgtcgtttaa attggtatca gcagaaacca 120
gggaaagccc ctaagctcct gatctatctt gcttcccgtt tgcaaagtgg ggtcccatca 180
cgtttcagtg gcagtggatc tgggacagat ttacacttca ccatcagcag tctgcaacct 240
gaagattttg ctacgtacta ctgtaccag tatgagagtc caccittgac gttcggccaa 300
gggaccaaag tggtaatcaa acgg 324

<210> 1079
<211> 324
<212> DNA
<213> 人工序列
<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1079
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgagtcacc 60
atcacttgcc gggcaagtc gacgattgag cgtcgtttaa attggtatca gcagaaacct 120
gggaaagccc ctaggctcct gatctatctt gctacccgtt tgcaaagtgg ggtcccatca 180
cgcttcagtg gcagtggatc tgggacagat ttacacttca ccatcagcag tctgcaacct 240
gaagattttg ctacgtacta ctgtcatcag tatgagagtc caccittgac gttcggccaa 300
gggaccaaag tggaaatcaa acgg 324

<210> 1080
<211> 324
<212> DNA
<213> 人工序列
<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1080
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
atcacttgcc gggcaagtc gccgattgag cgtcgtttaa attggtatca gcagaagcca 120

gggaaagccc ctaagctcct gatctatctt gcttcccggt tgcaaagtg ggtcccatca 180
cgtttcagtg gcagtggaac tgggacagat ttacatctca ccatcagcag tctgcaacct 240
gaagattttg ctacatacta ctgtcatcag tatgagagtc caccittgac gttcggccaa 300
gggaccaaag tggaaatcaa acgg 324

<210> 1081
<211> 324
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1081
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
atcacttgcc gggcaagtc gacgattggg cgctgtttaa attggtatca gcagaaacca 120
gggaaagccc ctaagctcct gatctatctt gcttcccggt tgcaaagtg ggtcccatca 180
cgtttcagtg gcagtggaac tgggacagat ttacatctca ccatcagcag tctgcaacct 240
gaagattttg ctacgtacta ctgtcatcag tatgagagtc caccittgac gttcggccaa 300
gggaccaaag tggaaatcaa acgg 324

<210> 1082
<211> 324
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1082
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
atcacttgcc gggcaagtc gtcgattgag cgccgtttaa attggtatca gcagaaacca 120
gggaaagccc ctaagctcct gatctatctt gcttcccggt tgcaaagtg ggtcccatca 180
cgtttcagtg gcagtggaac tgggacagat ttacatctca ccatcagcag tctgcaacct 240
gaagattttg ctacgtacta ctgtcatcag tatgagagtc ctcctttgac gttcggccaa 300
gggaccaaag tggaaatcat acgg 324

<210> 1083
<211> 324
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1083
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgagtcacc 60
atcacttgcc gggcaagtc gacgattgag cgctgtttaa attggtatca gcagaaacct 120
gggaaagccc ctaagctcct gatctatctt gctacccggt tgcaaagtg ggtcccatca 180
cgcttcagtg gcagtggaac tgggacagat ttacatctca ccatcagcag tctgcaacct 240
gaagattttg ctacgtacta ctgtcatcag tatgagagtc caccittgac gttcggccaa 300

gggaccaaag tggaaatcaa acgg

324

<210> 1084

<211> 324

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1084

gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60

atcacttgcc gggcaagtca gtcgattgag cgccgtttaa attggtatca gcagaaacca 120

gggaaagccc ctaagctcct gatctatctt gcttcccgtt tgcaaagtgg ggtcccatca 180

cgtttcagtg gcagtgatc tgggacagat ttcactctca ccatcagcag tctgcaacct 240

gaagattttg ctacgtacta ctgtcatcag tatgagagtc ctcctttgac gttcggccaa 300

gggaccaaag tggaaatcaa acgg 324

<210> 1085

<211> 324

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1085

gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgagtcacc 60

atcacttgcc gggcaagtca gacgattgag cgtcgtttaa attggtatca gcagaaacct 120

gggaaagccc ctaggctcct gatctatctt gctaccggtt tgcaaagtgg ggtcccatca 180

cgcttcagtg gcagtgatc tgggacagat ttcactctca ccatcagcag tctgcaacct 240

gaagattttg ctacgtacta ctgtcatcag ttcgagcacc caccittgac gttcggccaa 300

gggaccaaag tggaaatcaa acgg 324

<210> 1086

<211> 324

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1086

gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgagtcacc 60

atcacttgcc gggcaagttt ccccatgac cgtcgtttaa attggtatca gcagaaacct 120

gggaaagccc ctaggctcct gatctatctt gctaccggtt tgcaaagtgg ggtcccatca 180

cgcttcagtg gcagtgatc tgggacagat ttcactctca ccatcagcag tctgcaacct 240

gaagattttg ctacgtacta ctgtcatcag tatgagagtc caccittgac gttcggccaa 300

gggaccaaag tggaaatcaa acgg 324

<210> 1087

<211> 324

<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1087
gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgagtcacc 60
atcacttgcc gggcaagtc caccattggc cgtcgtttaa attggtatca gcagaaacct 120
gggaaagccc ctaggctcct gatctatctt gctaccggtt tgcaaagtgg ggtcccatca 180
cgcttcagtg gcagtggatc tgggacagat ttacatctca ccatcagcag tctgcaacct 240
gaagattttg ctacgtacta ctgtcatcag tatgagagtc caccittgac gttcggccaa 300
gggaccaaag tggaaatcaa acgg 324

<210> 1088
<211> 324
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1088
gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgagttacc 60
atcacttgcc gggcaagtc ccagattggg cgtcgtttaa attggtacca gcagaaacca 120
gggaaagccc ctaggctcct gatctatctt gctaccggtt tgcaaagtgg ggtcccatca 180
cgcttcagtg gcagtggatc tgggacagat ttacatctca ccatcagcag tctgcaacct 240
gaagattttg ctacgtacta ctgtcatcag tatgagagtc caccittgac gttcggccaa 300
gggaccaaag tggaaatcaa acgg 324

<210> 1089
<211> 324
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1089
gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgagtcacc 60
atcacttgcc gggcaagtga gcggattggg cgtcgtttaa attggtatca gcagaaacca 120
gggaaagccc ctaggctcct gatctatctt gctaccggtt tgcaaagtgg ggtcccatca 180
cgcttcagtg gcagtggatc tgggacagat ttacatctca ccatcagcag tctgcaacct 240
gaagattttg ctacgtacta ctgtcatcag tatgagagtc caccittgac gttcggccaa 300
gggaccaaag tggaaatcaa acgg 324

<210> 1090
<211> 324
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1090
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgagtcacc 60
atcacttgcc gggcaagtca gcagattggc cgccgittaa attggtatca gcagaaacct 120
gggaaagccc ctaggctcct gatctatctt gctacccgtt tgcaaagtgg ggtcccatca 180
cgcttcagtg gcagtggtac tgggacagat ttcactctca ccatcagcag tctgcaacct 240
gaagattttg ctacgtacta ctgtcatcag tatgagagtc cacctttgac gttcggccaa 300
gggaccaaag tggaaatcaa acgg 324

<210> 1091
<211> 324
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1091
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgagtcacc 60
atcacttgcc gggcaagtca gccgattggc cgccgittaa attggtacca gcagaaacca 120
gggaaagccc ctaggctcct gatctatctt gctacccgtt tgcaaagtgg ggtcccatca 180
cgcttcagtg gcagtggtac tgggacagat ttcactctca ccatcagcag tctgcaacct 240
gaagattttg ctacgtacta ctgtcatcag tatgagagtc cacctttgac gttcggccaa 300
gggaccaaag tggaaatcaa acgg 324

<210> 1092
<211> 324
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1092
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgagtcacc 60
atcacttgcc gggcaagtgg gaacattggc cgctcgttaa attggtacca gcagaaacca 120
gggaaagccc ctaggctcct gatctatctt gctacccgtt tgcaaagtgg ggtcccatca 180
cgcttcagtg gcagtggtac tgggacagat ttcactctca ccatcagcag tctgcaacct 240
gaagattttg ctacgtacta ctgtcatcag tatgagagtc cacctttgac gttcggccaa 300
gggaccaaag tggaaatcaa gcgg 324

<210> 1093
<211> 324
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1093
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgagtcacc 60
atcacttgcc gggcaagtgc gaacattgac cgctcgttaa attggtacca gcagaaacca 120

gggaaagccc ctaggctcct gatctatctt gctacccgtt tgcaaagtgg ggtcccatca 180
 cgcttcagtg gcagtggaic tgggacagat ttactctca ccatcagcag tctgcaacct 240
 gaagattttg ctacgtacta ctgtcatcag tatgagagtc cacctttgac gticggccaa 300
 gggaccaaag tggaaatcaa acgg 324

<210> 1094
 <211> 324
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1094
 gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgagtcacc 60
 atcacttgcc gggcaagtca gagcattggg cgtcgittaa attggtacca gcagaaacct 120
 gggaaagccc ctaggctcct gatctatctt gctacccgtt tgcaaagtgg ggtcccatca 180
 cgcttcagtg gcagtggaic tgggacagat ttactctca ccatcagcag tctgcaacct 240
 gaagattttg ctacgtacta ctgtcatcag tatgagagtc cacctttgac gticggccaa 300
 gggaccaaag tggaaatcaa acgg 324

<210> 1095
 <211> 324
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1095
 gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgagtcacc 60
 atcacttgcc gggcaagtca gaacattggg acgcgittaa attggtacca gcagaaacca 120
 gggaaagccc ctaggctcct gatctatctt gctacccgtt tgcaaagtgg ggtcccatca 180
 cgcttcagtg gcagtggaic tgggacagat ttactctca ccatcagcag tctgcaacct 240
 gaagattttg ctacgtacta ctgtcatcag tatgagagtc cacctttgac gticggccaa 300
 gggaccaaag tggaaatcaa acgg 324

<210> 1096
 <211> 324
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1096
 gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgagtcacc 60
 atcacttgcc gggcaagtga ggtcattggg cgtcgittaa attggtacca gcagaaacca 120
 gggaaagccc ctaggctcct gatctatctt gctacccgtt tgcaaagtgg ggtcccatca 180
 cgcttcagtg gcagtggaic tgggacagat ttactctca ccatcagcag tctgcaacct 240
 gaagattttg ctacgtacta ctgtcatcag tatgagagtc cacctttgac gticggccaa 300

gggaccaaag tggaaatcaa acgg

324

<210> 1097
<211> 324
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1097
gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgagtcacc 60
atcacttgcc gggcaagtga ggcgattggc cgtcgtttaa attggtatca gcagaaacca 120
gggaaagccc ctaggctcct gatctatctt gctacccgtt tgcaaagtgg ggtcccatca 180
cgcttcagtg gcagtggaac tgggacagat ttactctca ccatcagcag tctgcaacct 240
gaagattttg ctacgtacta ctgtcatcag tatgagagtc cacctttgac gttcggccaa 300
gggaccaaag tggaaatcaa acgg 324

<210> 1098
<211> 324
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1098
gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgagtcacc 60
atcacttgcc gggcaagtac cagcatigcg cgtcgtttaa attggtatca gcagaaacct 120
gggaaagccc ctaggctcct gatctatctt gctacccgtt tgcaaagtgg ggtcccatca 180
cgcttcagtg gcagtggaac tgggacagat ttactctca ccatcagcag tctgcaacct 240
gaagattttg ctacgtacta ctgtcatcag tatgagagtc cacctttgac gttcggccaa 300
gggaccaaag tggaaatcaa acgg 324

<210> 1099
<211> 324
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1099
gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgagtcacc 60
atcacttgcc gggcaagtgt gaacattggg cgtcgtttaa attggtacca gcagaaacca 120
gggaaagccc ctaggctcct gatctatctt gctacccgtt tgcaaagtgg ggtcccatca 180
cgcttcagtg gcagtggaac tgggacagat ttactctca ccatcagcag tctgcaacct 240
gaagattttg ctacgtacta ctgtcatcag tatgagagtc cacctttgac gttcggccaa 300
gggaccaaag tggaaatcaa acgg 324

<210> 1100
<211> 324
<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1100

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gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgagtcacc      60
atcacttgcc gggcaagtca gacgatigag cgtcgtttaa attggtacca gcagaaacca      120
gggaaagccc ctaggctcct gatctaictt tcgtcgaagt tgcaaagtg ggtcccatca      180
cgcttcagt gacgtggatc tgggacagat ttcactctca ccatcagcag tctgcaacct      240
gaagattttg ctacgtacta ctgtatcag tatgagagtc cacccttgac gticggccaa      300
gggaccaaag tggaaatcaa acgg                                           324
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<210> 1101

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1101

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gagggtgcagc tgttggagtc tgggggaggc ttggttcagc ctggggggtc cctgcgtctc      60
tcctgtgcag cctccggatc caccattgct gggtatgaga tgtgttgggt ccgccaggct      120
ccagggaagg gtctagagcg tgtctcagct attagtggta gtgttggtag cacatactac      180
gcagactccg tgaagggccg gttcacatc tcccagagcg attccaagaa cacgctgtat      240
ctgcaaatga acagcctgcg tgccgaggat accgcggtat attactgtgc gagagatcct      300
tatagtttgg actactgggg tcagggaacc ctggtcaccg tctcgagc                    348
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<210> 1102

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1102

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gagggtgcagc cgttggagtc tgggggaggc ttggttcagc ctggggggtc cctgcgtctc      60
tcctgtgcag cctccggatt caccittgct gggtatgaga tgtgttgggt ccgccaggct      120
ccagggaagg gtctagagcg gatctcagct attagcggta gtgttggtag cacatactac      180
gcagactccg tgaagggccg gttcacatc tcccgcgagc attccaagaa cacgctgtat      240
ctgcaaatga acagcctgcg tgccgaggat accgcggtat attactgtgc gagagatcct      300
tatagtttgg actactgggg tcagggaacc ctggtcaccg tctcgagc                    348
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<210> 1103

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1103
 gaggtgcagc tgttggagtc tgggggaggc tcggtacagc ctggggggc cctgcgtctc 60
 tcctgtgcag ccaccggatc cacctttgct gggtatgaga tgtgtgggt ccgccaggct 120
 ccagggaagg gtctagagcg ggtctcagct attagtggta gtggtgtag cacatactac 180
 gcagactccg tgaagggccg gttcacatc tcccgcgacg attccaagaa cacgtgtat 240
 ctgcaaatga acagcctgcg tgcgaggat accgcggtat attactgtgc gagagatcct 300
 tacagttaag actactgggg tcagggaacc ctggtctccg tctcgagc 348

<210> 1104
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1104
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggc cctgcgtctc 60
 tcctgtgcag cctccggact cacctttgct gggtatgaga tgtgtgggt ccgccaggca 120
 ccagggaagg gtctagagcg ggtctcagct attagtggta gtggtgtag cacatactac 180
 gcagactccg tgaagggccg gttcacatc tcccgcgacg attccaagaa cacgtgtat 240
 ctgcaaatga acagcctgcg tgcgaggat accgcggtat atcactgtgc gagagatcct 300
 tatagttttg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 1105
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1105
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggc cctgcgtctc 60
 tcctgtgcag cctccggatt caccittgct gggtatgaga tgtgtgggt ccgccaggct 120
 ccagggaagg gtctagagcg ggtctcagct attagtggta gtggtgtag cacatactac 180
 gcagactctg tgaagggccg gttcacatc tcccgcgacg attccaagaa cacgtgtat 240
 ctgcaaatga acagcctgcg tgcgaggat accgcggtat atcactgtgc gaaagaacct 300
 tatagttatg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 1106
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1106
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggc cctgcgtctc 60
 tcctgtgcag cctccggatc caccittgct gggtatgaga tgtgtgggt ccgccaggct 120
 ccagggaagg gtctagagcg ggtctcagct attagtggta gtggtgtag cacatactac 180

gcagactccg tgaagggccg gtaccacatc tcccgcgacg attccaagaa cacgctgtat 240
 ctgcaaaatga acagccttgcg tcccaggat accgcggat attacttgtt gaaagatcct 300
 tatagttttg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 1107
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1107
 gaggtgcagc tgttggagtc tggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggaac caccattgcc gggtatgaga tgtggtgggt ccgccaggct 120
 ccggggaagg gcttagagcg ggtctcagct attagtggta gtggtggtag cacatactac 180
 gcagactccg tgaagggccg gtaccacatc tcccgcgacg attccaagaa cacgctgtat 240
 ctgcaaaatga acagccttgcg tcccaggat accgcggat attacttgtc gagagatcct 300
 tatagttttg actactgggg tcagggaacc ccggtcaccg tctcgagc 348

<210> 1108
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1108
 gaggtgcagc tgatggagtc tggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggaac caccattgct gggtatgaga tgtggtggta ccgccaggct 120
 ccagggaagg gcttagagcg ggtctcagct attagtggaa gtggtagaag cacatactac 180
 gcagactccg tgaagggccg gtaccacatc tcccgcgacg attccaagaa cacgctgtat 240
 ctgcaaaatga acagccttgcg tcccaggat accgcggat attacttgtc gaaagatcct 300
 tatagttttg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 1109
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1109
 gaggtgcagc tgctggagtc tggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggaat caccattgct gggtatgaga tgtggtgggt ccgccaggct 120
 ccagggaagg gcttagagcg ggtctcagct attagtggta gtggtggtag cacgtactac 180
 gcagactccg tgaagggccg gtaccacatc tcccgcgacg attccaagaa cacgctgtat 240
 ctgcaaaatga acagccttgcg tcccaggat accgcagat attacttgtc gaaagaacct 300
 tatagttttg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 1110
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1110
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatc caccatlgtt gggatagaga tttgggtgggt ccgccaggct 120
 ccagggaagg gtctagagcg ggtctcagct attagtggta gtggtggttag cacatactac 180
 gcagactccg tgaaggggccg gttcaccatc tcccgcgacg attccaagaa cacgctgtat 240
 ctgcaaatga acagccttgc tgccgaggat accgcggtat attactgtgc gaaagatcca 300
 tatagttttg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 1111
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1111
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt cacctttgtt gggatagaga tttgggtgggt ccgccaggct 120
 ccagggaagg gtctagagcg ggtctcagct attagtggta gtggtggttag cacatactac 180
 gcagactccg tgaaggggccg gttcaccatc tcccgcgacg attccaagaa cacgctgtat 240
 ctgcaaatga acagccttgc tgccgaggat accgcggtat attactgtgc gagagaccct 300
 tatagttttg actactgggg tcagggaacc ctggtctccg tctcgagc 348

<210> 1112
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1112
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt caccatlgtt gggatagaga tttgggtgggt ccgccaggct 120
 ccagggaagg gtctagagcg ggtctccgct attagtggta gtggtggttag cacatactac 180
 gcggactccg tgaaggggccg gttcaccatc tcccgcgacg attccaagaa cacgctgtat 240
 ctgcaaatga acagccttgc tgccgaggat accgcggtat attactgtgc gaaagatcct 300
 tatagttttg actactgggg tcagggaacc ctggtcaccg tttcgagc 348

<210> 1113
 <211> 348
 <212> DNA
 <213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1113

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gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc      60
tcctgtgcag cctccggatt cacctttgct gggtatgaga tgtggtgggt ccgccaggct      120
ccaggggaagg gtcctagagcg tgtctcagct attagtggtg tgggtggtag cacatactac      180
gcagactccg tgaagggccg gttcaccaac acccgcgacg attccaagaa cacgctgtat      240
ctgcaaatga acagccttgcg tggcgaggat accgcggtat attactgtgc gaaagagcct      300
tatagttttg actactgggg tcaggggaacc ctgggtcaccg tctcgagc      348

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<210> 1114

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1114

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gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc      60
tcctgtgcag cctccggatt cacctttgct gggtatgaga tgtggtgggt ccgccaggct      120
ccaggggaagg gtcctagagcg ggtctcagct attagtggtg tgggtggtag cacatactac      180
gcagactccg tgaagggccg gttcaccaac tcccgcgacg ataccaagaa cacgctgtat      240
ctgcaaatga acagccttgcg tggcgaggat accgcggtat attactgtgc gaaagatcct      300
tatagttttg actactggcg tcaggggaacc ctgggtcaccg tctcgagc      348

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<210> 1115

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1115

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gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc      60
tcctgtgcag cctccggatc cacctttgct gggtatgagg tgtggtgggt ccgccaggct      120
ccaggggaagg gtcctgagcg ggtctcagct attagtggtg tgggtggtag cacatactac      180
gcagactccg tgaagggccg gttcaccaac tcccgcgacg attccaagaa cacgctgtat      240
ctgcaaatga acagccttgcg tggcgaggat accgcggtat attactgtgc gagagatcct      300
tatagttttg actactgggg tcaggggaacc ctgggtcaccg tctcgagc      348

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<210> 1116

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1116

gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatc caccctttgct gggtatgaga tgtggtgggt ccgccaggct 120
 ccagggaagg gtctagagcg gatctcagct attagtggta gtgggtgtag cacatactac 180
 gcagactccg tgaaggggccg gttcaccatc tcccgcgacg attccaagaa cacgctgtat 240
 ctgaaaatga acagcctgcg tgcggaggat accgcggtat attactgtgc gaaagatcct 300
 tatagttttg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 1117
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1117
 gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt caccctttgct gggtatgaga tgtggtgggt ccgccaggct 120
 ccagggaagg gtctagagcg ggtctcagct attagtggta gtggtgtag cacatactac 180
 gcagactccg tgaaggggccg gttcaccatc tcccgcgacg attccaagaa cacgctgtat 240
 ctgcaaata ga acagcctgcg tgcggaggat accgcggtat attactgtgc gagagatcct 300
 tatagttttg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 1118
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1118
 gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggact caccctttgct gggtatgaga tgtggtgggt ccgccgggct 120
 ccagggaagg gtctagagcg ggtcgcagct attagtggta gtggtgtag cacatactac 180
 gcagactccg tgaaggggccg gttcaccatc tcccgcgacg attccaagaa cacgctgtat 240
 ctgcaaata ga acagcctgcg tgcggaggat accgcggtat attactgtgc gagagatcct 300
 tatagttttg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 1119
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1119
 gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt caccctttgct gggtatgagt tgtggtgggt ccgccaggcc 120
 ccagggaagg gtctagagcg ggtctcagct attagtggaa gtggtgtag cacatactac 180

gcagactccg tgaagggccg gttcaccatc tcccgcgacg attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgccgaggat accgcggtat attactgtgc gagagatcct 300
 tatagttttg actaccgggg tcaggggaacc ctggtcaccg tctcgagc 348

<210> 1120
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1120
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cccccggatt caccttagct gggtatgaga tgtggtgggt ccgccaggct 120
 ccaggggaagg gtctagagcg ggtctcagct attagtggta gtggtggttag cacatactac 180
 gcagactccg tgaagggccg gttcaccatc tcccgcgacg attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgccgaggat accgcggtat attactgtgc gaaagaacct 300
 tatagttttg actactgggg tcaggggaacc ctggtcaccg tctcgagc 348

<210> 1121
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1121
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggact cacctttgct gggtatgaga tgtggtgggt ccgtcgggct 120
 ccaggggaagg gtctagagcg ggtctcagct attagtggta gtggtggttag cacatactac 180
 gcagactccg tgaagggccg gttcaccacc tcccgcgacg attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgccgaggat accgcggtat attactgtgc gagagatcct 300
 tatagttttg actactgggg tcgggggaacc ctggtcaccg tctcgagc 348

<210> 1122
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1122
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ccggggggtc cctgcgtctc 60
 tcctgtgccg cctccggatt cacctttgct gggtatgaga tgtggtgggt ccgccaggct 120
 ccaggggaagg gtctagagcg ggtctcagct attagtggta gcggtggttag cacatactac 180
 gcagactccg tgaagggccg gttcaccatc tcccgcgacg attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgccgaggat accgcggtat attactgtgc gaaagaacct 300
 tatagttatg actactgggg tcatggaacc ctggttactg tctcgagc 348

<210> 1123
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1123	
gagggtgcagc cggtggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc	60
tcctgtgcag cctccggatt cacctttgct gggtatgaga tgtggtgggt ccgccaggct	120
ccagggaagg gtctagagcg ggtctcagct attagtggta gtggtggtac cacatactac	180
gcagactccg tgaaggggcg gttcaccatc tcccgcgacg attccaagaa cacgctgtat	240
ctgcaaatga acagcctgcg tggcgaggat accgggggat attactgtgc gagagatcct	300
tatagttttg actactgggg tcagggtacc ctggtcaccg tctcgagc	348

<210> 1124
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1124	
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc	60
tcctgtgcag cctccggatt cacctttgct gggtatgaga tgtggtgggt ccgccaggct	120
ccagggaagg gtctagagcg ggtctcagct attagtggta gtggtggtac cacatactac	180
gcagactccg tgaaggggcg gttcaccatc tcccgcgacg attccaagaa cacgctgtat	240
ctgcaaatga acagcctgcg tggcgaggat accgggggat attactgtgc gaaagaacct	300
tatagttttg actcctgggg tcagggaacc ctggtcaccg tctcgagc	348

<210> 1125
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1125	
gaggcgagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc	60
tcctgtgcag cctccggatt aaccttcgct gggtatgaga tgtggtgggt ccgccaggct	120
ccagggaagg gtctagagcg ggtctcagct attagtggta gtggcggtac cacatactac	180
gcagactccg tgaaggggcg gttcaccatc tcccgcgacg attccaagaa cacgctgtat	240
ctgcaaatga acagcctgcg tggcgaggat accgggggat attactgtgc gagagatcct	300
tatagttttg actactgggg tcagggaacc ctggtcaccg tctcgagc	348

<210> 1126
 <211> 348
 <212> DNA
 <213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1126

gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatc cacctttgct gggtatgaga tgtgttgggt ccgccaggct 120
 ccagggaagg gtctagagcg ggtctcagct attagtggta gtgttggtag cacatactac 180
 gcagactccg tgaaggggcg gtctccatc tcccgcgacg attccaagaa cagcgtgtat 240
 ctgcaaatga acagcctgcg tgcggaggat accgcggat attactgtgc gaaagaacct 300
 tatagttttg accactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 1127

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1127

gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatc cacctttgct gggtatgaga tgtgttgggt ccgcagggt 120
 ccagggaagg gtctagagcg ggtctcagct attagtggta gtgttggtag cacatactac 180
 gcagactccg tgaaggggcg gtccaccatc tcccgcgacg attccaagaa cagcgtgtat 240
 ctgcaaatga acagcctgcg tgcggaggat accgcggat attactgtgc gagagatcct 300
 tatagttttg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 1128

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1128

gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt cacctttgct gggtatgaga tgtgttgggt ccgccaggct 120
 ccagggaagg gtctagagcg ggtctcagct attagtggta gtgttggtag cacatactac 180
 gcagactccg tgaaggggcg gtccaccatc tcccgcgacg attccaagaa cagcgtgtat 240
 ctgcaaatga acagcctgcg tgcggaggat accgcggat attactgtgc gaaagatcct 300
 tatagttttg acaactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 1129

<211> 348

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1129

gagggtgcagc tgttggagtc tgggggaggc ttggtagagc ctggggggtc cctgcgtctc 60


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tcctgtgcag cctccggatt cacctttgct gggtatgaga tgttgtgggt cgcaggct 120
ccagggaagg gtctagagcg ggtctcagct attagtggta gtgttggttag cacatactac 180
gcagactccg tgaagggccg gtaccatc tcccgcgacg attccaagaa cagctgtat 240
ctgcaaatga acagcctgcg tgccgaggat accgcggat attactgtgc gaaagaacct 300
tatagttttg accaccgggg tcagggaacc ctggtcaccg tctcgagc 348

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<210> 1130
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

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<400> 1130
gaggtgcagc tgttgagtc tgggggagcg ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggata cacctttgct gggtatgaga tgttgtgggt cgcaggct 120
ccagggaagg gtctagagcg ggtctcagct attagtggta gtgttggttag cacatactac 180
gcagactccg tgaagggccg gtaccatc tcccgcgacg attccaagaa cagctgtat 240
ctgcaaatga acagcctgcg tgccgaggat accgcggat attactgtgc gaaagaacct 300
tatagttttg accaccgggg tcagggaacc ctggtcaccg tctcgagc 348

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<210> 1131
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

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<400> 1131
gaggtgcagc tgttgagtc tgggggagcg ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgct gggtatgaga tgttgtgggt cgcaggct 120
ccagggaagg gtctagagcg ggtctcagct attagtggta gtgttggttag cacatactac 180
gcagactctg tgaagggccg gtaccatc tcccgcgaca attccaagaa cagctgtat 240
ctgcaaatga acagcctgcg tgccgaggat accgcggat atcactgtgc gaaagaacct 300
tatagttatg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

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<210> 1132
 <211> 348
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

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<400> 1132
gaggtgcagc tgttgagtc tgggggagcg ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgct gggtatgaga tgttgtggtt cgcaggct 120
ccagggaagg gtctagagcg ggtctcagct attagtggta gtgttggttag cacatactac 180
gcagactccg tgaagggccg gtaccatc tcccgcgaca attccaagaa cagctgtat 240

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ctgcaaatga acagcctgcg tgccgaggat accgcggtat attactgtgc gaaagatcct 300
tatagttttg acaactgggg tcaggggaacc ctggtcaccg tctcgagc 348

<210> 1133
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1133
gagggtgcagc tgttggagtc tgggggagggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgct gggtatgaga tgtgttgggt ccgccaggct 120
ccaggggaagg gtctagagcg ggtctcagct attagtggta gtggtggttag cacatactac 180
gcagactctg tgaagggccg gttcaccatc tcccgcgacg attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggat accgcggtat attactgtgc gaaagaacct 300
tatagttttg actactgggg tcaggggaacc ctggtcaccg tctcgagc 348

<210> 1134
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1134
gagggtgcagc tgttggagtc tgggggagggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgct gggtatgaga tgtgttgggt ccgccaggct 120
cccggggaagg gtctagagcg ggtctcagct attagtggta gtggtggttag cacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgacg attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggat accgcggtat attactgtgc gaaagatcct 300
tatagttttg acaactgggg tcaggggaacc ctggtcaccg tctcgagc 348

<210> 1135
<211> 348
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1135
gagggtgcagc tgttggagtc tgggggagggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgct gggtatgaga tgtgttgggt ccgccaggct 120
ccaggggaagg gtctagagtg ggtctcagct attagtggta gtggtggttag cacatactac 180
gcagactctg tgaagggccg gttcaccatc tcccgcgacg attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggat accgcggtat atcactgtgc gaaagaacct 300
tatagttttg actactgggg tcaggggaacc ctggtcaccg tctcgagc 348

<210> 1136
 <211> 348
 <212> DNA
 <213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1136
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt cacctttgct gggtatgaga tgtgttggtt ccgccaggct 120
 ccagggaagg gtctagagtg ggtctcagct attagtggta gtggttggtag cacatactac 180
 gcagactccg tgaaggggccg gttcaccatc tcccgcgacg attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgccgaggat accgcggtat attactgtgc gaaagatcct 300
 tatagttttg acaactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 1137
 <211> 348
 <212> DNA
 <213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1137
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt caccittgct gggtatgagt tgtgttggtt ccgccaggcc 120
 ccagggaagg gtctagagcg ggtctcagct attagtggaa gtggttggtag cacatactac 180
 gcagactccg tgaaggggccg gttcaccatc tcccgcgacg attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgccgaggat accgcggtat attactgtgc gaaagatcct 300
 tatagttttg actaccgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 1138
 <211> 348
 <212> DNA
 <213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1138
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt caccittgct gggtatgagt tgtgttggtt ccgccaggcc 120
 ccagggaagg gtctagagcg ggtctcagct attagtggaa gtggttggtag cacatactac 180
 gcagactccg tgaaggggccg gttcaccatc tcccgcgacg attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgccgaggat accgcggtat attactgtgc gagagatcct 300
 tatagttttg actactgggg tcagggaacc ctggtcaccg tctcgagc 348

<210> 1139
 <211> 360
 <212> DNA
 <213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1139
gagggtgcagc tgttggagtc tggggggggc ttggtacagc ctgggggggc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttccg actgctgaga tgctgtgggt ccgcaaggct 120
ccaggggaagg gtctagagtg ggtctcatct atttcggcta gtggtgggtc tacatactac 180
gcagactccg tgaaggggccg gttcaccaic tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcggaggac accgcgggat attactgtgc gaaagagccg 300
gtgagttatg tggcgacgtt tgactactgg ggtcagggaa ccctgggtcac cgtctcgagc 360

<210> 1140
<211> 360
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1140
gagggtgcagc tgttgggtgc tggggggaggc ttggtacagc ctgggggggc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttccg actgctgaga tgttgtgggt ccgccaggct 120
ccaggggaagg gtccagagtg ggtctcatca atttcggcta gtggtgggtc tacatactat 180
gcagactccg tgaaggggccg gttcaccaic tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcggaggac accgcgggat attactgtgc gaaagagccg 300
gtgagttatg tggcgacgtt tgactactgg ggtcagggaa ccctgggtcac cgtctcgagc 360

<210> 1141
<211> 360
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1141
gagggtgcagc tgttggagtc tggggggaggc ttggtacagc ctgggggggc cctgcgtctc 60
tcgtgtgcag cctccggatt cacctttccg actgccgaga tgggtgtgggt ccgcaaggct 120
ccaggggatgg gtctagagtg ggtctcatct atttcggcta gtggtggtta tacatactac 180
gcagactccg tgaaggggccg gttcaccaic tcccgcgaca attccaagaa catgctgtat 240
ctgcaaatga acagcctgcg tgcggaggac accgcgggat attactgtgc gaaagagccg 300
gtgagttatg tggcgacgtt tgactactgg ggtcaggggag ccctgggtcac cgtcacgagc 360

<210> 1142
<211> 360
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1142
gagggtgcagc tgttgggtgc tggggggaggc ttggtacagc ctgggggggc cctgcgtctc 60

tccgtgcag cctccggatt cacctttccg actgctgaga tgggtgggt cgcagggt	120
ccagggaagg gctagagtg ggtctcatct atttcggcta gtggtggttc tacatactac	180
gcagactccg tgaagggccg gtctccatc tcccgcgacg attccaagaa cacgctgtat	240
ctgcaaatga acagcctgcg tgcgaggac accgcggtat attactgtgc gaaagagccg	300
gtgagttatg tggcgacgtt tgactactgg ggtcatggag ccctggtcac cgtctcgagc	360

<210> 1143
 <211> 360
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1143	
gaggtgcagc tgttgagtc tggggaggc ttggtacagc ctggggggtc cctgcgtctc	60
tccgtgcag cctccggatt cacatttccg actgctgaga tgttgggt cgcagggt	120
ccagggaagg gctagagtg ggtctcatct atttcggcta gtggtggttc tacatactac	180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat	240
ctgcaaatga acagcctgcg agccgaggac accgcggtat attactgtgc gaaagagccg	300
gtgagttatg tggcaacgtt tgactactgg ggtcaggga ccctggtcac cgtctcgagc	360

<210> 1144
 <211> 360
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1144	
gagggcgagc tgttgagtc tgggggtggc ttggtacagc ctggggggtc cctgcgtctc	60
tccgtgcag cctccggatt caccittccg actgctgaga tgggtgggt cgcagggt	120
ccagggaagg gctagagtg ggtctcatct atttcggcta gtggtggttc tacatactac	180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat	240
ctgcaatiga acagcctgcg tgcgaggac accgcggtat attactgtgc gaaagagccg	300
gtgagttatg tggcgacgtt tgactactgg ggtcgggga ccctggtcac cgtctcgagc	360

<210> 1145
 <211> 360
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1145	
gaggtgcagc tgttgagtc tggggaggc ttggtacagc ctggggggtc cctgcgtctc	60
tccgtgcag cctccggatt cacatttccg actgctgaga tgttgggt cgcagggt	120
ccagggaagg gctagagtg ggtctcatct atttcggcta gtggtggttc tacatactac	180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagag cacgctgtat	240

ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gaaagagccg 300
 gtagattatg tggcgacgtt tgactactgg ggtccaggag ccctgggtcac cgtctcgagc 360

<210> 1146
 <211> 360
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1146
 gaggtgcagc tgttggagtc cgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt cacctttccg actgctgaga tgcgtgggt ccgcaaggct 120
 ccagggaagg gtcctagagtg ggtctcatct atttcggcta gtggtgggtc tacatactac 180
 gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctggtt 240
 ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc caaagagccg 300
 gtgagttatg tggcgacgtt tgactactgg ggtcagggaa ccctgggtcac cgtctcgagc 360

<210> 1147
 <211> 360
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1147
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt cacatttccg actgctgaga tgttgggt ccgccaggct 120
 ccagggaagg gtcctagagtg ggtctcatct atttcggcta gtggtgggtc tacatactac 180
 gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctggtt 240
 ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gaaagagccg 300
 gtagattatg tggcgacgtt tgactactgg ggtccaggag ccctgggtcac cgtctcgagc 360

<210> 1148
 <211> 360
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1148
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt cacctttccg actgctgaga tgcgtgggt ccgccaggct 120
 ccagggaagg gtcctagagtg ggtctcatct atttcggcta gtggtgggtc tacatactac 180
 gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctggtt 240
 ttgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gaaagagccg 300
 gtgtattatg tggcgacgtt tgactactgg ggtcagggaa ccctgggtcac cgtctcgagc 360

<210> 1149

<211> 360
 <212> DNA
 <213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1149

gaggtgcagc tgttggagtc cgggggaggc ttggtacagc ctggggggtc cctgcgtctc	60
tcctgtgcag cctccggatt cacctttccg actgctgaga tctgttgggt ccgcaaggct	120
ccaggggaagg gtctagagtg ggctcatct atttcggcta gtggtgggtc tacatactac	180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat	240
ctgcaaatga acagcctgcg tggcgaggac gccgcggtat attactgtgc gaaagagccg	300
gtgagttatg tggcgacgtt tgactactgg ggtcaggga ccctgggtcac cgtctcgagc	360

<210> 1150

<211> 324

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1150

aacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc	60
atcacttgcc gggcaagtca ttttatttgt actctgttaa cttggtacca gcataaacca	120
gggaaagccc ctaagctcct gatcacttat ggttccttgt tgcaaagtgg ggtcccatca	180
cgtttcagtg gcagtggaic tgggacagat ttcactctca ccatcagcag tctgcaacct	240
gaagattttg ctacgtacta ctgtggtcag ggggtgctgt ggccctgcgac gttcggtcaa	300
gggaccaagg tggaaatcaa acgg	324

<210> 1151

<211> 324

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1151

gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc	60
atcacttgcc gggcaagtca ttttatttgt actctgttat cttggtacca gcagaaacca	120
cggaaagccc ctaaaactcct gatcacttat ggttccttgt tgcaaagtgg ggtcccatca	180
cgtttcagtg gcagtggaic tgggacagat ttcactctca ccatcagcag tctgcatcct	240
gaagattttg ctacgtacta ctgtggtcag ggggtgctgt ggccctccgac gttcggtcaa	300
gggaccaagg tggaaatcaa acgg	324

<210> 1152

<211> 324

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1152
gacatccaga tgacccagtc tccgtcctcc ctgactgcat ctgtaggaga ccgtgtcacc 60
atcacttgcc gggcaagtca ttttatiggt actctgttat ctigtgtacca gcagaaacca 120
gggaaagccc ctaagctcct ggtcacttat ggcticcttgt tgcaaagtgg ggtcccatca 180
cgtttcagtg gcagtggatc tgggacagat ttcactctca ccatcagcaa tctgcaacct 240
gaagattttg ctacgtacta ctgtggtcag ggggtgctgt ggctctctac gticggccaa 300
gggaccaagg tggaaaacat acgg 324

<210> 1153
<211> 324
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1153
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
atcacttgcc gggcaagtca ttttatigct actctgttat ctigtgtacca gcagaaacca 120
gggaaagccc ctaagctcct gatcacttat ggttccttgt tgcaaagtgg ggtcccatca 180
cgtttcagtg gcagtggatc tgggacagat ttcactctca ccatcagcag tctgcaacct 240
gaagattttg ctacgtacta ctgtggtcag ggggtgctgt ggctccgac gticggccaa 300
gggaccaagg tggaaatcaa acgg 324

<210> 1154
<211> 324
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1154
gacatccaga tgacccagtc tccatccttc ctgtctgcat ctgtaggaga ccgtgtcacc 60
atcacttgcc gggcaagtca ttttatigct actctgttat ctigtgtacca gcagaaacca 120
gggaaagccc ctaagctcct gatcacttat ggttccttgt tgcaaagtgg ggtcccatca 180
cgtttcagtg gcagtggatc tgggacagat ttcactctca ccatcagcag tctgcaacct 240
gaagattttg ctacgtacta ctgtggtcag ggggtgctgt ggctccgac gticggccaa 300
gggaccaagg tggaaatcaa acgg 324

<210> 1155
<211> 324
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1155
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
atcacttgcc gggcaagtca ttttatiggt actctgttat ctigtgtacca gcagaaacca 120

gggaaagcca ctaagctcct gatcacttat gggttccttgt tgcaaagtgg ggtcccatca 180
 cgtttcagtg gcagtggtatc tgggacagat ttcactctca ccatcagcag tctgcaacct 240
 gaagactttg ctacgtacta ctgtgggtcag ggggtgctgt ggccccgac gttcggccag 300
 gggaccaagg tggaaatcaa acgt 324

<210> 1156
 <211> 324
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1156
 gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
 atcacttgcc gggcaagtca ttttatttgt tctctgttat ctgtgtacca gcataaacca 120
 gggaaagccc ctaagctcct gatcacttat gggttccttgt tgcaaagtgg ggtcccatca 180
 cgtttcagtg gcagtggtatc tgggacagat ttcactctca ccatcagcag tctgcaacct 240
 gaagattttg ctacgtacta ctgtgggtcag ggggtgctgt ggccctgcgac gttcggccaa 300
 gggaccaagg tggaaatcaa acgg 324

<210> 1157
 <211> 324
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1157
 gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
 atcacttgcc gggcaagtca ttttatttgt actctgttat ctgtgtacca gcataaacca 120
 gggaaagccc ctaagctcct gatcacttat gggttccttgt tgcaaagtgg ggtcccatca 180
 cgtttcagtg gcagtggtatc tgggacagat ttcactctca ccatcagcag tctgcaacct 240
 gaagattttg ctacgtacta ctgtgggtcag ggggtgctgt ggccctgcgac gttcggccaa 300
 gggaccaagg tggaaatcaa acgg 324

<210> 1158
 <211> 324
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1158
 gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
 atcacttgcc gggcaagtca ttttatttgt actctgttat ctgtgtacca gcataaacca 120
 gggaaagccc ctaagctcct gatcacttat gggtccatgt tgcaaagtgg ggtcccatca 180
 cgtttcagtg gcagtggtatc tgggacagat ttcactctca ccatcagcag tctgcaacct 240
 gaagattttg caacgtacta ctgtgggtcag ggggtgctgt ggccctgcgac gttcggccaa 300

gggaccaagg tggaaatcaa acgg

324

<210> 1159

<211> 324

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1159

gacatccaga tgactcagtc tccatcctcc ctgtctgcat ctgtaggaga ccgagtcacc 60

atcacttgcc gggcaagtca ttttatggg actctgttat cctggtagca gcataaacca 120

gggaaagccc ctaagctcct gatcacctat gggtccctgt tgcaaagtgg ggtcccatca 180

cgtttcagtg gcagtggtat tgggacagaa ttcactctca ccatcagcag tctgcaacct 240

gaagattttg ctacgtacta ctgtggtcag ggagtgctgt ggccctgcgac gttcggccaa 300

gggaccaagg tggaaatcaa acgg 324

<210> 1160

<211> 324

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1160

gacatccaga tgaccagtc tccatcctcc ctgactgcat ctgtaggaga ccgtgtcacc 60

atcacttgcc gggcaagtca ttttatggg actctgttat cttggtagca gcataaacca 120

gggaaagccc ctaagctcct gatcacttat gggtccctgt tgcaaagtgg ggtcccatca 180

cgtttcagtg gcagtggtat tgggacagaa ttcactctca ccatcagcag tctgcaacct 240

gaagattttg ctacgtacta ctgtggtcag ggggtgctgt ggccctgcgac gttcggccaa 300

gggaccaagg tggaaatcaa acgg 324

<210> 1161

<211> 324

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1161

aacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60

atcacttgcc gggcaagtc ttttatggg actctgttat cttggtagca gcataaacca 120

gggaaagccc ctaagctcct gatcacttat gggtccctgt tgcaaagtgg ggtcccatca 180

cgtttcagtg gcagtggtat tgggacagat ttcactctca ccatcagcag tctgcaacct 240

gaagattttg ctacgtacta ctgtggtcag ggggtgctgt ggccctgcgac gttcggccaa 300

gggaccaagg tggaaatcaa acgg 324

<210> 1162

<211> 324

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1162

gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc	60
atcaattgcc gggcaagtca ttttatiggt actctgttat ctgtgtacca gcataaacca	120
gggaaagccc ctaagctcct gatcacttat ggttccttgt tgcaaagtgg ggtcccatca	180
cgtttcagtg gcagtggtatc tgggacagat ttcactctca ccatcagcag tctgcaacct	240
gaagattttg ctacgtacta ctgtggtcag ggggtgctgt ggccctgcgac gttcggccaa	300
gggaccaagg tggaaatcaa acgg	324

<210> 1163

<211> 324

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1163

gacatccagt tgacccagtc accatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc	60
atcacttgcc gggcaagtca ttttatiggt actctgttat ctgtgtacca gcagaaacca	120
gggaaagcca ctaagctcct gatcacttat ggttccttgt tgcaaagtgg ggtcccatca	180
cgtttcagtg gcagtggtatc tgggacagat ttcactctca ccatcagcag tctgcaacct	240
gaagattttg ctacgtacta ctgtggtcag ggggtgctgt ggccctccgac gttcggccaa	300
gggaccaagg tggaaatcaa acgg	324

<210> 1164

<211> 324

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1164

gacatccaga tgacacagtc tccatcctcc ctgtatgcat ctgtaggaga ccgtgtcacc	60
atcacttgcc gggtaagtca ttttatiggt actctgttat ctgtgtacca gcagaaacca	120
gggaaagccc ctaagctcct gatcacttat ggttccttgt tgcaaagtgg ggtcccatca	180
cgtttcagtg gcagtggtatc tgggacagat ttcactctca gcatcagcag tctgcaacct	240
gaagattttg ctacgtacta ctgtggtcag ggggtgctgt ggcctccgac gttcggacaa	300
gggaccaagg tggaaatcaa acag	324

<210> 1165

<211> 324

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1165
gacattcaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
atcacttgcc gggcaagtc ttttattggt actctgttat ctgtgtacca gcagaaacca 120
aggaaagccc ctaagctcct gatcattat gggttccttgt tgcaaagtgg ggtcccatca 180
cgtttcagtg gcagtggaic tgggacagat ttcactctca ccatcagcag tctgcaacct 240
gaagattttg ctacgtacta ctgtggtcag ggggtgctgt ggccctccgac gttcggccaa 300
gggaccaagg tggaaatcaa acgg 324

<210> 1166
<211> 324
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1166
gacatccaga ttatccagtc tccatcctcc ctttctgcat ctgtaggaga ccgtgtcacc 60
atcacttgcc gggcaagtc ttttattggt actctgttat ctgtgtacca gcagaaacca 120
gggaaagccc ctaagctcct gatcattat gggttccttgt tgcaaagtgg ggtcccatca 180
cgtttcagtg gcagtggaic tgggacagat ttcactctca ccatcagcag tctgcaacct 240
gaagattttg ctacgtacta ctgtggtcag ggggtgctgt ggccctccgac gttcggccaa 300
gggaccaagg tggaaatcaa acgg 324

<210> 1167
<211> 324
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1167
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
atcacttgcc gggcaagtc ttttattggt actctgttat ctgtgtacca gctgaaacca 120
gggaaagccc ctaagctcct gatcattat gggttccttgt tgcaaagtgg ggtcccatca 180
cgtttcagtg gcagtggaic tgggacagat ttcactctca ccatcagcag tctgcaacct 240
gaagattttg ctacgtacta ctgtggtcag ggggtgctgt ggccctccgac gttcggccaa 300
gggaccaagg tggaaatcaa acgg 324

<210> 1168
<211> 324
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1168
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
atcacttgcc gggcaagtc ttttattggt actctgttat ctgtgtacca gctgaaacca 120

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gggaaagccc caaagctcct gatcacttat ggttccttgt tgcaaagtg ggccccatca    180
cgtttcagtg gcagtggaic tgggacagat ttactctca ccatcagcag tctgcaacct    240
gaagattttg ctacgtacta ctgtggtcag ggggtgctgt gccctgcgac gttcggccaa    300
gggaccaagg tagaaaacaa acgg                                           324

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<210> 1169
 <211> 324
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

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<400> 1169
gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc    60
atcacttgcc gggcaagtca ttttatttgt actctgttat ctgtgtacca gcttaaacca    120
gggaaagccc ctaagctcct gatcacttat ggttccttgt tgcaaagtg ggtcccatca    180
cgtttcagtg gcagtggaic tgggacagat ttactctca ccatcagcag tctgcaacct    240
gaagattttg ctacgtacta ctgtggtcag ggggtgctgt gccctgcgac gttcggccaa    300
gggaccaagg tggaatcaa acgg                                           324

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<210> 1170
 <211> 324
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

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<400> 1170
gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc    60
atcacttgcc gggcaagtca ttttatttgt actctgttat ctgtgtacca gctgaaacca    120
gggaaagccc ctaagctcct gatcacttat ggttccttgt tgcaaagtg ggtcccatca    180
cgtttcagtg gtagtggaic tgggacagat ttactctca ccatcagcag tctgcaacct    240
gaagattttg ctacgtacta ctgtggtcag ggggtgctgt gccctgcgac gttcggccaa    300
gggaccaagg ttgaaaacaa acgg                                           324

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<210> 1171
 <211> 324
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

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<400> 1171
gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc    60
atcacttgcc gggcaagtca ttttatttgt tctctgttat ctgtgtacca gcagaaacca    120
gggaaagccc caaagctcct gatcacttat ggttccttgt tgcaaagtg ggtcccatca    180
cgtttcagtg gcagtggaic tgggacagat ttctctctca ccatcagcag tctgcaacct    240
gaagattttg ctacgtacta ctgtggtcag ggggtgctgt gccctgcgac gttcggccaa    300

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gggaccaagg tggaaatcaa acgg

324

<210> 1172

<211> 324

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1172

gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60

atcacttgcc gggcaagtca ttttatggg agtctgttat ctgggtacca ggtgaaacca 120

gggaaagccc ctaagctcct gatcacitac ggttccttgt tgcaaagtgg ggtcccatca 180

cgtttcagtg gcagtggtac tgggacagat ttacatctca ccatcagcag tctgcaacct 240

gaagattttg ctacgtacta ctgtggtcag ggggtgctgt ggccctgcgac gttcggccaa 300

gggacaacgg tggaaatcaa acgg 324

<210> 1173

<211> 324

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1173

gacatcctga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60

atcacttgcc gggcaagtca ttttatggg agtctgttat ctgggtacca gcagaaacca 120

gggaaagccc ctaagctcct gatcacitac ggttccttgt tgcaaagtgg ggtcccatca 180

cgtttcagtg gcagtggtac tgggacagat ttacatctca ccatcagcag tctgcaacct 240

gaagattttg ctacgtacta ctgtggtcag ggggtgctgt ggccctgcgac gttcggccaa 300

gggaccaagg tggaaatcaa acgg 324

<210> 1174

<211> 324

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1174

gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60

atcacttgcc gggcaagtca ttttatggg actctggtat ctgggtacca gcagaaaccg 120

gggaaagccc ctaagctcct gatcacitac ggttccttgt tgcaaagtgg ggtcccatca 180

cgtttcagtg gcagtggtac tgggacagat ttacatctca ccatcagcag tctgcaacct 240

gaagattttg ctacgtacta ctgtggtcag ggggtgctgt ggccctgcgac gtacggccaa 300

gggaccaagg tggaaatcaa acgg 324

<210> 1175

<211> 324

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1175

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gacatccaga tgaccagtc tccatcctct ctgtctgcat ctgtaggaga ccgtgtcacc    60
atcacttgcc gggcaagtca ttttatiggt actctggat ctgtgtacca gcagaaacca    120
gggaaagccc ctaagctcct gatcacttat ggttccttgt tgcaaagtgg ggtcccatca    180
cgtttcagtg gcagtggaac tgggacagat ttcactctca ccatcagcag tctgcaacct    240
gaagattttg ctacgtacta ctgtgtgtcag ggggtgctgt ggccctgcgac ttctggccaa    300
gggaccaagg tggaaaacaa acgg                                           324
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<210> 1176

<211> 324

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1176

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gacatcaaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc    60
atcacttgcc gggcgagtc ttttatiggt actctggat ctgtgtacca gcagaaacca    120
gggaaagccc caaagctcct gatcacttat ggttccaigt tgcaaagtgg ggtcccatca    180
cgtttcagtg gcagtggaac tgggacagat ttcactctca ccatcagcag tctgcaacct    240
gaagattttg ctacgtacta ctgtgtgtcag ggggtgctgt ggccctgcgac gttcggccaa    300
gggaccaagg tggaaatcaa acgg                                           324
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<210> 1177

<211> 324

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1177

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gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc    60
atcacttgcc aggcaagtca ttttatiggt actctggat cctgtgtacca gcagaaacca    120
gggaaagccc ctaagctcct gatcacttat ggttccttgt tgcaaagtgg ggtcccatca    180
cgtttcagtg gcagtggaac tgggacagat ttcactctca ccatcagcag tctgcaacct    240
gaagattttg ctacgtacta ctgtgtgtcag ggggtgctgt ggcccgcgac gttcggccaa    300
gggaccaagg tggaaatcaa acgg                                           324
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<210> 1178

<211> 324

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1178
gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
atcacttgcc gggcaagtca ttttattggt actctgttat ctgtgtacca gcagaaacca 120
gggaaagccc ctaagctcct gatcacttat gggttcctggt tgcaaagtgg ggtcccatca 180
cgtttcagtg gcagtggtatc tgggacagat ttacacttca ccatcagcag tctgcaacct 240
gaagattttg ctacgtacta ctgtggtcag ggggtgctgt ggccctgcgac gttcggccaa 300
gggaccaagg tggaaatcaa acgg 324

<210> 1179
<211> 324
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1179
gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgttgaga ccgtgtcacc 60
atcacttgcc gggcaagtca ttttattggt actctgttat ctgtgtacca gctgaaacca 120
gggaaagccc ctaagctcct gatcacttat gggttcctggt tgcaaagtgg ggtcccatca 180
cgtttcagtg gcagtggtatc tgggacagat ttacacttca ccatcagcag tctgcaacct 240
gaagattttg ctacgtacta ctgtggtcag ggggtgctgt ggccctgcgac gttcggccaa 300
gggaccaagg tggaaatcaa acgg 324

<210> 1180
<211> 324
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1180
gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
atcacttgcc gggcaagtca ttttattggt actctgttat ctgtgtacca gcagaaaccg 120
gggaaagccc ctaagctcct gatcacttat gggttcctggt tgcaaagtgg ggtcccatca 180
cgtttcagtg gcagtggtatc tgggacagat ttacacttca ccatcagcag tctgcaacct 240
gaagattttg ctacgtacta ctgtggtcag gagggtgctgt ggccctgcgac gttcggccaa 300
gggactaagg tggaaatcaa acgg 324

<210> 1181
<211> 324
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1181
gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtctcc 60
atcacttgcc gagcaagtca ttttattggt actctgttat ctgtgtacca gcagaaacca 120
gggaaagccc ctaagctcct gatcacttat gggttcctggt tgcaaagtgg ggtcccatca 180

cgtttcagtg gcagtggtt tgggacagat ttacacttca ccatcagcag tctgcaacct 240
gaagatcttg ctacgtacta ctgtgggtcag gaggtgctgt ggccctgcgac gttcggccaa 300
gggaccaagg tggaaatcaa acgg 324

<210> 1182
<211> 324
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1182
gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
atcacttgcc aggcaagtca ttttatgtgt actctgttat ctgtgtacca gcagaaacca 120
gggaaagccc ctaagctcct gatcacttat ggttccttgt tgcaaagtgg ggtcccatca 180
cgtttcagtg gcagtggtt tgggacagat ttacacttca ccatcagcag tctgcaacct 240
gaagattttg ctacgtacta ctgtgggtcag gaggtgctgt ggccctgcgac gttcggccaa 300
gggaccaagg tggaaatcaa acgg 324

<210> 1183
<211> 324
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1183
gacatccaga tgaccagtc tccatcctcc ctgtctgcat cagtaggaga ccgtgtcacc 60
atcacttgcc gggcaagtca ttttatgtgt actctgttat ctgtgtacca gcagaaacct 120
gggaaagccc ctaagctcct gatcacttat ggttccttgt tgcaaagtgg ggtcccatca 180
cgtttcagtg gcagtggtt tgggacagaa ttacacttca ccatcggcag tctgcaacct 240
gaagattttg ctacgtacta ctgtgggtcag ggggtgctgt ggccctgcgac gttcggccaa 300
gggaccaagg tggaaatcaa acgg 324

<210> 1184
<211> 324
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1184
gacatccaga tgaccagtc accatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
atcacttgcc gggcaagtca ttttatgtgt actctgttat ctgtgtacca gcagaaacca 120
gggaaagccc ctaagctcct gatcacttat ggttccttgt tgcaaagtgg ggtcccatca 180
cgtttcagtg gcagtggtt tgggacagat ttacacttca ccatcagcag tctgcaacct 240
gaagattttg ctacgtacta ctgtgggtcag ggggtgctgt ggccctgcgac gttcggccaa 300
gggaccaagg tggaaatcaa acgg 324

<210> 1185
 <211> 324
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1185
 gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
 atcacttgcc gggcaagtca cttcattgcc agtctgttat ctgtgtacca ggtgaaacca 120
 gggaaagccc ctaagctcct gatcacitai ggttccttgt tgcaaagtgg ggtcccatca 180
 cgtttcagtg gcagtggaic tgggacagat ttactctca ccatcagcag tctgcaacct 240
 gaagattttg ctacgtacta ctgtgttcag ggggtgctgt ggccctgcgac gttcggccaa 300
 gggacaacgg tggaaatcaa acgg 324

<210> 1186
 <211> 324
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1186
 gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
 atcacttgcc gggcaagtca ttctattgcc cagctgttat ctgtgtacca ggtgaaacca 120
 gggaaagccc ctaagctcct gatcacttat ggttccttgt tgcaaagtgg ggtcccatca 180
 cgtttcagtg gcagtggaic tgggacagat ttactctca ccatcagcag tctgcaacct 240
 gaagattttg ctacgtacta ctgtgttcag ggggtgctgt ggccctgcgac gttcggccaa 300
 gggacaacgg tggaaatcaa acgg 324

<210> 1187
 <211> 324
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1187
 gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
 atcacttgcc gggcaagtca ttctattgcc cagctgttat ctgtgtacca ggtgaaacca 120
 gggaaagccc ctaagctcct gatcacttat ggttccttgt tgcaaagtgg ggtcccatca 180
 cgtttcagtg gcagtggaic tgggacagat ttactctca ccatcagcag tctgcaacct 240
 gaagattttg ctacgtacta ctgtgttcag ggggtgctgt ggccctgcgac gttcggccaa 300
 gggacaacgg tggaaatcag acgg 324

<210> 1188
 <211> 324
 <212> DNA
 <213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1188

gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc	60
atcacttgcc gggcaagtca ttacatlgcc tccctgttat ctgtgtacca ggtgaaacca	120
gggaaagccc ctaagctcct gatcacttat gggtccttgt tgcagagtgg ggccccatca	180
cgtttcagtg gcagtggaic tgggacagat ttactctca ccatcagcag tctgcaacct	240
gaagattttg ctacgtacta ctgtggtcag ggggtgctgt ggccctgcgac gttcggccaa	300
gggacaacgg tggaaatcaa acgg	324

<210> 1189

<211> 324

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1189

gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc	60
atcacttgcc gggcaagtca ttttatttgt agtctgttat ctgtgtacca ggtgaaacca	120
gggaaagccc ctaagctcct gatcacttgg gcctcctact tgcaaagtgg ggtcccatca	180
cgtttcagtg gcagtggaic tgggacagat ttactctca ccatcagcag tctgcaacct	240
gaagattttg ctacgtacta ctgtggtcag ggggtgctgt ggccctgcgac gttcggccaa	300
gggacaacgg tggaaatcaa acgg	324

<210> 1190

<211> 324

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1190

gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc	60
atcacttgcc gggcaagtca ttttatttgt agtctgttat ctgtgtacca ggtgaaacca	120
gggaaagccc ctaagctcct gatcacttgg acgtcctact tgcaaagtgg ggtcccatca	180
cgtttcagtg gcagtggaic tgggacagat ttactctca ccatcagcag tctgcaacct	240
gaagattttg ctacgtacta ctgtggtcag ggggtgctgt ggccctgcgac gttcggccaa	300
gggacaacgg tggaaatcaa acgg	324

<210> 1191

<211> 324

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1191

gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
 atcacttgcc gggcaagtca ttttattggt agtcctgtat ctgtgtacca ggtgaaacca 120
 gggaaagccc ctaagctcct gatcacttgg tcgtcctact tgcaaagtgg ggtcccatca 180
 cgtttcagtg gcagtggaic tgggacagat ttcactctca ccatcagcag tctgcaacct 240
 gaagattitg ctacgtacta ctgtggtcag ggggtgctgt ggccctgcgac gttcggccaa 300
 gggacaacgg tggaaatcaa acgg 324

<210> 1192
 <211> 324
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1192
 gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
 atcacttgcc gggcaagtca ttttattggt agtcctgtat ctgtgtacca ggtgaaacca 120
 gggaaagccc ctaagctcct gatcacttgg gggctcctgg tgc aaagtgg ggtcccatca 180
 cgtttcagtg gcagtggaic tgggacagat ttcactctca ccatcagcag tctgcaacct 240
 gaagattitg ctacgtacta ctgtggtcag ggggtgctgt ggccctgcgac gttcggccaa 300
 gggacaacgg tggaaatcaa acgg 324

<210> 1193
 <211> 324
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1193
 gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
 atcacttgcc gggcaagtca ttttattggt agtcctgtat ctgtgtacca ggtgaaacca 120
 gggaaagccc ctaagctcct gatcacttgg gcgtcctgg tgc aaagtgg ggtcccatca 180
 cgtttcagtg gcagtggaic tgggacagat ttcactctca ccatcagcag tctgcaacct 240
 gaagattitg ctacgtacta ctgtggtcag ggggtgctgt ggccctgcgac gttcggccaa 300
 gggacaacgg tggaaatcaa acgg 324

<210> 1194
 <211> 324
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1194
 gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
 atcacttgcc gggcaagtca ttttattggt agtcctgtat ctgtgtacca ggtgaaacca 120
 gggaaagccc ctaagctcct gatcacttgg agctcctgg tgc aaagtgg ggtcccatca 180

cgtttcagtg gcagtggaic tgggacagat ttacactctca ccatcagcag tctgcaacct 240
 gaagattttg ctacgtacta ctgtgggtcag ggggtgctgt ggccctgcgac gttcggccaa 300
 gggacaacgg tggaaatcaa acgg 324

<210> 1195
 <211> 324
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1195
 gacatccaga tgacccagtc tccatccctc ctgtctgcat ctgtaggaga ccgtgtcacc 60
 atcacttgcc gggcaagtca ttggattgcc cagctgttat cttggtacca ggtgaaacca 120
 gggaaagccc ctaagctcct gatcacttat ggttccttgt tgcaaagtgg ggtcccatca 180
 cgtttcagtg gcagtggaic tgggacagat ttacactctca ccatcagcag tctgcaacct 240
 gaagattttg ctacgtacta ctgtgggtcag ggggtgctgt ggccctgcgac gttcggccaa 300
 gggacaacgg tggaaatcaa acgg 324

<210> 1196
 <211> 324
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1196
 gacatccaga tgacccagtc tccatccctc ctgtctgcat ctgtaggaga ccgtgtcacc 60
 atcacttgcc gggcaagtca ttttatgggt tcgctcttac gctggtacca ggtgaaacca 120
 gggaaagccc ctaagctcct gatcacttat ggttccttgt tgcaaagtgg ggtcccatca 180
 cgtttcagtg gcagtggaic tgggacagat ttacactctca ccatcagcag tctgcaacct 240
 gaagattttg ctacgtacta ctgtgggtcag ggggtgctgt ggccctgcgac gttcggccaa 300
 gggacaacgg tggaaatcaa acgg 324

<210> 1197
 <211> 324
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1197
 gacatccaga tgacccagtc tccatccctc ctgtctgcat ctgtaggaga ccgtgtcacc 60
 atcacttgcc gggcaagtca tcggattgcc cagctgttat cttggtacca ggtgaaacca 120
 gggaaagccc ctaagctcct gatcacttat ggttccttgt tgcaaagtgg ggtcccatca 180
 cgtttcagtg gcagtggaic tgggacagat ttacactctca ccatcagcag tctgcaacct 240
 gaagattttg ctacgtacta ctgtgggtcag ggggtgctgt ggccctgcgac gttcggccaa 300
 gggacaacgg tggaaatcaa acgg 324

<210> 1198
 <211> 324
 <212> DNA
 <213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1198

gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc	60
atcacttgcc gggcaagtc ttacattgcc tccctgttat ctgtgtacca ggtgaaacca	120
gggaaagccc ctaagctcct gatcacttat ggttccttgt tgcaaagtgg ggtcccatca	180
cgtttcagtg gcagtggtac tgggacagat ttacacttca ccatcagcag tctgcaacct	240
gaagattttg ctacgtacta ctgtggtcag ggggtgctgt ggccctgcgac gttcggccaa	300
gggacaacgg tggaaatcaa acgg	324

<210> 1199

<211> 324
 <212> DNA
 <213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1199

gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc	60
atcacttgcc gggcaagtc ttttatttgt agtctgttat ctgtgtacca ggtgaaacca	120
gggaaagccc ctaagctcct gatccgggtc ggctccttgt tgcaaagtgg ggtcccatca	180
cgtttcagtg gcagtggtac tgggacagat ttacacttca ccatcagcag tctgcaacct	240
gaagattttg ctacgtacta ctgtggtcag ggggtgctgt ggccctgcgac gttcggccaa	300
gggacaacgg tggaaatcaa acgg	324

<210> 1200

<211> 324
 <212> DNA
 <213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1200

gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc	60
atcacttgcc gggcaagtc ttttatttgt agtctgttat ctgtgtacca ggtgaaacca	120
gggaaagccc ctaagctcct gatcacttac aagtcctact tgcaaagtgg ggtcccatca	180
cgtttcagtg gcagtggtac tgggacagat ttacacttca ccatcagcag tctgcaacct	240
gaagattttg ctacgtacta ctgtggtcag ggggtgctgt ggccctgcgac gttcggccaa	300
gggacaacgg tggaaatcaa acgg	324

<210> 1201

<211> 324
 <212> DNA
 <213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1201

gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc	60
atcacttgcc gggcaagtca tttatttgg agtctgttat ctgtgtacca ggtgaaacca	120
gggaaagccc ctaagctcct gatcacttgg ggctcctact tgcaaagtgg ggtcccatca	180
cgtttcagtg gcagtggatc tgggacagat ttactctca ccatcagcag tctgcaacct	240
gaagattttg ctacgtacta ctgtggtcag ggggtgctgt ggcttgcgac gttcggccaa	300
gggacaacgg tggaaatcaa acgg	324

<210> 1202

<211> 324

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1202

gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc	60
atcacttgcc gggcaagtc tttatttgg gggcccttat ctgtgtacca ggtgaaacca	120
gggaaagccc ctaagctcct gatcacttat ggttccttgt tgcaaagtgg ggtcccatca	180
cgtttcagtg gcagtggatc tgggacagat ttactctca ccatcagcag tctgcaacct	240
gaagattctg ctacgtacta ctgtggtcag ggggtgctgt ggcttgcgac gttcggccaa	300
gggacaacgg tggaaatcaa acgg	324

<210> 1203

<211> 324

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1203

gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc	60
atcacttgcc gggcaagtca ttggattgcc accctgttat ctgtgtacca ggtgaaacca	120
gggaaagccc ctaagctcct gatcacttat ggttccttgt tgcaaagtgg ggtcccatca	180
cgtttcagtg gcagtggatc tgggacagat ttactctca ccatcagcag tctgcaacct	240
gaagattttg ctacgtacta ctgtggtcag ggggtgctgt ggcttgcgac gttcggccaa	300
gggacaacgg tggaaatcaa acgg	324

<210> 1204

<211> 324

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1204

gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc	60
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atcacttgcc gggcaagtca ttttatttgg gggcccttat ctgtgtaccca ggtgaaacca 120
gggaaagccc ctaagctcct gatcacttat ggttccttgt tgcaaagtgg ggtcccatca 180
cgtttcagtg gcagtggatc tgggacagat ttcactctca ccatcagcag tctgcaacct 240
gaagattttg ctacgtacta ctgtgggtcag ggggtgctgt ggcctgcgac gttcggccaa 300
gggacaacgg tggaaatcaa acgg 324

<210> 1205
<211> 324
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1205
gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
atcacttgcc gggcaagtca ttttatttgg agcctcttaa actgtgtacca ggtgaaacca 120
gggaaagccc ctaagctcct gatcacttat ggttccttgt tgcaaagtgg ggtcccatca 180
cgtttcagtg gcagtggatc tgggacagat ttcactctca ccatcagcag tctgcaacct 240
gaagattttg ctacgtacta ctgtgggtcag ggggtgctgt ggcctgcgac gttcggccaa 300
gggacaacgg tggaaatcaa acgg 324

<210> 1206
<211> 324
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1206
ggcatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
atcacttgcc gggcaagtca ttttatttgg agtctgttat ctgtgtacca ggtgaaacca 120
gggaaagccc ctaagctcct gatcacttac gggtccttgt tgcaaagtgg ggtcccatca 180
cgtttcagtg gcagtggatc tgggacagat ttcactctca ccatcagcag tctgcaacct 240
gaagattttg ctacgtacta ctgtgggtcag ggggtgctgt ggcctgcgac gttcggccaa 300
gggacaacgg tggaaatcaa acgg 324

<210> 1207
<211> 5
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成肽

<400> 1207
Gly Gly Gly Gly Ser
1 5

<210> 1208
<211> 15
<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成肽

<400> 1208

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
1 5 10 15

<210> 1209

<211> 25

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成肽

<400> 1209

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
1 5 10 15

Gly Gly Gly Ser Gly Gly Gly Gly Ser
20 25

<210> 1210

<211> 227

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 1210

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Tyr Phe Gln Glu Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser Ala Ser Thr Asp Ile Gln Met Thr Gln Ser Pro Ser
115 120 125

Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala
130 135 140

Ser Arg Pro Ile Gly Thr Thr Leu Ser Trp Tyr Gln Gln Lys Pro Gly
145 150 155 160

Lys Ala Pro Lys Leu Leu Ile Leu Trp Asn Ser Arg Leu Gln Ser Gly
165 170 175

Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu
180 185 190

Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Ala
195 200 205

Gln Ala Gly Thr His Pro Thr Thr Phe Gly Gln Gly Thr Lys Val Glu
210 215 220

Ile Lys Arg
225

<210> 1211

<211> 227

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 1211

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Tyr Phe Gln Glu Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser Ala Ser Thr Asp Ile Gln Met Thr Gln Ser Pro Ser
115 120 125

Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala
130 135 140

Ser Arg Pro Ile Gly Thr Met Leu Ser Trp Tyr Gln Gln Lys Pro Gly
145 150 155 160

Lys Ala Pro Lys Leu Leu Ile Leu Ala Phe Ser Arg Leu Gln Ser Gly

165

170

175

Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu
 180 185 190

Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Ala
 195 200 205

Gln Ala Gly Thr His His Thr Thr Phe Gly Gln Gly Thr Lys Val Glu
 210 215 220

Ile Lys Arg
 225

<210> 1212

<211> 227

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 1212

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
 20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Leu Pro Phe Tyr Phe His Glu Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser Ala Ser Thr Asp Ile Gln Met Thr Gln Ser Pro Ser
 115 120 125

Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala
 130 135 140

Ser Arg Pro Ile Gly Thr Thr Leu Ser Trp Tyr Gln Gln Lys Pro Gly
 145 150 155 160

Lys Ala Pro Lys Leu Leu Ile Leu Trp Asn Ser Arg Leu Gln Ser Gly
 165 170 175

Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu
 180 185 190

Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Ala
 195 200 205
 Gln Ala Gly Thr His Pro Thr Thr Phe Gly Gln Gly Thr Lys Val Glu
 210 215 220
 Ile Lys Arg
 225
 <210> 1213
 <211> 227
 <212> PRT
 <213> 人工序列
 <220>
 <223> 人工序列之描述：合成多肽
 <400> 1213
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
 20 25 30
 Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45
 Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys Leu Pro Phe Tyr Phe His Glu Trp Gly Gln Gly Thr Leu Val
 100 105 110
 Thr Val Ser Ser Ala Ser Thr Asp Ile Gln Met Thr Gln Ser Pro Ser
 115 120 125
 Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala
 130 135 140
 Ser Arg Pro Ile Gly Thr Met Leu Ser Trp Tyr Gln Gln Lys Pro Gly
 145 150 155 160
 Lys Ala Pro Lys Leu Leu Ile Leu Ala Phe Ser Arg Leu Gln Ser Gly
 165 170 175
 Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu
 180 185 190
 Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Ala
 195 200 205

Gln Ala Gly Thr His His Thr Thr Phe Gly Gln Gly Thr Lys Val Glu
 210 215 220

Ile Lys Arg
 225

<210> 1214
 <211> 230
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 1214
 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Arg Pro Ile Gly Thr Thr
 20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Leu Trp Asn Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Ala Gln Ala Gly Thr His Pro Thr
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala
 100 105 110

Pro Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro
 115 120 125

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg
 130 135 140

Asp Tyr Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
 145 150 155 160

Arg Val Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp
 165 170 175

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr
 180 185 190

Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr
 195 200 205

Tyr Cys Ala Lys Leu Pro Phe Tyr Phe Gln Glu Trp Gly Gln Gly Thr
 210 215 220

Leu Val Thr Val Ser Ser
225 230

<210> 1215
<211> 230
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 1215
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Arg Pro Ile Gly Thr Met
20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Leu Ala Phe Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Ala Gln Ala Gly Thr His His Thr
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala
100 105 110

Pro Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro
115 120 125

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg
130 135 140

Asp Tyr Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
145 150 155 160

Arg Val Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp
165 170 175

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr
180 185 190

Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr
195 200 205

Tyr Cys Ala Lys Leu Pro Phe Tyr Phe Gln Glu Trp Gly Gln Gly Thr
210 215 220

Leu Val Thr Val Ser Ser
225 230

<210> 1216

<211> 230
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 1216
 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Arg Pro Ile Gly Thr Thr
 20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Leu Trp Asn Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Ala Gln Ala Gly Thr His Pro Thr
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala
 100 105 110

Pro Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro
 115 120 125

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg
 130 135 140

Asp Tyr Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
 145 150 155 160

Arg Val Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp
 165 170 175

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr
 180 185 190

Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr
 195 200 205

Tyr Cys Ala Lys Leu Pro Phe Tyr Phe His Glu Trp Gly Gln Gly Thr
 210 215 220

Leu Val Thr Val Ser Ser
 225 230

<210> 1217
 <211> 230
 <212> PRT
 <213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 1217

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Arg Pro Ile Gly Thr Met
20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Leu Ala Phe Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Ala Gln Ala Gly Thr His His Thr
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala
100 105 110

Pro Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro
115 120 125

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg
130 135 140

Asp Tyr Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
145 150 155 160

Arg Val Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp
165 170 175

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr
180 185 190

Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr
195 200 205

Tyr Cys Ala Lys Leu Pro Phe Tyr Phe His Glu Trp Gly Gln Gly Thr
210 215 220

Leu Val Thr Val Ser Ser
225 230

<210> 1218

<211> 230

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 1218

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly

1 5 10 15
 Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Arg Pro Ile Gly Thr Met
 20 25 30
 Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45
 Leu Ala Phe Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60
 Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Asn Leu Gln Pro
 65 70 75 80
 Glu Asp Phe Ala Thr Tyr Tyr Cys Ala Gln Ala Gly Thr His Pro Thr
 85 90 95
 Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala
 100 105 110
 Pro Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro
 115 120 125
 Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg
 130 135 140
 Asp Tyr Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
 145 150 155 160
 Arg Val Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp
 165 170 175
 Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr
 180 185 190
 Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr
 195 200 205
 Tyr Cys Ala Lys Leu Pro Phe Tyr Phe Gln Glu Trp Gly Gln Gly Thr
 210 215 220
 Leu Val Thr Val Ser Ser
 225 230

<210> 1219

<211> 230

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 1219

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Arg Pro Ile Gly Thr Met
 20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Leu Ala Phe Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Val Ala Thr Tyr Tyr Cys Ala Gln Ala Gly Thr His Pro Thr
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala
100 105 110

Pro Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro
115 120 125

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg
130 135 140

Asp Tyr Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
145 150 155 160

Arg Val Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp
165 170 175

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr
180 185 190

Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr
195 200 205

Tyr Cys Ala Lys Leu Pro Phe Tyr Phe Gln Glu Trp Gly Gln Gly Thr
210 215 220

Leu Val Thr Val Ser Ser
225 230

<210> 1220

<211> 230

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 1220

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Arg Pro Ile Gly Thr Met
20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Leu Ala Phe Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60
 Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80
 Glu Asp Phe Ala Thr Tyr Tyr Cys Ala Gln Ala Gly Val His Pro Thr
 85 90 95
 Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala
 100 105 110
 Pro Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro
 115 120 125
 Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg
 130 135 140
 Asp Tyr Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
 145 150 155 160
 Arg Val Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp
 165 170 175
 Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr
 180 185 190
 Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr
 195 200 205
 Tyr Cys Ala Lys Leu Pro Phe Tyr Phe Gln Glu Trp Gly Gln Gly Thr
 210 215 220
 Leu Val Thr Val Ser Ser
 225 230
 <210> 1221
 <211> 230
 <212> PRT
 <213> 人工序列
 <220>
 <223> 人工序列之描述：合成多肽
 <400> 1221
 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15
 Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Arg Pro Ile Gly Thr Thr
 20 25 30
 Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45
 Leu Trp Asn Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80
 Glu Asp Phe Ala Thr Tyr Tyr Cys Ala Gln Ala Gly Thr His Pro Thr
 85 90 95
 Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala
 100 105 110
 Pro Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro
 115 120 125
 Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu
 130 135 140
 Glu Glu Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
 145 150 155 160
 Trp Val Ser Ala Ile Ser Arg Asn Gly Tyr Ser Thr Tyr Tyr Ala Asp
 165 170 175
 Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr
 180 185 190
 Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr
 195 200 205
 Tyr Cys Gly Lys Glu Pro Phe Arg Tyr Asp Tyr Trp Gly Gln Gly Thr
 210 215 220
 Leu Val Thr Val Ser Ser
 225 230
 <210> 1222
 <211> 227
 <212> PRT
 <213> 人工序列
 <220>
 <223> 人工序列之描述：合成多肽
 <400> 1222
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Glu
 20 25 30
 Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ser Ala Ile Ser Arg Asn Gly Tyr Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys

85

90

95

Gly Lys Glu Pro Phe Arg Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser Ala Ser Thr Asp Ile Gln Met Thr Gln Ser Pro Ser
 115 120 125

Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala
 130 135 140

Ser Arg Pro Ile Gly Thr Thr Leu Ser Trp Tyr Gln Gln Lys Pro Gly
 145 150 155 160

Lys Ala Pro Lys Leu Leu Ile Leu Trp Asn Ser Arg Leu Gln Ser Gly
 165 170 175

Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu
 180 185 190

Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Ala
 195 200 205

Gln Ala Gly Thr His Pro Thr Thr Phe Gly Gln Gly Thr Lys Val Glu
 210 215 220

Ile Lys Arg
 225

<210> 1223
 <211> 230
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 1223
 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Trp Ile Gly Ser Gln
 20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Met Trp Arg Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Ala Gln Gly Leu Arg His Pro Lys
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala
 100 105 110

Pro Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro
115 120 125

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu
130 135 140

Glu Glu Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
145 150 155 160

Trp Val Ser Ala Ile Ser Arg Asn Gly Tyr Ser Thr Tyr Tyr Ala Asp
165 170 175

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr
180 185 190

Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr
195 200 205

Tyr Cys Gly Lys Glu Pro Phe Arg Tyr Asp Tyr Trp Gly Gln Gly Thr
210 215 220

Leu Val Thr Val Ser Ser
225 230

<210> 1224

<211> 227

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 1224

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Glu
20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Arg Asn Gly Tyr Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Gly Lys Glu Pro Phe Arg Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser Ala Ser Thr Asp Ile Gln Met Thr Gln Ser Pro Ser
115 120 125

Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala
130 135 140

Ser Gln Trp Ile Gly Ser Gln Leu Ser Trp Tyr Gln Gln Lys Pro Gly
145 150 155 160

Lys Ala Pro Lys Leu Leu Ile Met Trp Arg Ser Ser Leu Gln Ser Gly
165 170 175

Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu
180 185 190

Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Ala
195 200 205

Gln Gly Leu Arg His Pro Lys Thr Phe Gly Gln Gly Thr Lys Val Glu
210 215 220

Ile Lys Arg
225

<210> 1225
<211> 227
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 1225
Glu Val Gln Leu Leu Ala Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Glu
20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Arg Asn Gly Tyr Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Gly Lys Glu Pro Phe Arg Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser Ala Ser Thr Asp Ile Gln Met Thr Gln Ser Pro Ser
115 120 125

Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala
130 135 140

Ser Arg Pro Ile Gly Thr Thr Leu Ser Trp Tyr Gln Gln Lys Pro Gly
145 150 155 160

Lys Ala Pro Lys Leu Leu Ile Leu Trp Asn Ser Arg Leu Gln Ser Gly
165 170 175

Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu
180 185 190

Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Ala
195 200 205

Gln Ala Gly Thr His Pro Thr Thr Phe Gly Gln Gly Thr Lys Val Glu
210 215 220

Ile Lys Arg
225

<210> 1226

<211> 227

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 1226

Glu Val Gln Leu Leu Ala Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Glu Glu
20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Arg Asn Gly Tyr Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Gly Lys Glu Pro Phe Arg Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser Ala Ser Thr Asp Ile Gln Met Thr Gln Ser Pro Ser
115 120 125

Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala
130 135 140

Ser Arg Pro Ile Gly Thr Met Leu Ser Trp Tyr Gln Gln Lys Pro Gly
145 150 155 160

Lys Ala Pro Lys Leu Leu Ile Leu Ala Phe Ser Arg Leu Gln Ser Gly

165170175

Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu
180185190

Thr Ile Ser Asn Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Ala
195200205

Gln Ala Gly Thr His Pro Thr Thr Phe Gly Gln Gly Thr Lys Val Glu
210215220

Ile Lys Arg
225

<210> 1227
<211> 230
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 1227
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
151015

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Arg Pro Ile Gly Thr Thr
202530

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
354045

Leu Trp Asn Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
505560

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65707580

Glu Asp Phe Ala Thr Tyr Tyr Cys Ala Gln Ala Gly Thr His Pro Thr
859095

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala
100105110

Pro Ser Glu Val Gln Leu Leu Ala Ser Gly Gly Gly Leu Val Gln Pro
115120125

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu
130135140

Glu Glu Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
145150155160

Trp Val Ser Ala Ile Ser Arg Asn Gly Tyr Ser Thr Tyr Tyr Ala Asp
165170175

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr
180185190

Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr
195 200 205

Tyr Cys Gly Lys Glu Pro Phe Arg Tyr Asp Tyr Trp Gly Gln Gly Thr
210 215 220

Leu Val Thr Val Ser Ser
225 230

<210> 1228

<211> 230

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 1228

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Arg Pro Ile Gly Thr Met
20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Leu Ala Phe Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Asn Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Ala Gln Ala Gly Thr His Pro Thr
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala
100 105 110

Pro Ser Glu Val Gln Leu Leu Ala Ser Gly Gly Gly Leu Val Gln Pro
115 120 125

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu
130 135 140

Glu Glu Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
145 150 155 160

Trp Val Ser Ala Ile Ser Arg Asn Gly Tyr Ser Thr Tyr Tyr Ala Asp
165 170 175

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr
180 185 190

Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr
195 200 205

Tyr Cys Gly Lys Glu Pro Phe Arg Tyr Asp Tyr Trp Gly Gln Gly Thr
 210 215 220

Leu Val Thr Val Ser Ser
 225 230

<210> 1229
 <211> 227
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 1229
 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Arg Pro Ile Gly Thr Met
 20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Leu Ala Phe Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Asn Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Ala Gln Ala Gly Thr His Pro Thr
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Glu
 100 105 110

Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser
 115 120 125

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr Glu
 130 135 140

Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val Ser
 145 150 155 160

Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val Lys
 165 170 175

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
 180 185 190

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala
 195 200 205

Lys Leu Pro Phe Tyr Phe His Glu Trp Gly Gln Gly Thr Leu Val Thr
 210 215 220

Val Ser Ser
225

<210> 1230
<211> 231
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 1230
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Arg Pro Ile Gly Thr Met
20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Leu Ala Phe Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Asn Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Ala Gln Ala Gly Thr His Pro Thr
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Ala Ser Thr Ser
100 105 110

Gly Pro Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln
115 120 125

Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
130 135 140

Arg Asp Tyr Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
145 150 155 160

Glu Arg Val Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala
165 170 175

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
180 185 190

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
195 200 205

Tyr Tyr Cys Ala Lys Leu Pro Phe Tyr Phe His Glu Trp Gly Gln Gly
210 215 220

Thr Leu Val Thr Val Ser Ser
225 230

<210> 1231

<211> 229
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 1231
 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15
 Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Arg Pro Ile Gly Thr Met
 20 25 30
 Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45
 Leu Ala Phe Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60
 Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Asn Leu Gln Pro
 65 70 75 80
 Glu Asp Phe Ala Thr Tyr Tyr Cys Ala Gln Ala Gly Thr His Pro Thr
 85 90 95
 Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Gly Gly Gly Gly
 100 105 110
 Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly
 115 120 125
 Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp
 130 135 140
 Tyr Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg
 145 150 155 160
 Val Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser
 165 170 175
 Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu
 180 185 190
 Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
 195 200 205
 Cys Ala Lys Leu Pro Phe Tyr Phe His Glu Trp Gly Gln Gly Thr Leu
 210 215 220
 Val Thr Val Ser Ser
 225

<210> 1232
 <211> 239
 <212> PRT
 <213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 1232

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Arg Pro Ile Gly Thr Met
20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Leu Ala Phe Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Asn Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Ala Gln Ala Gly Thr His Pro Thr
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Gly Gly Gly Gly
100 105 110

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu Val Gln Leu Leu
115 120 125

Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser
130 135 140

Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr Glu Met Trp Trp Val
145 150 155 160

Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val Ser Ala Ile Asn Pro
165 170 175

Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr
180 185 190

Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln Met Asn Ser
195 200 205

Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Lys Leu Pro Phe
210 215 220

Tyr Phe His Glu Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
225 230 235

<210> 1233

<211> 249

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 1233

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly

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1           5           10           15
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Arg Pro Ile Gly Thr Met
                20                25                30
Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
                35                40                45
Leu Ala Phe Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
                50                55                60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Asn Leu Gln Pro
        65                70                75                80
Glu Asp Phe Ala Thr Tyr Tyr Cys Ala Gln Ala Gly Thr His Pro Thr
                85                90                95
Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Gly Gly Gly Gly
                100                105                110
Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
                115                120                125
Gly Gly Gly Gly Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu
                130                135                140
Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe
        145                150                155                160
Thr Phe Arg Asp Tyr Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys
                165                170                175
Gly Leu Glu Arg Val Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr
                180                185                190
Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser
        195                200                205
Lys Asn Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr
        210                215                220
Ala Val Tyr Tyr Cys Ala Lys Leu Pro Phe Tyr Phe His Glu Trp Gly
        225                230                235                240
Gln Gly Thr Leu Val Thr Val Ser Ser
                245

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<210> 1234

<211> 227

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 1234

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Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1           5           10           15

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Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Tyr Phe His Glu Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser Thr Val Ala Asp Ile Gln Met Thr Gln Ser Pro Ser
115 120 125

Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala
130 135 140

Ser Arg Pro Ile Gly Thr Met Leu Ser Trp Tyr Gln Gln Lys Pro Gly
145 150 155 160

Lys Ala Pro Lys Leu Leu Ile Leu Ala Phe Ser Arg Leu Gln Ser Gly
165 170 175

Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu
180 185 190

Thr Ile Ser Asn Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Ala
195 200 205

Gln Ala Gly Thr His Pro Thr Thr Phe Gly Gln Gly Thr Lys Val Glu
210 215 220

Ile Lys Arg
225

<210> 1235
<211> 231
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 1235
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45
 Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys Leu Pro Phe Tyr Phe His Glu Trp Gly Gln Gly Thr Leu Val
 100 105 110
 Thr Val Ser Ser Ala Ser Thr Ser Gly Pro Ser Asp Ile Gln Met Thr
 115 120 125
 Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile
 130 135 140
 Thr Cys Arg Ala Ser Arg Pro Ile Gly Thr Met Leu Ser Trp Tyr Gln
 145 150 155 160
 Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Leu Ala Phe Ser Arg
 165 170 175
 Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr
 180 185 190
 Asp Phe Thr Leu Thr Ile Ser Asn Leu Gln Pro Glu Asp Phe Ala Thr
 195 200 205
 Tyr Tyr Cys Ala Gln Ala Gly Thr His Pro Thr Thr Phe Gly Gln Gly
 210 215 220
 Thr Lys Val Glu Ile Lys Arg
 225 230
 <210> 1236
 <211> 229
 <212> PRT
 <213> 人工序列
 <220>
 <223> 人工序列之描述：合成多肽
 <400> 1236
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
 20 25 30
 Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Leu Pro Phe Tyr Phe His Glu Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser
115 120 125

Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys
130 135 140

Arg Ala Ser Arg Pro Ile Gly Thr Met Leu Ser Trp Tyr Gln Gln Lys
145 150 155 160

Pro Gly Lys Ala Pro Lys Leu Leu Ile Leu Ala Phe Ser Arg Leu Gln
165 170 175

Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe
180 185 190

Thr Leu Thr Ile Ser Asn Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr
195 200 205

Cys Ala Gln Ala Gly Thr His Pro Thr Thr Phe Gly Gln Gly Thr Lys
210 215 220

Val Glu Ile Lys Arg
225

<210> 1237
<211> 239
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 1237
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr

65	70	75	80
Leu Gln Met Asn Ser	Leu Arg Ala Glu Asp	Thr Ala Val Tyr Tyr Cys	
	85	90	95
Ala Lys Leu Pro Phe Tyr Phe His Glu Trp Gly Gln Gly Thr Leu Val			
	100	105	110
Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly			
	115	120	125
Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala			
	130	135	140
Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Arg Pro Ile			
	145	150	155
Gly Thr Met Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys			
	165	170	175
Leu Leu Ile Leu Ala Phe Ser Arg Leu Gln Ser Gly Val Pro Ser Arg			
	180	185	190
Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Asn			
	195	200	205
Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Ala Gln Ala Gly Thr			
	210	215	220
His Pro Thr Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg			
	225	230	235
<210> 1238			
<211> 249			
<212> PRT			
<213> 人工序列			
<220>			
<223> 人工序列之描述：合成多肽			
<400> 1238			
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly			
1	5	10	15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr			
	20	25	30
Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val			
	35	40	45
Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val			
	50	55	60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr			
	65	70	75
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys			
	85	90	95

Ala Lys Leu Pro Phe Tyr Phe His Glu Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
115 120 125

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln
130 135 140

Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val
145 150 155 160

Thr Ile Thr Cys Arg Ala Ser Arg Pro Ile Gly Thr Met Leu Ser Trp
165 170 175

Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Leu Ala Phe
180 185 190

Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser
195 200 205

Gly Thr Asp Phe Thr Leu Thr Ile Ser Asn Leu Gln Pro Glu Asp Phe
210 215 220

Ala Thr Tyr Tyr Cys Ala Gln Ala Gly Thr His Pro Thr Thr Phe Gly
225 230 235 240

Gln Gly Thr Lys Val Glu Ile Lys Arg
245

<210> 1239

<211> 230

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 1239

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Arg Pro Ile Gly Thr Met
20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Leu Ala Phe Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Asn Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Ala Gln Ala Gly Thr His Pro Thr
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala
100 105 110

Pro Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro
115 120 125

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg
130 135 140

Asp Tyr Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
145 150 155 160

Arg Val Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp
165 170 175

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr
180 185 190

Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr
195 200 205

Tyr Cys Ala Lys Leu Pro Phe Tyr Phe His Glu Trp Gly Gln Gly Thr
210 215 220

Leu Val Thr Val Ser Ser
225 230

<210> 1240
<211> 681
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1240
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttcgg gattatgaga tgggtgggt ccgccaggct 120
ccaggggaagg gtctagagcg ggtctcagct attaatccgc agggtagcgc tacatactac 180
gcagactccg tgaaggcccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgcgaggac accgcggtat attactgtgc gaaacttccg 300
ttttactttc aggagtgggg tcagggaacc ctggtcaccg tctcgagcgc tagcaccgac 360
atccagatga cccagtcctc atcctccctg tctgcatctg taggagaccg tgtcaccatc 420
acttgccggg caagtcgtcc gattgggacg acgttaagtt ggtaccagca gaaaccaggg 480
aaagccccta agctcctgat cctttggaat tcccgtttgc aaagtggggt cccatcacgt 540
ttcagtgcca gtggatctgg gacagatttc actctacca tcagcagtct gcaacctgaa 600
gattttgcta cgtactactg tgcgcaggct gggacgcac ctagcaggt cggccaaggg 660
accaaggtgg aaatcaaacg g 681

<210> 1241
<211> 681
<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1241

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gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc      60
tcctgtgcag cctccggatt cacctttcgg gattatgaga tgtggtgggt ccgccaggct      120
ccagggaagg gtctagagcg ggtctcagct attaatccgc aggttacgcg tacatactac      180
gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat      240
ctgcaaatga acagccttgcg tgcggaggac accgcggtat attactgtgc gaaacttccg      300
ttttactttc aggagtgggg tcagggaacc ctggtcaccg tctcgagcgc tagcaccgac      360
atccagatga cccagtcctc atcctccctg tctgcatctg taggagaccg tgtcaccatc      420
acttgccggg caagtcgtcc gattgggacg atgttaagtt ggtaccagca gaaaccaggg      480
aaagccccta agctcctgat ccttgccttt tcccgtttgc aaagtggggc cccatcacgt      540
ttcagtggca gtggatctgg gacagatttc actctacca tcagcagtc t gcaacctgaa      600
gattttgcta cgtactactg tgcgcaggct gggacgcac atacgacgtt cggccaaggg      660
accaaggltg aaatcaaacg g                                     681
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<210> 1242

<211> 681

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1242

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gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc      60
tcctgtgcag cctccggatt cacctttcgg gattatgaga tgtggtgggt ccgccaggct      120
ccagggaagg gtctagagcg ggtctcagct attaatccgc aggttacgcg tacatactac      180
gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat      240
ctgcaaatga acagccttgcg tgcggaggac accgcggtat attactgtgc gaaacttccg      300
ttttactttc acgagtgggg tcagggaacc ctggtcaccg tctcgagcgc tagcaccgac      360
atccagaiga cccagtcctc atcctccctg tctgcatctg taggagaccg tgtcaccatc      420
acttgccggg caagtcgtcc gattgggacg acgttaagtt ggtaccagca gaaaccaggg      480
aaagccccta agctcctgat ccttgggaat tcccgtttgc aaagtggggc cccatcacgt      540
ttcagtggca gtggatctgg gacagatttc actctacca tcagcagtc t gcaacctgaa      600
gattttgcta cgtactactg tgcgcaggct gggacgcac ctacgacgtt cggccaaggg      660
accaaggltg aaatcaaacg g                                     681
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<210> 1243

<211> 681

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1243
gagggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggc cctgcgtctc 60
tcctgtgcag cctccgatt cacctttcgg gattatgaga tgtgtgggt ccgccaggct 120
ccaggggaagg gtctagagcg ggtctcagct attaatccgc agggtagcg tacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attacigtgc gaaacttccg 300
ttttactttc acgagtgggg tcagggaacc ctggtcaccg tctcgagcgc tagcaccgac 360
atccagaiga cccagtctcc atcctccctg tctgcatcig taggagaccg tgtcaccatc 420
acttgccggg caagtcgtcc gattgggacg atgttaagtt ggtaccagca gaaaccaggg 480
aaagccccta agctcctgat ccttgccttt tcccgtttgc aaagtggggt cccatcacgt 540
ttcagtggca gtggatctgg gacagatttc actctacca tcagcagctc gcaacctgaa 600
gattttgcta cgtactactg tgcgcaggct gggacgcac atacgacgtt cggccaaggg 660
accaagggtg aaatcaaacg g 681

<210> 1244
<211> 690
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1244
gacatccaga tgaccagtc tccatctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
atcacttgcc gggcaagtcg tccgatggg acgacgttaa gttggtacca gcagaaacca 120
gggaaagccc ctaagctcct gatccttgg aattcccgtt tgcaaagtgg ggtcccatca 180
cgtttcagtg gcagtggatc tgggacagat ttcactctca ccatcagcag tctgcaacct 240
gaagattttg ctacgtacta ctgtgcgag gctgggacgc atcctacgac gttcgccaa 300
gggaccaagg tggaaatcaa acgtacggtg gctgcacat ctgagggtga gctgttgag 360
tctgggggag cgttggtaca gcctggggg tccctgcgtc tctcctgtgc agcctccgga 420
ttcacctttc gggattatga gatgtgggtg gtccgccagg ctccaggga ggtctagag 480
cgggtctcag ctattaatcc gcagggtacg cgtacatact acgcagactc cgtgaagggc 540
cggttcacca tctcccgca caattccaag aacacgtgt atctgcaat gaacagcctg 600
cgtgccgagg acaccgagg atattactgt gcgaaacttc cgttttactt tcaggagtgg 660
ggtcaggga ccttgggtcac cgtctccagc 690

<210> 1245
<211> 690
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1245
gacatccaga tgaccagtc tccatctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
atcacttgcc gggcaagtcg tccgatggg acgatgttaa gttggtacca gcagaaacca 120

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gggaaagccc ctaagctcct gatccttgct ttttccggtt tgcaaagtgg ggtcccatca 180
cgtttcagtg gcagtggaac tgggacagat ttactctca ccatcagcag tctgcaacct 240
gaagattttg ctacgtacta ctgtgcgcag gctgggacgc atcatcagac gttcggccaa 300
gggaccaagg tggaaatcaa acgtacgggt gctgcacat ctgagggtga gctgttggag 360
tctgggggag gcttgggtaca gcctgggggg tccctgcgtc tctcctgtgc agcctccgga 420
ttcacctttc gggattatga gatgtgttgg gtccgccagg ctccaggga gggctlagag 480
cgggtctcag ctattaatcc gcagggtacg cgtacatact acgcagactc cgtgaagggc 540
cgggtcacca tctcccgcga caattccaag aacacgctgt atctgcaaat gaacagcctg 600
cgtgccgagg acaccgcggt atattactgt gcgaaacttc cgttttactt tcaggagtgg 660
ggtcagggaa ccctgggtcac cgtctccagc 690

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<210> 1246
 <211> 690
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

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<400> 1246
gacatccaga tgaccacgac tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
atcacttgcc gggcaagtcg tccgattggg acgacgttaa gttggtacca gcagaaacca 120
gggaaagccc ctaagctcct gatccttggg aattcccggt tgcaaagtgg ggtcccatca 180
cgtttcagtg gcagtggaac tgggacagat ttactctca ccatcagcag tctgcaacct 240
gaagattttg ctacgtacta ctgtgcgcag gctgggacgc atcatcagac gttcggccaa 300
gggaccaagg tggaaatcaa acgtacgggt gctgcacat ctgagggtga gctgttggag 360
tctgggggag gcttgggtaca gcctgggggg tccctgcgtc tctcctgtgc agcctccgga 420
ttcacctttc gggattatga gatgtgttgg gtccgccagg ctccaggga gggctlagag 480
cgggtctcag ctattaatcc gcagggtacg cgtacatact acgcagactc cgtgaagggc 540
cgggtcacca tctcccgcga caattccaag aacacgctgt atctgcaaat gaacagcctg 600
cgtgccgagg acaccgcggt atattactgt gcgaaacttc cgttttactt tcaggagtgg 660
ggtcagggaa ccctgggtcac cgtctccagc 690

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<210> 1247
 <211> 690
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

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<400> 1247
gacatccaga tgaccacgac tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
atcacttgcc gggcaagtcg tccgattggg acgatgttaa gttggtacca gcagaaacca 120
gggaaagccc ctaagctcct gatccttgct ttttcccggt tgcaaagtgg ggtcccatca 180
cgtttcagtg gcagtggaac tgggacagat ttactctca ccatcagcag tctgcaacct 240

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gaagattttg ctacgiacta ctgtgcgcag gctgggacgc atcatagac gttcggccaa 300
 gggaccaagg tggaaatcaa acgtacgggtg gctgcaccaa ctgagggtga gctgttggag 360
 tctgggggag gcttgggtaca gccctggggg tccctgcgtc tctcctgtgc agcctccgga 420
 ttacaccttc gggattatga gatgtgtgtg gtccgccagg ctccaggga gggctctagag 480
 cgggtctcag ctattaatcc gcagggtacg cgtacatact acgcagactc cgtgaagggc 540
 cgggttcacca tctcccgca caattccaag aacacgctgt atctgcaaat gaacagcctg 600
 cgtgccgagg acaccgcggt atattactgt gcgaaacttc cgttttactt tcacgagtgg 660
 ggtcaggga cctgtgtcac cgtctccagc 690

<210> 1248
 <211> 690
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1248
 gacatccaga tgaccagtc tccatctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
 atcacttgc gggcaagtc tccgatggg acgatgttaa gttggtacca gcagaaacca 120
 gggaaagccc ctaagctcct gatccttgc ttttccggtt tgcaaagtg ggtcccatca 180
 cgtttcagtg gcagtggatc tgggacagat ttcactctca ccatcagcaa tctgcaacct 240
 gaagattttg ctacgtacta ctgcgcgcag gctgggacgc atcctacgac gttcggccaa 300
 gggaccaagg tggaaatcaa acgtacgggtg gctgcaccaa ctgagggtga gctgttggag 360
 tccgggggag gcttgggtaca gccctggggg tccctgcgtc tctcctgtgc agcctccgga 420
 ttacaccttc gggattatga gatgtgtgtg gtccgccagg ctccaggga gggctctagag 480
 cgggtctcag ctattaatcc gcagggtacg cgtacatact acgcagactc cgtgaagggc 540
 cgggttcacca tctcccgca caattccaag aacacgctgt atctgcaaat gaacagcctg 600
 cgtgccgagg acaccgcggt atattactgt gcgaaacttc cgttttactt tcaggagtgg 660
 ggtcaggga cctgtgtcac cgtctccagc 690

<210> 1249
 <211> 690
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1249
 gacatccaga tgaccagtc tccatctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
 atcacttgc gggcaagtc tccgatggg acgatgttaa gttggtacca gcagaaacca 120
 gggaaagccc ctaagctcct gatccttgc ttttccggtt tgcaaagtg ggtcccatca 180
 cgtttcagtg gcagtggatc tgggacagat ttcactctca ccatcagcag tctgcaacct 240
 gaagattttg ctacgtacta ctgtgcgcag gctgggacgc atcctacgac gttcggccaa 300
 gggaccaagg tggaaatcaa acgtacgggtg gctgcaccaa ctgagggtga gctgttggag 360
 tctgggggag gcttgggtaca gccctggggg tccctgcgtc tctcctgtgc agcctccgga 420

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ttcacctttc gggattatga gatgtggtgg gtccgccagg ctccaggga gggcttagag 480
cgggtctcag ctattaatcc gcagggtacg cgtacatact acgcagactc cgtgaagggc 540
cgggttacca tctccgcga caattccaag aacacgctgt atctgcaaat gaacagcctg 600
cgtgccgagg acaccgcggt atattactgt gcgaaacttc cgttttactt tcaggagtgg 660
ggtcaggga cccgtggtcac cgtctccagc 690

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<210> 1250
 <211> 690
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

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<400> 1250
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
atcacitgcc gggcaagtcg tccgattggg acgatgttaa gtgggtacca gcagaaacca 120
gggaaagccc ctaagctcct gatccttgc ttttcccgtt tgcaaagtgg ggtcccatca 180
cgtttcagtg gcagtggtac tgggacagat ttacatctca ccatcagcag tctgcaacct 240
gaagattitg ctacgtacta ctgtgcgcag gctgggggtgc atcctacgac gttcggccaa 300
gggaccaagg tggaaatcaa acgtacggtg gctgcacat ctgagggtga gctgttggag 360
tctgggggag gcttgggtaca gcctgggggg tccctgcgtc tctcctgtgc agcctccgga 420
ttcacctttc gggattatga gatgtggtgg gtccgccagg ctccaggga gggcttagag 480
cgggtctcag ctattaatcc gcagggtacg cgtacatact acgcagactc cgtgaagggc 540
cgggttacca tctccgcga caattccaag aacacgctgt atctgcaaat gaacagcctg 600
cgtgccgagg acaccgcggt atattactgt gcgaaacttc cgttttactt tcaggagtgg 660
ggtcaggga cccgtggtcac cgtctccagc 690

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<210> 1251
 <211> 690
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

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<400> 1251
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
atcacitgcc gggcaagtcg tccgattggg acgacgttaa gtgggtacca gcagaaacca 120
gggaaagccc ctaagctcct gatccttggg aattcccgtt tgcaaagtgg ggtcccatca 180
cgtttcagtg gcagtggtac tgggacagat ttacatctca ccatcagcag tctgcaacct 240
gaagattitg ctacgtacta ctgtgcgcag gctgggacgc atcctacgac gttcggccaa 300
gggaccaagg tggaaatcaa acgtacggtg gctgcacat ctgagggtga gctgttggag 360
tctgggggag gcttgggtaca gcctgggggg tccctgcgtc tctcctgtgc agcctccgga 420
ttcaccttgc agggaggagga gatgatttgg gtccgccagg ctccaggga gggcttagag 480
tgggtctcag ctattagtag gaacggttac agcacatact acgcagactc cgtgaagggc 540

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cggttcacca tctccgcga caattccaag aacacgctgt atctgcaaat gaacagcctg 600
 cgtgccgagg ataccgcgtt atattactgt gggaaagagc cgtttcgta tgactactgg 660
 ggtcaggga ccctgggtcac cgtctccagc 690

<210> 1252
 <211> 681
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1252
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgcgcag cctccggatt cacctttgag gaggaggaga tgatttgggt ccgccaggct 120
 ccagggaagg gtcctagagtg ggtctcagct attagtagga acgggtacag cacatactac 180
 gcagactccg tgaaggggccg gttcaccatc tcccgcgaca attccaagaa cagcgtgtat 240
 ctgcaaatga acagccttcg tgcgaggat accgcggtat attactgttg gaaagagccg 300
 tttcgttatg actactgggg tcagggaacc ctggtcaccg tctcgagcgc tagcaccgac 360
 atccagatga cccagtctcc atcctccctg tctgcatctg taggagaccg tgtcaccatc 420
 acttgcgggg caagtcctcc gattgggagc acgttaagtt ggtaccagca gaaaccaggg 480
 aaagccctta agctcctgat cctttggaat tcccgtttgc aaagtggggg cccatcacgt 540
 ttcagtgga gttgatctgg gacagatttc actctacca tcagcagctt gcaacctgaa 600
 gattttgcta cgtactactg tgcgcaggct gggacgcac ctacgacgtt cggccaaggg 660
 accaagggtg aaatcaaagc g 681

<210> 1253
 <211> 690
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1253
 gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
 atcacttgcc gggcaagtca gtggattggg tctcagttat cttggtacca gcagaaacca 120
 gggaaagccc ctaagctcct gatcatgttg cgttccctgt tgcaaagtgg ggtcccatca 180
 cgtttcagtg gcagtggtac tgggacagat ttcactctca ccatcagcag tctgcaacct 240
 gaagattttg ctacgtacta ctgtgtcag ggtttgaggc atcctaagac gttcgccaa 300
 gggaccaagg tggaaatcaa acgtacggtg gctgcacat ctgaggtgca gctgttgagg 360
 tctgggggag gcttggtaca gcctgggggg tccctgcgtc tctcctgcgc agcctccgga 420
 ttcacctttg aggaggagga gatgatttgg gtccgccagg ctccaggga gggcttagag 480
 tgggtctcag clattagtag gaacgggtac agcacatact acgcagactc cgtgaagggc 540
 cggttcacca tctccgcga caattccaag aacacgctgt atctgcaaat gaacagcctg 600
 cgtgccgagg ataccgcgtt atattactgt gggaaagagc cgtttcgta tgactactgg 660
 ggtcaggga ccctgggtcac cgtctccagc 690

<210> 1254
 <211> 681
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1254
 gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgcgcag cctccggatt cacctttgag gaggaggaga tgatttgggt ccgccaggct 120
 ccagggaagg gtctagagtg ggtctcagct attagtagga acggttacag cacatactac 180
 gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cagcctgtat 240
 ctgcaaatga acagcctgcg tgcggaggat accgcggtat attactgttg gaaagagccg 300
 ttctgttatg actactgggg tcagggaacc ctggtcaccg tctcgagcgc tagcaccgac 360
 atccagatga ccagctctcc atcctcccig tctgcatctg taggagaccg tgtcaccatc 420
 acttgcgggg caagtcagtg gattgggtct cagttatctt ggtaccagca gaaaccaggg 480
 aaagccccta agctcctgat catgtggcgt tcctcgttgc aaagtggggt cccatcacgt 540
 ttcagtgcca gtggatctgg gacagatttc actctcacca tcagcagctc gcaacctgaa 600
 gattttgcta cgtactactg tgcicagggt ttgaggcatc ctaagacgtt cggccaaggg 660
 accaaggtgg aaatcaaacg g 681

<210> 1255
 <211> 681
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1255
 gaggtgcagc tgttggcgtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgcgcag cctccggatt cacctttgag gaggaggaga tgatttgggt ccgccaggct 120
 ccagggaagg gtctagagtg ggtctcagct attagtagga acggttacag cacatactac 180
 gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cagcctgtat 240
 ctgcaaatga acagcctgcg tgcggaggat accgcggtat attactgttg gaaagagccg 300
 ttctgttatg actactgggg tcagggaacc ctggtcaccg tctcgagcgc ttcaaccgac 360
 atccagatga ccagctctcc atcctcccig tctgcatctg taggagaccg tgtcaccatc 420
 acttgcgggg caagtcgtcc gattgggacg acgttaagtt ggtaccagca gaaaccaggg 480
 aaagccccta agctcctgat cctttggaat tcccgittgc aaagtggggt cccatcacgt 540
 ttcagtgcca gtggatctgg gacagatttc actctcacca tcagcagctc gcaacctgaa 600
 gattttgcta cgtactactg tgcgcagggt gggacgcac ctagcagctt cggccaaggg 660
 accaaggtgg aaatcaaacg g 681

<210> 1256
 <211> 681
 <212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1256

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gagggtgcagc tgttggcgic tgggggaggc ttggtacagc ctggggggtc cctgcgtctc      60
tcctgcgcag cctccggatt cacccttgag gaggaggaga tgatttgggt ccgccaggcc      120
ccagggaagg gtctagagtg ggctcagct attagtagga acggttacag cacatactac      180
gcagactccg tgaaggggcg gticaccatc tcccgcgaca attccaagaa cagctgtat      240
ctgcaaatga acagccctgcg tggcgaggat accgcggtat attactgtgg gaaagagccg      300
tttcgttatg actactgggg tcagggaacc ctggtcaccg tctcgagcgc ttcaaccgac      360
atccagatga cccagtctcc atccctccig tcigcatcig taggagaccg tgtcaccatc      420
acttgcgggg caagtcgtcc gattgggacg atgttaagtt ggtaccagca gaaaccaggg      480
aaagccctta agctcctgat ccttgccttt tcccgcttgc aaagtggggc cccatcacgt      540
ttcagtggca gtggatcigg gacagatttc actctcacca tcagcaatct gcaacctgaa      600
gattttgcta cgtactactg cgcgcaggct ggacgcac tcacgacgtt cggccaaggg      660
accaaggigg aaatcaaacg g                                     681

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<210> 1257

<211> 690

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1257

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gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc      60
atcacttgcc gggcaagtcg tccgatggg acgacgttaa gtgtgtacca gcagaaacca      120
gggaaagccc ctaagctcct gatcccttgg aattcccgtt tgcaaatgg ggtcccatca      180
cgtttcagtg gcagtggatc tgggacagat ttactctca ccatcagcag tctgcaacct      240
gaagattttg ctacgtacta ctgtgcgcag gctgggacgc atcctacgac gtctggccaa      300
gggaccaagg tggaaatcaa acggaccgtg gcggcgccga gtgaggtgca gctgttggcg      360
tctgggggag gcttgggtaca gcctgggggg tcccigcgtc tctcctgcgc agcctccgga      420
ttcacctttg aggaggagga gatgatttgg gtccgccagg ctccaggga gggctctagag      480
tgggtctcag ctattagtag gaacggttac agcacatact acgcagacac cgtgaagggc      540
cggttacca tctcccgcga caattccaag aacacgctgt atctgcaaat gaacagcctg      600
cgtgccgagg ataccgcggt atattactgt gggaaagagc cgtttcgtta tgactactgg      660
ggtcagggaa ccctgggtcac cgtctccagc                                     690

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<210> 1258

<211> 690

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1258
gacatccaga tgaccacagtc tccatccctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
atcacttgcc gggcaagtcg tccgattggg acgatgttaa gttaggtacca gcagaaacca 120
gggaaagccc ctaagctcct gatccttgct ttttcccgtt tgcaaagtgg ggtcccatca 180
cgtttcagtg gcagtggaic tgggacagat ttactctca ccatcagcaa tctgcaacct 240
gaagattttg ctacttacta ctgcgcgcag gctgggacgc atcctacgac gttaggcca 300
gggaccaagg tggaaatcaa acggaccgtg gcggcgccga gtgagggtga actgttggcg 360
tctgggggag gcttgggtaca gcctgggggg tccctgcgtc tctcctgcgc agcctccgga 420
ttcaccttgg agggaggagga gatgatitgg gtccgccagg ctccaggga ggtctagag 480
tgggtctcag ctattagtag gaacgggtac agcacatct acgcagactc cgtgaagggc 540
cggttcacca tctcccgga caattccaag aacacgctgt atctgcaaat gaacagcctg 600
cgtgccgagg ataccgcgtt atattactgt gggaaagagc cgtttcgita tgactactgg 660
ggtcaggga ccttggtcac cgtctccagc 690

<210> 1259
<211> 681
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1259
gacatccaga tgaccacagtc tccatccctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
atcacttgcc gggcaagtcg tccgattggg acgatgttaa gttaggtacca gcagaaacca 120
gggaaagccc ctaagctcct gatccttgct ttttcccgtt tgcaaagtgg ggtcccatca 180
cgtttcagtg gcagtggaic tgggacagat ttactctca ccatcagcaa tctgcaacct 240
gaagattttg ctacttacta ctgcgcgcag gctgggacgc atcctacgac gttaggcca 300
gggaccaagg tggaaatcaa acgtacggtg gcggagggtc agctgttga gtctggggga 360
ggcttggtag agcctggggg gtccctgcgt ctctcctgtg cagcctccgg attcaccttt 420
cgggattatg agatgtgtg ggtccgccag gctccaggga aggtctaga gcgggtctca 480
gctattaatc cgcagggtac gcgtacatc tacgcagact ccgtgaaggc ccggttcacc 540
atcctccgcg acaattcca gaacacgctg tatctgcaa tgaacagcct gcgtgccgag 600
gacaccgcgg tatattactg tgcgaaactt ccgttttact ttacagagtg ggtcaggga 660
accttggtca ccgtctccag c 681

<210> 1260
<211> 693
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1260
gacatccaga tgaccacagtc tccatccctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
atcacttgcc gggcaagtcg tccgattggg acgatgttaa gttaggtacca gcagaaacca 120

gggaaagccc ctaagctcct gatccttgct ttttcccggt tgcaaagtgg ggtcccatca 180
 cgtttcagtg gcagtggaac tgggacagat ttcactctca ccatcagcaa tctgcaacct 240
 gaagattttg ctacgtacta ctgcgcgcag gctgggacgc atcctacgac gttcggccaa 300
 gggaccaagg tggaaatcaa acgggctagc acctcaggtc catcggagggt gcagctgttg 360
 gagtctgggg gaggtctggg acagcctggg gggctccctg gtcctccttg tgcagcctcc 420
 ggattcacct ttcgggatta tgagatgtgg tgggtccgcc aggtccagg gaagggtcta 480
 gagcgggtct cagctattaa tccgcagggt acgcgtacat actacgcaga ctccgtgaag 540
 ggccgggtta ccatctcccc cgacaattcc aagaacacgc tgtatctgca aatgaacagc 600
 ctgcgtgccc aggacaccgc ggtatattac tgtgcgaaac ttccgittta ctttcacgag 660
 tggggtcagg gaaccctggg caccgtctcc agc 693

<210> 1261
 <211> 687
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1261
 gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
 atcacttgcc gggcaagtcg tccgattggg acgatgttaa gttggtacca gcagaaacca 120
 gggaaagccc ctaagctcct gatccttgct ttttcccggt tgcaaagtgg ggtcccatca 180
 cgtttcagtg gcagtggaac tgggacagat ttcactctca ccatcagcaa tctgcaacct 240
 gaagattttg ctacgtacta ctgcgcgcag gctgggacgc atcctacgac gttcggccaa 300
 gggaccaagg tggaaatcaa acgggggtgga ggtggctctg aggtgcagct gttggagtct 360
 gggggaggct tggtagagcc tgggggtcc ctgcgtctct cctgtgcagc ctccgattc 420
 accttcggg attatgagat gtgggtgggtc cggcaggctc cagggaaggg tctagagcgg 480
 gtctcagcta ttaatcgcga ggttagcgt acatactacg cagactccgt gaaggccgg 540
 ttaccatct cccgcgacaa ttccaagaac acgtgtatc tgcaaatgaa cagcctgcgt 600
 gccgaggaca ccgggtata ttactgtgc aaacttccgt ttactttca cgagtgggt 660
 cagggaaccc tggtcaccgt ctccagc 687

<210> 1262
 <211> 717
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1262
 gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
 atcacttgcc gggcaagtcg tccgattggg acgatgttaa gttggtacca gcagaaacca 120
 gggaaagccc ctaagctcct gatccttgct ttttcccggt tgcaaagtgg ggtcccatca 180
 cgtttcagtg gcagtggaac tgggacagat ttcactctca ccatcagcaa tctgcaacct 240

gaagattttg ctacgtacta ctgcgcgcag gctgggacgc atcctacgac gttcggccaa 300
 gggaccaagg tggaaatcaa acgggggtgga ggtggctctg gaggtggcgg tagcggcgga 360
 ggcgggttcag aggtgcagct gtgggagctt gggggaggct tggtagacc tgggggggtcc 420
 ctgcgtctct cctgtgcagc ctccggattc acctttcggg attatgagat gtggtgggtc 480
 cgccaggctc cagggaagg tctagagcgg gtctcagcta ttaatccgca gggtagcgt 540
 acatactacg cagactccgt gaagggccgg ttcacatct cccgcgacaa ttccaagaac 600
 acgctgtatc tgcaaatgaa cagcctgcgt gccgaggaca ccgcggtata ttactgtgcg 660
 aaacttccgt ttactttca cgagtgggt cagggaaccc tggtcaccgt ctccagc 717

<210> 1263
 <211> 747
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1263
 gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
 atcacttgcc gggcaagtgc tccgattggg acgatgttaa gtggtagca gcagaaacca 120
 gggaaagccc ctaagctcct gatccttgc ttttcccgtt tgcaaatgg ggtcccatca 180
 cgtttcagtg gcagtggtac tgggacagat ttcactctca ccatcagcaa tctgcaacct 240
 gaagattttg ctacgtacta ctgcgcgcag gctgggacgc atcctacgac gttcggccaa 300
 gggaccaagg tggaaatcaa acgggggtgga ggtggctctg gaggtggcgg tagcggcggt 360
 ggcgggttcag gtggcgaggg ttctggaggc ggtggatctg aggtgcagct gtgggagct 420
 gggggaggct tggtagacc tgggggggtcc ctgcgtctct cctgtgcagc ctccggattc 480
 acctttcggg attatgagat gtggtgggtc cgccaggctc cagggaagg tctagagcgg 540
 gtctcagcta ttaatccgca gggtagcgt acatactacg cagactccgt gaagggccgg 600
 ttcacatct cccgcgacaa ttccaagaac acgctgtatc tgcaaatgaa cagcctgcgt 660
 gccgaggaca ccgcggtata ttactgtgcg aaacttccgt ttactttca cgagtgggt 720
 cagggaaccc tggtcaccgt ctccagc 747

<210> 1264
 <211> 681
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1264
 gaggtgcagc tgttgagtc tggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
 tctgtgcag cctccgatt caccittcgg gattatgaga tgtgtgggt ccgccaggct 120
 ccagggaagg gtctagagcg ggtctcagct attaatccgc aggttagcgc tacatactac 180
 gcagactccg tgaaggccg gtccaccatc tcccgcgaca attccaagaa cacgtgtat 240
 ctgcaaatga acagcctgcg tgcgaggac accgcggtat attactgtgc gaaacttccg 300
 ttacttttc acgagtgagg tcagggaacc ctggtcaccg ttctgagcac ggtggcgagc 360

atccagatga cccagtcicc aiccctccctg tcigcatctg taggagaccg tgtcaccatc 420
 acttgccggg caagtcgtcc gattgggacg atgttaagtt ggtaccagca gaaaccaggg 480
 aaagccccta agctcctgat ccttgctttt tcccgittgc aaagigggt cccatcacgt 540
 ttcatggca gtggatctgg gacagatttc acctcaccac tcagcaatct gcaacctgaa 600
 gattttgcta cgtactactg cgcgcaggct gggacgcac ctagcacgtt cggccaaggg 660
 accaagggtg aaatcaaacg g 681

<210> 1265

<211> 693

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1265

gaggatgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt cacccttcgg gattatgaga tgtggtgggt ccgccaggct 120
 ccagggaagg gcttagagcg ggtctcagct attaatccgc aggttacgag tacatactac 180
 gcagactccg tgaaggggcg gtaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcgaggac accgcggtat attactgtgc gaaacttccg 300
 ttttactttc acgagtgggg tcagggaacc ctgggtcaccg tctcgagcgc tagcacctca 360
 ggtccatcgg acatccagat gaccagctc ccatcctccc tgtctgcac tgtaggagac 420
 cgtgtcacca tcacttgcgg ggcaagtcgt ccgattggga cgatgttaag ttggtaccag 480
 cagaaaccag ggaagcccc taagctcctg aiccctgctt tttcccgitt gcaaagtggg 540
 gtcccatcac gtttcagigg cagtggatct gggacagatt tcactctcac catcagcaat 600
 ctgcaacctg aagatttgc tactactac tgcgcgagg ctgggacgca tcctacgagc 660
 ttcggccaag ggaccaaggt ggaatcaaa cgg 693

<210> 1266

<211> 687

<212> DNA

<213> 人工序列

<220>

<223> 人工序列之描述：合成聚核苷酸

<400> 1266

gaggatgcagc tgttggagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt cacccttcgg gattatgaga tgtggtgggt ccgccaggct 120
 ccagggaagg gcttagagcg ggtctcagct attaatccgc aggttacgag tacatactac 180
 gcagactccg tgaaggggcg gtaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tgcgaggac accgcggtat attactgtgc gaaacttccg 300
 ttttactttc acgagtgggg tcagggaacc ctgggtcaccg tctcgagcgc tggaggcggc 360
 tctgacatcc agatgacca gtctccatcc tccctgtctg catctgtagg agaccgtgtc 420
 accatcactt gccgggcaag tcgtccgatt gggacgatgt taagtggta ccagcagaaa 480

ccagggaag cccctaagct cctgaccc ttgttttccc gtttgcaaag tgggggtccca 540
 tcacgtttca gtggcagttg atctgggaca gatitcactc tcacatcag caatctgcaa 600
 cctgaagatt ttgtacgta ctactgcgcg caggctggga cgcacccac gacgttcggc 660
 caagggaacca aggtggaaat caaacgg 687

<210> 1267
 <211> 717
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1267
 gaggtgcagc tgttgagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt cacctttcgg gattatgaga tgttggtgggt ccgccaggct 120
 ccagggaagg gtctagagcg ggtctcagct attaatccgc aggttacgcg tacatactac 180
 gcagactccg tgaaggcccg gtacaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tggcaggac accgcggtat attactgtgc gaaacttccg 300
 ttttactttc acgagtgagg tcagggaacc ctggtcaccg tctcgagcgg tggagggtggc 360
 tctggagggt gcggtagcgg cgggtggcgg tccagacatcc agatgaccca gcttccatcc 420
 tccctgtctg catctgtagg agaccgtgc accatcactt gccgggcaag tcgtccgatt 480
 gggacgatgt taagtggta ccagcagaaa ccagggaag cccctaagct cctgaccc 540
 gctttttccc gtttgcaaag tgggggtccca tcacgtttca gtggcagttg atctgggaca 600
 gatttcactc tcacatcag caatctgcaa cctgaagatt ttgtacgta ctactgcgcg 660
 caggctggga cgcacccac gacgttcggc caagggaacca aggtggaaat caaacgg 717

<210> 1268
 <211> 747
 <212> DNA
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成聚核苷酸

<400> 1268
 gaggtgcagc tgttgagtc tgggggaggc ttggtacagc ctggggggtc cctgcgtctc 60
 tcctgtgcag cctccggatt cacctttcgg gattatgaga tgttggtgggt ccgccaggct 120
 ccagggaagg gtctagagcg ggtctcagct attaatccgc aggttacgcg tacatactac 180
 gcagactccg tgaaggcccg gtacaccatc tcccgcgaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgcg tggcaggac accgcggtat attactgtgc gaaacttccg 300
 ttttactttc acgagtgagg tcagggaacc ctggtcaccg tctcgagcgg tggagggtggc 360
 tctggagggt gcggtagcgg cgggtggcgg tccaggtggc gaggttcttg aggcgggtgga 420
 tctgacatcc agatgaccca gcttccatcc tccctgtctg catctgtagg agaccgtgc 480
 accatcactt gccgggcaag tcgtccgatt gggacgatgt taagtggta ccagcagaaa 540
 ccagggaag cccctaagct cctgaccc ttgttttccc gtttgcaaag tgggggtccca 600
 tcacgtttca gtggcagttg atctgggaca gatitcactc tcacatcag caatctgcaa 660

cctgaagatt ttgctacgta ctactgcgcg caggctggga cgcattcctac gacgttcggc 720
caaggggacca aggtggaaat caaacgg 747

<210> 1269
<211> 690
<212> DNA
<213> 人工序列

<220>
<223> 人工序列之描述：合成聚核苷酸

<400> 1269
gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
atcacttgcc gggcaagtcg tccgattggg acgaigttaa gttggtagca gcagaaacca 120
gggaaagccc ctaagctcct galccttgct ttttcccggt tgcaaagtgg ggtcccatca 180
cgtttcagtg gcagtggatc tgggacagat ttcactctca ccatcagcaa tctgcaacct 240
gaagattttg ctacgtacta ctgcgcgcag gctgggacgc atcctacgac gttcggccaa 300
gggaccaagg tggaaatcaa acggaccgta gcggcgccga gtgagggtga gctgttggag 360
tctgggggag gcttggtaga gcctgggggg tccctgcgtc tctcctgtgc agcctccgga 420
ttcacctttc gggattatga galtgtgtgg gtccgccagg ctccagggaa gggcttagag 480
cgggtctcag ctattaatcc gcagggtacg cgtacatact acgcagactc cgtgaagggc 540
cggttcacca tctcccgcca caattccaag aacacgtgt atctgcaaat gaacagcctg 600
cgtgccgagg acaccgcggt atattactgt gcgaaacttc cgttttactt tcacgagtgg 660
ggtcagggaa ccttgggtcac cgtctccagc 690

<210> 1270
<211> 44
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 1270
Cys Ser Pro Gly Phe Gly Val Lys Gln Ile Ala Thr Gly Val Ser Asp
1 5 10 15
Thr Ile Cys Glu Pro Cys Pro Val Gly Phe Phe Ser Asn Val Ser Ser
20 25 30
Ala Phe Glu Lys Cys His Pro Trp Thr Ser Cys Glu
35 40

<210> 1271
<211> 44
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 1271
Cys Ser Pro Gly Tyr Arg Val Lys Glu Ala Cys Gly Glu Leu Thr Gly
1 5 10 15

Thr Val Cys Glu Pro Cys Pro Pro Gly Thr Tyr Ile Ala His Leu Asn
20 25 30

Gly Leu Ser Lys Cys Leu Gln Cys Gln Met Cys Asp
35 40

<210> 1272
<211> 44
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 1272
Cys Gln Pro Gly Gln Lys Leu Val Ser Asp Cys Thr Glu Phe Thr Glu
1 5 10 15

Thr Glu Cys Leu Pro Cys Gly Glu Ser Glu Phe Leu Asp Thr Trp Asn
20 25 30

Arg Glu Thr His Cys His Gln His Lys Tyr Cys Asp
35 40

<210> 1273
<211> 19
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成肽

<400> 1273
Asp Pro Gly Gly Gly Gly Arg Leu Val Pro Arg Gly Phe Gly Thr
1 5 10 15

Gly Asp Pro

<210> 1274
<211> 5
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成肽

<220>
<221> MOD_RES
<222> (1)..(1)
<223> Asp或Gly

<220>
<221> MOD_RES
<222> (4)..(4)
<223> Met或Leu

<400> 1274
Xaa Tyr Glu Xaa Trp
1 5

<210> 1275
 <211> 17
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成肽

<220>
 <221> MOD_RES
 <222> (5)..(5)
 <223> Gln、Tyr、Pro、Trp或Ala

<220>
 <221> MOD_RES
 <222> (7)..(7)
 <223> Thr、Ser、Asn、Gly、Met或Gln

<220>
 <221> MOD_RES
 <222> (8)..(8)
 <223> Arg、Leu、Tyr、His或Phe

<220>
 <221> MOD_RES
 <222> (16)..(16)
 <223> Lys或Met

<400> 1275
 Ala Ile Asn Pro Xaa Gly Xaa Xaa Thr Tyr Tyr Ala Asp Ser Val Xaa
 1 5 10 15

Gly

<210> 1276
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成肽

<220>
 <221> MOD_RES
 <222> (1)..(1)
 <223> Leu或Pro

<220>
 <221> MOD_RES
 <222> (3)..(3)
 <223> Phe、Gln、Thr或Met

<220>
 <221> MOD_RES
 <222> (4)..(4)
 <223> Tyr、Pro、Leu、Thr、Ile、Phe或Met

<220>
 <221> MOD_RES
 <222> (6)..(6)
 <223> Gln、His、Asp、Ser、Lys、Glu或Gly

<220>
 <221> MOD_RES
 <222> (7)..(7)
 <223> Glu、Asp或Tyr

<400> 1276

Xaa Pro Xaa Xaa Phe Xaa Xaa
1 5

<210> 1277
<211> 30
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<220>
<221> MOD_RES
<222> (18)..(18)
<223> Leu或Arg

<220>
<221> MOD_RES
<222> (30)..(30)
<223> Arg或Ala

<400> 1277
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Xaa Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Xaa
20 25 30

<210> 1278
<211> 14
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成肽

<220>
<221> MOD_RES
<222> (4)..(4)
<223> Gln或Arg

<220>
<221> MOD_RES
<222> (8)..(8)
<223> Lys或Arg

<220>
<221> MOD_RES
<222> (9)..(9)
<223> Gly或Val

<400> 1278
Trp Val Arg Xaa Ala Pro Gly Xaa Xaa Leu Glu Arg Val Ser
1 5 10

<210> 1279
<211> 32
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<220>
<221> MOD_RES

<222> (12)..(12)
 <223> Thr或Met

<220>
 <221> MOD_RES
 <222> (23)..(23)
 <223> Glu或Asp

<220>
 <221> MOD_RES
 <222> (26)..(26)
 <223> Ala或Ser

<220>
 <221> MOD_RES
 <222> (29)..(29)
 <223> Tyr或His

<220>
 <221> MOD_RES
 <222> (31)..(31)
 <223> Ala或Thr

<400> 1279
 Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Xaa Lys Tyr Leu Gln
 1 5 10 15

Met Asn Ser Leu Arg Ala Xaa Asp Thr Xaa Val Tyr Xaa Cys Xaa Lys
 20 25 30

<210> 1280
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成肽

<220>
 <221> MOD_RES
 <222> (1)..(1)
 <223> Trp或Arg

<220>
 <221> MOD_RES
 <222> (3)..(3)
 <223> Gln或Pro

<220>
 <221> MOD_RES
 <222> (11)..(11)
 <223> Ser或Asn

<400> 1280
 Xaa Gly Xaa Gly Thr Leu Val Thr Val Ser Xaa
 1 5 10

<210> 1281
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<220>
 <221> MOD_RES
 <222> (13)..(13)

<223> Gln或Arg

<220>

<221> MOD_RES

<222> (99)..(99)

<223> Glu或Gly

<220>

<221> MOD_RES

<222> (101)..(101)

<223> Ala、Leu或Glu

<220>

<221> MOD_RES

<222> (102)..(102)

<223> Phe或Tyr

<220>

<221> MOD_RES

<222> (106)..(106)

<223> Trp或Arg

<400> 1281

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Xaa Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Trp Tyr
20 25 30

Glu Met Gln Trp Val Arg Arg Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Gly Asp Gly Tyr Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Xaa Leu Xaa Xaa Phe Asp Tyr Xaa Gly Arg Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 1282

<211> 116

<212> PRT

<213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<220>

<221> MOD_RES

<222> (28)..(28)

<223> Thr或Pro

<220>

<221> MOD_RES

<222> (50)..(50)

<223> Ala或Ser

<220>
<221> MOD_RES
<222> (53)..(53)
<223> Arg或Gly

<220>
<221> MOD_RES
<222> (54)..(54)
<223> Arg、Ser、Asn、Gln、Gly、His或Leu

<220>
<221> MOD_RES
<222> (56)..(56)
<223> Tyr、Phe、Trp或Gly

<220>
<221> MOD_RES
<222> (57)..(57)
<223> Ser或Gly

<220>
<221> MOD_RES
<222> (102)..(102)
<223> Arg、Met或Pro

<400> 1282
Glu Val Gln Leu Leu Ala Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Xaa Phe Glu Glu Glu
 20 25 30

Glu Met Ile Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Xaa Ile Ser Xaa Xaa Gly Xaa Xaa Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Gly Lys Glu Pro Phe Xaa Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 1283
<211> 118
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<220>
<221> MOD_RES
<222> (36)..(36)
<223> Met或Leu

<220>
<221> MOD_RES

<222> (39)..(39)
 <223> Val或Phe

<220>
 <221> MOD_RES
 <222> (76)..(76)
 <223> Asp或Asn

<220>
 <221> MOD_RES
 <222> (77)..(77)
 <223> Ser或Thr

<220>
 <221> MOD_RES
 <222> (97)..(97)
 <223> Tyr或His

<220>
 <221> MOD_RES
 <222> (100)..(100)
 <223> Lys或Arg

<220>
 <221> MOD_RES
 <222> (101)..(101)
 <223> Asp或Glu

<220>
 <221> MOD_RES
 <222> (105)..(105)
 <223> Tyr或Phe

<220>
 <221> MOD_RES
 <222> (108)..(108)
 <223> Trp或Arg

<220>
 <221> MOD_RES
 <222> (109)..(109)
 <223> Gly或Arg

<220>
 <221> MOD_RES
 <222> (110)..(110)
 <223> Gln或His

<400> 1283
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ala Gly Thr
 20 25 30

Arg Tyr Glu Xaa Trp Trp Xaa Arg Gln Ala Pro Gly Lys Gly Leu Glu
 35 40 45

Arg Val Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp
 50 55 60

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Xaa Xaa Lys Asn Thr
 65 70 75 80

Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr
 85 90 95

Xaa Cys Ala Xaa Xaa Pro Tyr Ser Xaa Asp Tyr Xaa Xaa Xaa Gly Thr
 100 105 110

Leu Val Thr Val Ser Ser
115

<210> 1284
<211> 232
<212> PRT
<213> 人工序列

<220>
<223> 人工序列之描述：合成多肽

<400> 1284
Glu Pro Lys Ser Ser Asp Lys Thr His Thr Ser Pro Pro Ser Pro Ala
1 5 10 15

Pro Glu Leu Leu Gly Gly Ser Ser Val Phe Leu Phe Pro Pro Lys Pro
20 25 30

Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val
35 40 45

Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val
50 55 60

Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln
65 70 75 80

Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln
85 90 95

Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala
100 105 110

Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro
115 120 125

Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr
130 135 140

Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser
145 150 155 160

Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr
165 170 175

Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr
180 185 190

Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe
195 200 205

Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys
210 215 220

Ser Leu Ser Leu Ser Pro Gly Lys
225 230

<210> 1285
 <211> 229
 <212> PRT
 <213> 人工序列

<220>
 <223> 人工序列之描述：合成多肽

<400> 1285
 Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe
 1 5 10 15

Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
 20 25 30

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
 35 40 45

Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val
 50 55 60

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser
 65 70 75 80

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
 85 90 95

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser
 100 105 110

Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
 115 120 125

Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln
 130 135 140

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
 145 150 155 160

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
 165 170 175

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu
 180 185 190

Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser
 195 200 205

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
 210 215 220

Leu Ser Leu Gly Lys
 225

<210> 1286
 <211> 351
 <212> PRT
 <213> 人工序列

<220>

<223> 人工序列之描述：合成多肽

<400> 1286

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
 20 25 30

Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45

Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Leu Pro Phe Arg Phe Ser Asp Arg Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser Ala Ser Thr Glu Pro Lys Ser Ser Asp Lys Thr His
 115 120 125

Thr Ser Pro Pro Ser Pro Ala Pro Glu Leu Leu Gly Gly Ser Ser Val
 130 135 140

Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr
 145 150 155 160

Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu
 165 170 175

Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys
 180 185 190

Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser
 195 200 205

Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys
 210 215 220

Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile
 225 230 235 240

Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro
 245 250 255

Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu
 260 265 270

Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn

275 280 285
 Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser
 290 295 300
 Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg
 305 310 315 320
 Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu
 325 330 335
 His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 340 345 350
 <210> 1287
 <211> 348
 <212> PRT
 <213> 人工序列
 <220>
 <223> 人工序列之描述：合成多肽
 <400> 1287
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asp Tyr
 20 25 30
 Glu Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Arg Val
 35 40 45
 Ser Ala Ile Asn Pro Gln Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys Leu Pro Phe Arg Phe Ser Asp Arg Gly Gln Gly Thr Leu Val
 100 105 110
 Thr Val Ser Ser Ala Ser Thr Glu Ser Lys Tyr Gly Pro Pro Cys Pro
 115 120 125
 Pro Cys Pro Ala Pro Glu Phe Leu Gly Gly Pro Ser Val Phe Leu Phe
 130 135 140
 Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val
 145 150 155 160
 Thr Cys Val Val Val Asp Val Ser Gln Glu Asp Pro Glu Val Gln Phe
 165 170 175
 Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro
 180 185 190

Arg Glu Glu Gln Phe Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr
 195 200 205
 Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val
 210 215 220
 Ser Asn Lys Gly Leu Pro Ser Ser Ile Glu Lys Thr Ile Ser Lys Ala
 225 230 235 240
 Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Gln
 245 250 255
 Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly
 260 265 270
 Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro
 275 280 285
 Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser
 290 295 300
 Phe Phe Leu Tyr Ser Arg Leu Thr Val Asp Lys Ser Arg Trp Gln Glu
 305 310 315 320
 Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His
 325 330 335
 Tyr Thr Gln Lys Ser Leu Ser Leu Ser Leu Gly Lys
 340 345

發明摘要

※ 申請案號：105121984

※ 申請日：101/04/20

分割案

※IPC 分類：

C07K 16/28 (2006.01)

C12N 15/13 (2006.01)

A61K 39/395 (2006.01)

A61P 37/02 (2006.01)

【發明名稱】

拮抗CD40之抗體多肽

ANTIBODY POLYPEPTIDES THAT ANTAGONIZE CD40

【中文】

本發明提供特異性結合人類CD40之新穎抗原決定基的抗體多肽。該等抗體多肽不展現CD40促效劑活性。該等抗體多肽適用於治療涉及CD40活化之疾病，諸如自體免疫疾病。該等抗體多肽可為包含單一V_L或V_H域之域抗體(domain antibody, dAb)。該等抗體多肽之半衰期可藉由將該等抗體多肽修飾成亦可結合人類血清白蛋白(human serum albumin, HSA)之雙特異性試劑而增加。

【英文】

Antibody polypeptides that specifically bind a novel epitope of human CD40 are provided. The antibody polypeptides do not exhibit CD40 agonist activity. The antibody polypeptides are useful in the treatment of diseases involving CD40 activation, such as autoimmune diseases. The antibody polypeptides may be domain antibodies (dAbs) comprising a single V_L or V_H domain. The half-life of the antibody polypeptides may be increased by modifying the antibody polypeptides to be dual specific reagents that can also bind human serum albumin (HSA).

圖式

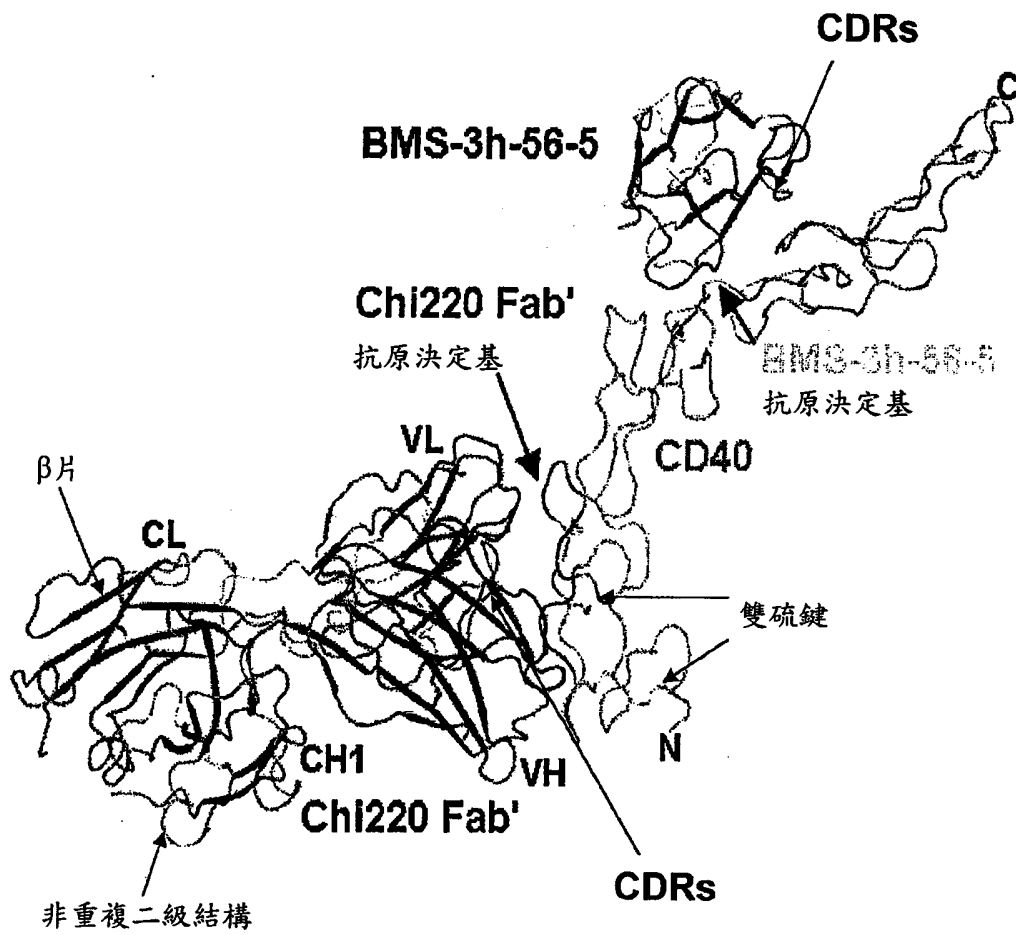


圖 1

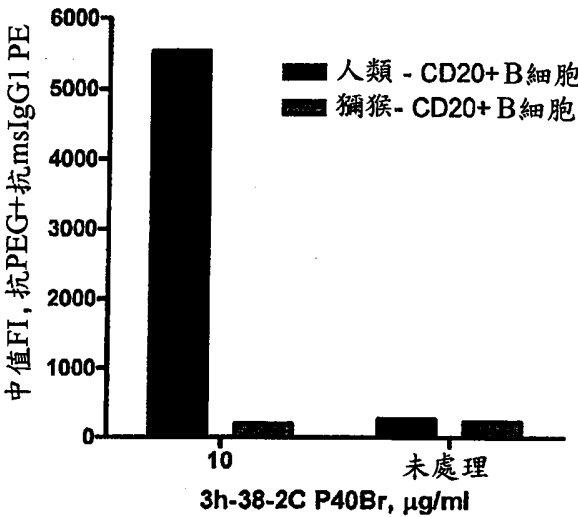


圖 3A

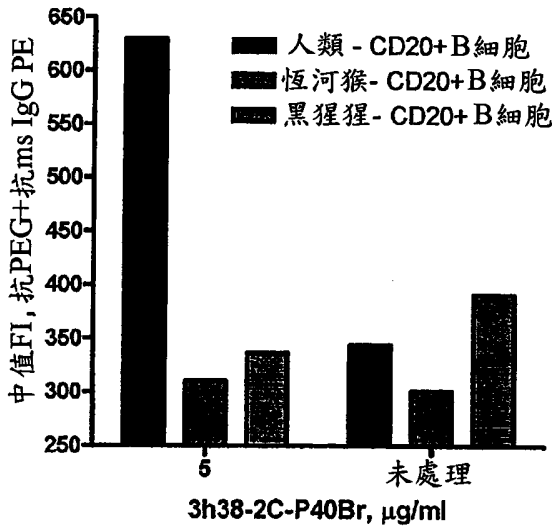


圖 3B

- 5 -

BMS3h-198-22	EVQLLESGGGLVQPGGSLRLSCAASGFTFAGYEMHWVRQAPGKGLERVSATGSGGSI	CDR1	EVQLLESGGGLVQPGGSLRLSCAASGFTFAGYEMHWVRQAPGKGLERVSATGSGGSI	CDR2	60
BMS3h-198-31	EVQLLESGGGLVQPGGSLRLSCAASGFTFAGYEMHWVRQAPGKGLERVSATGSGGSI		EVQLLESGGGLVQPGGSLRLSCAASGFTFAGYEMHWVRQAPGKGLERVSATGSGGSI		60
BMS3h-198-33	EVQLLESGGGLVQPGGSLRLSCAASGFTFAGYEMHWVRQAPGKGLERVSATGSGGSI		EVQLLESGGGLVQPGGSLRLSCAASGFTFAGYEMHWVRQAPGKGLERVSATGSGGSI		60
BMS3h-198-19	EVQLLESGGGLVQPGGSLRLSCAASGFTFAGYEMHWVRQAPGKGLERVSATGSGGSI		EVQLLESGGGLVQPGGSLRLSCAASGFTFAGYEMHWVRQAPGKGLERVSATGSGGSI		60
BMS3h-198-38	EVQLLESGGGLVQPGGSLRLSCAASGFTFAGYEMHWVRQAPGKGLERVSATGSGGSI		EVQLLESGGGLVQPGGSLRLSCAASGFTFAGYEMHWVRQAPGKGLERVSATGSGGSI		60
BMS3h-198-14	EVQLLESGGGLVQPGGSLRLSCAASGFTFAGYEMHWVRQAPGKGLERVSATGSGGSI		EVQLLESGGGLVQPGGSLRLSCAASGFTFAGYEMHWVRQAPGKGLERVSATGSGGSI		60
	*****		*****		
	CDR2		CDR3		
BMS3h-198-22	ADSNGRFTISRDDSKNTLYLQMNSLRAEDTAVYCAKDEPSDYWGHTLVTVSS		ADSNGRFTISRDDSKNTLYLQMNSLRAEDTAVYCAKDEPSDYWGHTLVTVSS		116 (SEQ ID NO: 523)
BMS3h-198-31	ADSNGRFTISRDDSKNTLYLQMNSLRAEDTAVYCAKDEPSDYWGHTLVTVSS		ADSNGRFTISRDDSKNTLYLQMNSLRAEDTAVYCAKDEPSDYWGHTLVTVSS		116 (SEQ ID NO: 532)
BMS3h-198-33	ADSNGRFTISRDDSKNTLYLQMNSLRAEDTAVYCAKDEPSDYWGHTLVTVSS		ADSNGRFTISRDDSKNTLYLQMNSLRAEDTAVYCAKDEPSDYWGHTLVTVSS		116 (SEQ ID NO: 534)
BMS3h-198-19	ADSNGRFTISRDDSKNTLYLQMNSLRAEDTAVYCAKDEPSDYWGHTLVTVSS		ADSNGRFTISRDDSKNTLYLQMNSLRAEDTAVYCAKDEPSDYWGHTLVTVSS		116 (SEQ ID NO: 520)
BMS3h-198-38	ADSNGRFTISRDDSKNTLYLQMNSLRAEDTAVYCAKDEPSDYWGHTLVTVSS		ADSNGRFTISRDDSKNTLYLQMNSLRAEDTAVYCAKDEPSDYWGHTLVTVSS		116 (SEQ ID NO: 539)
BMS3h-198-14	ADSNGRFTISRDDSKNTLYLQMNSLRAEDTAVYCAKDEPSDYWGHTLVTVSS		ADSNGRFTISRDDSKNTLYLQMNSLRAEDTAVYCAKDEPSDYWGHTLVTVSS		116 (SEQ ID NO: 515)
	*****		*****		

【代表圖】

【本案指定代表圖】：第（1）圖。

【本代表圖之符號簡單說明】：

（無）

【本案若有化學式時，請揭示最能顯示發明特徵的化學式】：

（無）

申請專利範圍

1. 一種包含第一可變域之抗體多肽，其中該第一可變域包含：
 - (a)由BMS3h-56-269之CDR1區(SEQ ID NO: 417之胺基酸31至35)組成之CDR1區，
 - (b)由BMS3h-56-269之CDR2區(SEQ ID NO: 417之胺基酸50至66)組成之CDR2區，
 - (c)由BMS3h-56-269之CDR3區(SEQ ID NO: 417之胺基酸99至105)組成之CDR3區，其中該抗體多肽為可結合CD40之域抗體，且其中該抗體多肽與CD40之結合拮抗CD40活性。
2. 如請求項1之抗體多肽，其中該第一可變域包含BMS3h-56-269 (SEQ ID NO: 417)。
3. 如請求項1之抗體多肽，其中該第一可變域由SEQ ID NO:417之胺基酸序列組成。
4. 如請求項1至3中任一項之抗體多肽，其中該抗體多肽為包含該第一可變域及Fc域之融合多肽。
5. 如請求項4之抗體多肽，其中該融合多肽包含IgG4 Fc域。
6. 如請求項4之抗體多肽，其中該融合多肽包含IgG1 Fc域。
7. 如請求項4之抗體多肽，其中該抗體多肽包含SEQ ID NO: 1286之BMS3h-56-269-IgG1*Fc融合多肽。
8. 如請求項4之抗體多肽，其中該抗體多肽由SEQ ID NO: 1286之胺基酸序列組成。
9. 如請求項4之抗體多肽，其中該抗體多肽包含SEQ ID NO: 1287之BMS3h-56-269-IgG4 Fc融合多肽。
10. 如請求項4之抗體多肽，其中該抗體多肽由SEQ ID NO: 1287之胺

基酸序列組成。

11. 如請求項1至3中任一項之抗體多肽，其中該抗體多肽進一步包含特異性結合第二抗原之第二可變域，其中該第二抗原為除人類CD40以外之抗原。
12. 如請求項11之抗體多肽，其中該第二抗原為分化簇(cluster of differentiation, CD)分子或主要組織相容性複合體(Major Histocompatibility Complex, MHC) II類分子。
13. 如請求項11之抗體多肽，其中該第二抗原為血清白蛋白(SA)。
14. 一種核酸，其編碼如請求項1至13中任一項之抗體多肽。
15. 一種載體，其包含如請求項14之核酸。
16. 一種經分離之宿主細胞，其包含如請求項15之載體。
17. 一種醫藥組合物，其包含治療有效量之如請求項1至13中任一項之抗體多肽及醫藥學上可接受之載劑。
18. 如請求項17之醫藥組合物，其進一步包含免疫抑制/免疫調節劑及/或消炎劑。
19. 如請求項17之醫藥組合物，其中該抗體多肽由SEQ ID NO:1286之胺基酸序列組成。
20. 如請求項17之醫藥組合物，其中該抗體多肽由SEQ ID NO:1287之胺基酸序列組成。
21. 一種如請求項1至13中任一項之抗體多肽之用途，其係用以製備用於治療需治療之患者的免疫疾病之藥物，其中該免疫疾病係選自由以下組成之群：發炎性腸病、全身性紅斑狼瘡及休格連氏症候群(Sjogren's syndrome)。
22. 如請求項21之用途，其中該抗體多肽係與免疫抑制/免疫調節劑及/或消炎劑併用。
23. 如請求項21之用途，其中該抗體多肽包含SEQ ID NO: 1286之

BMS3h-56-269-IgG1*Fc融合多肽。

24. 如請求項23之用途，其中該免疫疾病為發炎性腸病。
25. 如請求項23之用途，其中發炎性腸病為潰瘍性結腸炎。
26. 如請求項23之用途，其中發炎性腸病為克羅恩氏病(Crohn's disease)。
27. 如請求項23之用途，其中該免疫疾病為全身性紅斑狼瘡。
28. 如請求項23之用途，其中該免疫疾病係休格連氏症候群(Sjogren's syndrome)。