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(71) Applicant (for all designated States except US): **SURMODICS, INC.** [US/US]; 9924 West 74th Street, Na, Eden Prairie, Minnesota 55344-3523 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **MCGONIGLE, Joseph, Schmidt** [US/US]; 500 Robert Street North, NA, St. Paul, Minnesota 55101 (US). **SLAGER, Joram** [US/US]; 2701 Joppa Avenue, NA, St. Louis Park, Minnesota 55416 (US).

(74) Agent: **DEFFNER, Mark, E.**; Plaza VH-Suite 3000, 45 South Seventh Street, Minneapolis, Minnesota 55402-1630 (US).

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

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Declarations under Rule 4.17:

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[Continued on nextpage]

(54) Title: COMPOSITIONS AND METHODS FOR ENHANCEMENT OF NUCLEIC ACID DELIVERY

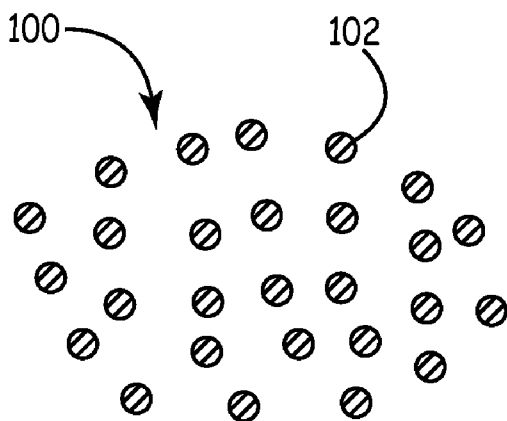


FIG. 1

(57) Abstract: Embodiments of the invention include devices and methods for delivery of nucleic acids as active agents. Embodiments of the invention include devices and methods for delivery of nucleic acids as active agents. In an embodiment, an article for delivering an active agent is included. The article can include a dehydrated complex including a nucleic acid, a transfection agent, and a saccharide protectant. The nucleic acid and transfection agent can form a liposome or a lipoplex. The dehydrated complex can be disposed within a polymeric matrix. The dehydrated complex can be disposed within a microparticle. Other embodiments are also included herein.



— *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(Hi))* — *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

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A. CLASSIFICATION OF SUBJECT MATTER
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ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
 A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
 EPO-Internal , WPI Data, BIOSIS, EMBASE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2009/280181 A1 (SLAGER JORAM [US]) 12 November 2009 (2009-11-12) paragraphs [0002], [0006] - [0011], [0033], [0034], [0053], [0173] - [0175] examples <div style="text-align: center;">----- -/- .</div>	1, 2, 4-29, 31-61

Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents :

<p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier application or patent but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p>	<p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</p> <p>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</p> <p>"&" document member of the same patent family</p>
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Date of the actual completion of the international search 23 July 2012	Date of mailing of the international search report 30/07/2012
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer Lopez Garcia, Monica

INTERNATIONAL SEARCH REPORT

International application No

PCT/US2011/042398

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>YADAVA PREETI ET AL: "Effect of lyophilization and freeze-thawing on the stability of siRNA-liposome complexes", AAPS PHARMSCITECH, SPRINGER NEW YORK LLC, US, vol. 9, no. 2, 1 June 2008 (2008-06-01), pages 335-341, XP002511465, ISSN: 1530-9932, DOI: 10.1208/S12249-007-9000-1 [retrieved on 2007-12-29] abstract page 336, left-hand column, last paragraph - page 336, right-hand column, paragraph 1 page 338, left-hand column, last paragraph page 338, right-hand column -----</p>	1,2, 4-10, 16, 17,25, 26,28, 29, 32-38, 44,45
X	<p>MALTANI Y ET AL: "Effect of sugars on storage stability of lyophilized liposome/DNA complexes with high transfection efficiency", INTERNATIONAL JOURNAL OF PHARMACEUTICS, ELSEVIER BV, NL, vol. 356, no. 1-2, 22 May 2008 (2008-05-22), pages 69-75, XP022625172, ISSN: 0378-5173, DOI: 10.1016/J.IJPHARM.2007.12.033 [retrieved on 2007-12-31] abstract page 70, left-hand column, paragraphs 2,4 page 70, right-hand column, paragraph 1 page 71, right-hand column, paragraph 1 -----</p>	1,2,4-8, 10, 16, 17,25, 26,28, 29, 32-36, 38,44,45
X	<p>HINRICHS W L J ET AL: "The choice of a suitable oligosaccharide to prevent aggregation of PEGylated nanoparticles during freeze thawing and freeze drying", INTERNATIONAL JOURNAL OF PHARMACEUTICS, ELSEVIER BV, NL, vol. 311, no. 1-2, 27 March 2006 (2006-03-27), pages 237-244, XP027972683, ISSN: 0378-5173 [retrieved on 2006-03-27] abstract page 238, left-hand column, last paragraph - page 239, right-hand column, paragraph 1 -----</p>	1,2,4-7, 9, 11, 16, 17,25, 26,28, 29, 32-35, 39,44,45
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INTERNATIONAL SEARCH REPORT

International application No
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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	SEVILLE P C ET AL: "PREPARATION OF DRY POWDER DISPERSIONS FOR NON-VIRAL GENE DELIVERY BY FREEZE-DRYING AND SPRAY-DRYING", JOURNAL OF GENE MEDICINE, JOHN WILEY & SONS, INC, US, vol . 4, no. 4, 1 July 2002 (2002-07-01) , pages 428-437 , XP009076667 , ISSN: 1099-498X, DOI : 10. 1002/JGM.282 abstract -----	1-8, 10, 16, 17, 25,26, 28-30, 32-36, 38,44,45

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

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