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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
9 February 2006 (09.02.2006)

PCT

(10) International Publication Number
WO 2006/014673 A3

(51) International Patent Classification:
C07K 14/62 (2006.01)

(21) International Application Number:
PCT/US2005/025644

(22) International Filing Date: 19 July 2005 (19.07.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

60/589,058	19 July 2004 (19.07.2004)	US
60/619,153	15 October 2004 (15.10.2004)	US
60/632,578	2 December 2004 (02.12.2004)	US
60/655,803	24 February 2005 (24.02.2005)	US
60/655,838	24 February 2005 (24.02.2005)	US

(71) Applicant *(for all designated States except US)*: **NOBEX CORPORATION** [US/US]; P.O. Box 13940, Research Triangle Park, NC 27709 (US).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **RADHAKRISHNAN, Balasingam** [US/US]; 209 Faison Road, Chapel Hill, NC 27517 (US). **AGGARWAL, Diti** [US/US]; 904 Stonecutter Court, Raleigh, NC 27614 (US). **FERRO, Michelle** [US/US]; 1007 Sata Rosa Drive, Apex, NC 27502 (US). **JAMES, Kenneth, D.** [US/US]; 3908 Long Meadow Drive, Mebane, NC 27302 (US). **MALKAR, Navdeep, B.** [US/US]; 831 Berwick Valley Lane, Cary, NC 27513 (US). **MILLER, Mark, A.** [US/US]; 1820 Avent Ridge Road, Apt. 201, Raleigh, NC 27606 (US). **PAVLIV, Leo** [US/US]; 707 Walcott Way, Morrisville, NC 27560 (US). **POLOWY, Karen** [US/US]; 5504 Maple Ridge Road, Raleigh, NC 27609 (US). **PUSKAS, Karen** [US/US]; 12284 Anderson Road, Spring Hope, NC 27882 (US). **EKWURIBE, NnochiriI, N.** [NG/US]; 216 Coltsgate Drive, Cary, NC 27511 (US).

(74) Agent: **BARRETT, William, A.**; Moore & Van Allen, P.O. Box 13706, 430 Davis Drive, Research Triangle Park, NC 27709 (US).

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

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— *with international search report*

(88) Date of publication of the international search report:
17 August 2006

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: INSULIN-OLIGOMER CONJUGATES, FORMULATIONS AND USES THEREOF

(57) Abstract: The invention provides a complex including a cation and an insulin compound conjugate. The insulin compound conjugate includes insulin compound, such as human insulin or an analog thereof, conjugated to a modifying moiety, such as a polyethylene glycol moiety. The invention also includes solids and pharmaceutical compositions including such complexes, methods of making such complexes, and methods of using such complexes in the treatment of insulin compound deficiencies and other ailments. Further, the invention includes novel insulin compound conjugates and modifying moieties for use in making novel insulin compound conjugates. The invention also includes fatty acid compositions for administration of of pharmaceutical agents, such as the novel insulin compound conjugates, and/or the cation-insulin compound conjugate complexes of the invention.

WO 2006/014673 A3