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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
16 September 2004 (16.09.2004)

PCT

(10) International Publication Number
WO 2004/078198 A1

(51) International Patent Classification[7]: A61K 38/28, 47/36, 9/00

(21) International Application Number: PCT/IB2004/000984

(22) International Filing Date: 4 March 2004 (04.03.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

60/451,245	4 March 2003 (04.03.2003)	US
60/467,601	5 May 2003 (05.05.2003)	US
60/469,017	9 May 2003 (09.05.2003)	US
60/495,097	15 August 2003 (15.08.2003)	US

(71) Applicant *(for all designated States except US)*: **THE TECHNOLOGY DEVELOPMENT COMPANY LTD.** [RU/—]; Reid House, 31 Church Street, Hamilton HM FX (BM).

(72) Inventor; and

(75) Inventor/Applicant *(for US only)*: **SABETSKY, Vladimir** [RU/RU]; Piskarevsky Prospekt 10, q. 320, St.Petersburg, 105221 (RU).

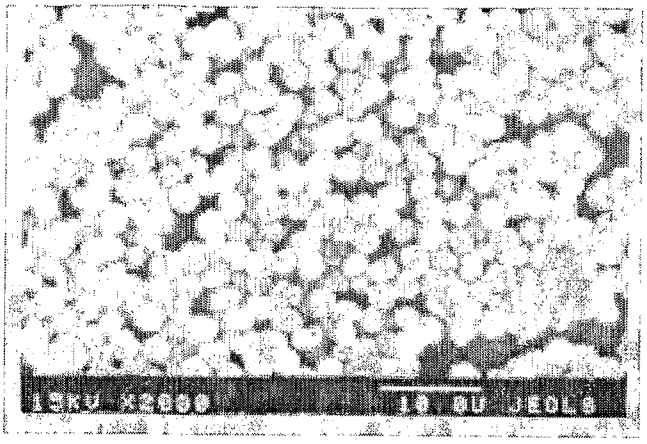
(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, 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, 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, IT, LU, 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*
— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

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: LONG ACTING INJECTABLE INSULIN COMPOSITION AND METHODS OF MAKING AND USING THEREOF



(57) Abstract: A method of lowering blood glucose in a mammal includes injecting a therapeutically effective amount of crystallized dextran microparticles and insulin to the mammal to lower blood glucose of the mammal. The composition may be a one phase or a structured multi-phase composition for controlled release of insulin over an extended period of time.

WO 2004/078198 A1