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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
21 December 2006 (21.12.2006)

PCT

(10) International Publication Number
WO 2006/135879 A3

(51) International Patent Classification:
A61K 49/00 (2006.01)

(21) International Application Number:
PCT/US2006/022915

(22) International Filing Date: 12 June 2006 (12.06.2006)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/689,612 10 June 2005 (10.06.2005) US

(71) Applicant *(for all designated States except US)*: **THE REGENTS OF THE UNIVERSITY OF CALIFORNIA** [US/US]; 1111 Franlin Street, 12th Floor, Oakland, CA 94607-5200 (US).

(72) Inventor; and

(75) Inventor/Applicant *(for US only)*: **HELLERSTEIN, Marc, K.** [US/US]; 4 Anson Way, Kensington, CA 94708 (US).

(74) Agents: **WARD, Michael, R.** et al.; Morrison & Foerster LLP, 425 Market Street, San Francisco, CA 94105-2482 (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, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, 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.

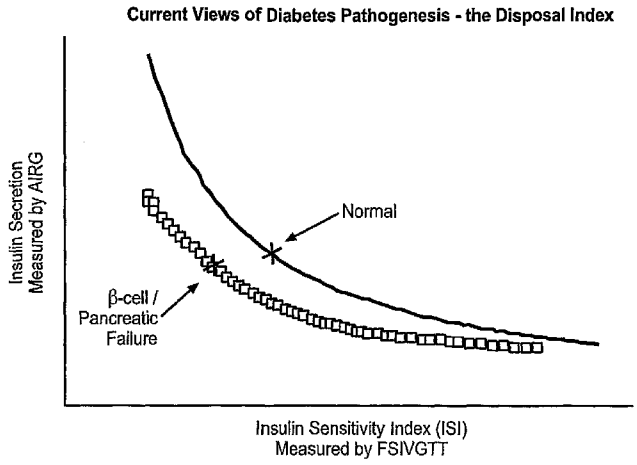
(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, 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*
— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

(88) Date of publication of the international search report:
4 October 2007

[Continued on next page]

(54) Title: DIAGNOSIS AND PROGNOSIS OF DIABETES



(57) Abstract: Provided are methods for determining concurrently with a simple, minimally invasive test, the adequacy of pancreatic beta-cell compensation and/or the presence of tissue insulin resistance in a subject human or an experimental animal. The methods allow for the determination of a subject's or experimental animal's susceptibility to developing type 2 diabetes mellitus (DM2) or to progression to more advanced forms of DM2. Among other uses, the methods allow for diagnostic classification of subjects for decisions regarding therapeutic interventions, clinical differentiation between type 1 DM and DM2, clinical monitoring of treatments intended to reduce risk of developing DM2 in non-diabetic subjects, clinical monitoring of agents intended to improve existing DM2 and to prevent progression of DM2, clinical development and testing of new compounds, candidate agents, or candidate therapies for preventing progression to DM2 or disease progression in existing DM2, and preclinical screening of candidate agents or candidate therapies in experimental animals to identify and characterize agents having insulin-sensitizing properties, pancreatic stimulatory or regenerative properties or other desirable actions.

WO 2006/135879 A3

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.