PCT WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6 : C12N 15/12, C07K 14/00, A61K 38/17 — A1

(11) International Publication Number: **WO 99/23217**

(43) International Publication Date: 14 May 1999 (14.05.99)

(21) International Application Number: PCT/AU98/00902

(22) International Filing Date: 30 October 1998 (30.10.98)

(30) Priority Data:
PP 0117 31 October 1997 (31.10.97) AU
PP 0323 11 November 1997 (11.11.97) AU

(71) Applicants *(for all designated States except US)*: INTERNATIONAL DIABETES INSTITUTE [AU/AU]; 260 Kooyong Road, Caulfield South, VIC 3162 (AU). DEAKIN UNIVERSITY [AU/AU]; Pigdons Road, Waurn Ponds, VIC 3221 (AU).

(72) Inventors; and
(75) Inventors/Applicants *(for US only)*: ZIMMET, Paul, Zev [AU/AU]; 24 Linlithgow Road, Toorak, VIC 3142 (AU). COLLIER, Gregory [AU/AU]; 22 Kestrel Place, Ocean Grove, VIC 3226 (AU).

(74) Agents: HUGHES, E., John, L. et al.; Davies Collison Cave, 1 Little Collins Street, Melbourne, VIC 3000 (AU).

(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published
With international search report.

(54) Title: A NOVEL GENE AND USES THEREFOR

(57) Abstract

The present invention relates generally to a nucleic acid molecule which encodes a protein associated with the modulation of obesity, diabetes and metabolic energy levels. More particularly, the present invention is directed to a nucleic acid molecule and a recombinant and purified naturally occurring protein encoded thereby and their use in therapeutic and diagnostic protocols for conditions such as obesity, diabetes and energy imbalance. The subject nucleic acid molecule and protein and their derivatives, homologues, analogues and mimetics are proposed as therapeutic and diagnostic agents for obesity, diabetes and energy imbalance.