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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
19 May 2005 (19.05.2005)

PCT

(10) International Publication Number
WO 2005/045016 A2

(51) International Patent Classification[7]: C12N 9/00

(21) International Application Number:
PCT/US2004/026194

(22) International Filing Date: 11 August 2004 (11.08.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/494,300 11 August 2003 (11.08.2003) US
60/545,657 18 February 2004 (18.02.2004) US

(71) Applicant *(for all designated States except US)*: **CODEXIS, INC.** [US/US]; 200 Penobscot Drive, Redwood City, CA 94063 (US).

(72) Inventors: **KREBBER, Anke**; 3500 Louis Road, Palo Alto, CA 94303 (US). **NEWMAN, Lisa Marie**; 1002 King Street, Redwood City, CA 94061 (US). **DAVIS, S. Christopher**; 104 Winfield Street, San Francisco, CA 94110 (US). **JENNE, Stephane J.**; 821 El Camino Real #202, Burlingame, CA 94010 (US).

(74) Agent: **POCHOPIEN, Donald J.**; MCANDREWS, HELD & MALLOY, LTD., 500 W. Madison Street, Suite 3400, Chicago, IL 60661 (US).

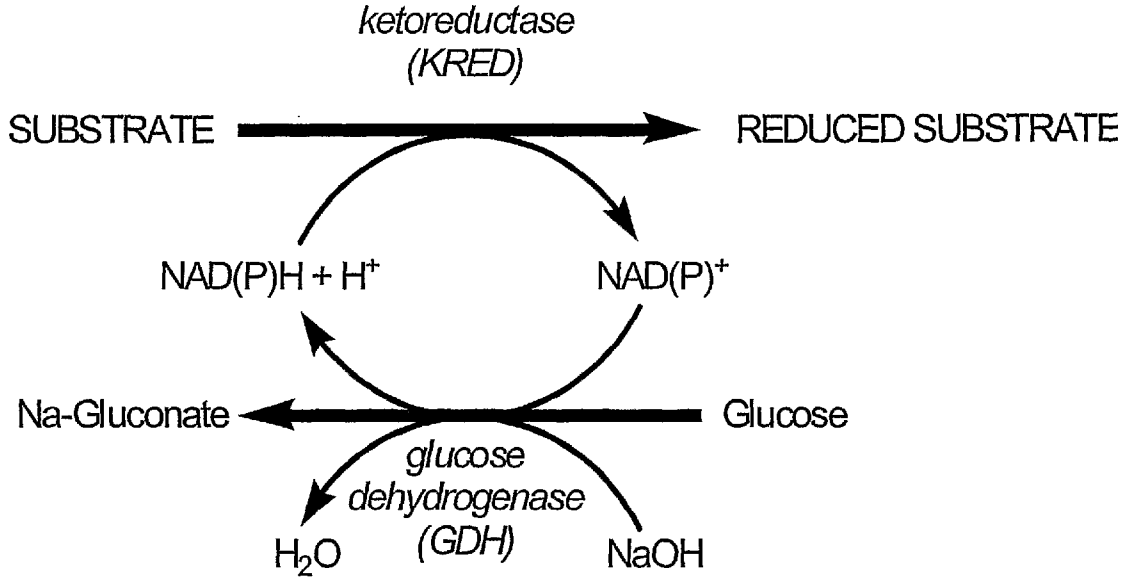
(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, 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, 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, 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:
— *without international search report and to be republished upon receipt of that report*
— *with sequence listing part of description published separately in electronic form and available upon request from the International Bureau*

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: IMPROVED GLUCOSE DEHYDROGENASE POLYPEPTIDES AND RELATED POLYNUCLEOTIDES



(57) Abstract: The present invention is directed to glucose dehydrogenase (GDH) polypeptides that have enhanced GDH activity and/or thermostability relative to the backbone wild-type glucose dehydrogenase polypeptide. In addition, the present invention is directed to a plynucleotide that encodes for the GDH polypeptides of the present invention, to nucleic acid sequences comrpising the polynucleotides, to expression vectors comprising the polynucleotides operatively linked to a promoter, to host cells transformed to express the GDH polypeptides, and to a method for producing the GDH polypeptides of the present invention.

WO 2005/045016 A2