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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
26 October 2012 (26.10.2012)

WIPO | PCT

(10) International Publication Number
WO 2012/145644 A1

(51) International Patent Classification:
C12N 9/24 (2006.01) *A61K 38/47* (2006.01)

(21) International Application Number:
PCT/US2012/034479

(22) International Filing Date:
20 April 2012 (20.04.2012)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
61/478,336 22 April 2011 (22.04.2011) US

(71) Applicant *(for all designated States except US)*: **GENZYME CORPORATION** [US/US]; 500 Kendall Street, Cambridge, MA 02142 (US).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **CANFIELD, William, M.** [US/US]; 7108 Brentwood Road, Oklahoma City, OK 73116 (US). **MORELAND, Rodney, J.** [US/US]; 2 David Henry Gardner Lane, Southborough, MA 01772 (US). **KUDO, Mariko** [JP/US]; 2220 Nw 56th Terrace, Oklahoma City, OK 73112 (US).

(74) Agents: **MCDONELL, Leslie, A.** et al.; Finnegan, Henderson, Farabow, Garrett & Dunner LLP, 901 New York Avenue, NW, Washington, DC 20001 (US).

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

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

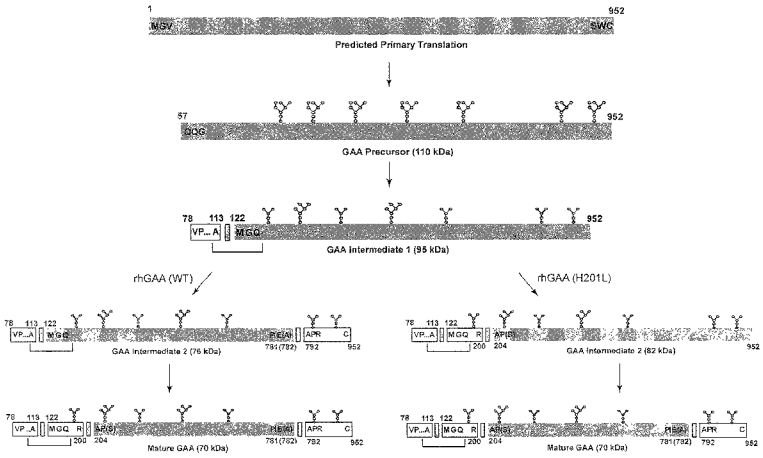
Published:

— *with international search report (Art. 21(3))*

— *with sequence listing part of description (Rule 5.2(a))*

(54) **Title**: MODIFIED ACID ALPHA GLUCOSIDASE WITH ACCELERATED PROCESSING

FIG. 7



(57) **Abstract**: A modified human acid alpha-glucosidase polypeptide having increased hydrophobicity at or near the N- terminal 70 kDa processing site is provided, as well as methods of making and using the modified human acid alpha-glucosidase to treat glycogen storage disorders.

WO 2012/145644 A1