

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
21 November 2024 (21.11.2024)



(10) International Publication Number
WO 2024/238734 A3

(51) International Patent Classification:

C12N 9/10 (2006.01) C12N 15/85 (2006.01)
C07K 14/165 (2006.01) A61K 39/215 (2006.01)
C12N 5/071 (2010.01) C12N 15/70 (2006.01)

(21) International Application Number:

PCT/US2024/029595

(22) International Filing Date:

16 May 2024 (16.05.2024)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/502,866 17 May 2023 (17.05.2023) US

(71) Applicant: **ROCK BIOMEDICAL INC.**; Rm 301, Bldg A No. 99, Ln. 130, Sec. 1, Academia, Road, Nangang Dist., Taipei City, 115202 (TW).

(72) Inventor; and

(71) Applicant (for MW only): **WONG, Chi-Huey** [US/US]; P.O. Box 1852, Rancho Santa Fe, CA 92067 (US).

(72) Inventors: **CHEN, Lan-Bo**; c/o Rock Biotherapeutics, Inc., 3 Gill Street, Unit G, Woburn, MA 01801 (US). **CHEN, Ming-Wei**; c/o Rock Biotherapeutics, Inc., 3 Gill Street, Unit G, Woburn, MA 01801 (US). **LEE, Jeng-Shin**; Rm 301, Bldg A No. 99, Ln. 130, Sec. 1, Academia, Road, Nangang Dist., Taipei City, 115202 (TW).

(74) Agent: **LIN, Wade**; Prosyla Group PC, 530 Technology Dr., Suite 100, Irvine, CA 92618 (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, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CV, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, MG, MK, MN, MU, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, CV, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SC, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, 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, ME, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

- with international search report (Art. 21(3))
- with sequence listing part of description (Rule 5.2(a))

(88) Date of publication of the international search report:

27 March 2025 (27.03.2025)

(54) Title: MGAT1 DEFICIENT CELLS AND USES THEREOF

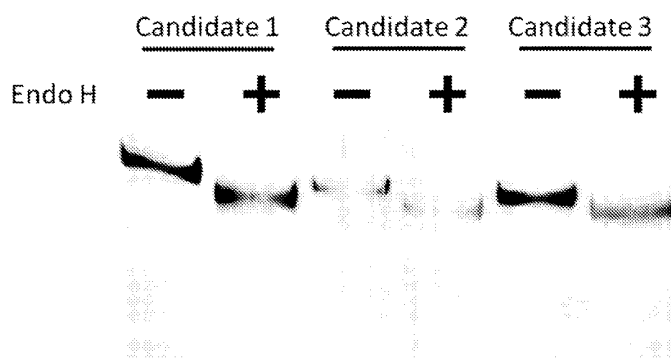


Fig. 1

(57) Abstract: A method for producing a modified cell deficient in mannosy 1 (alpha-1,3-)-glycoprotein beta-1,2-N-acetylglucosaminyl-transferase 1 ("MGAT1") activity. Also provided is a CHO cell line deficient in MGAT1 activity produced by the method. Further disclosed are methods for producing a glycoprotein.

WO 2024/238734 A3