



(51) International Patent Classification:

C12N 5/10 (2006.01) C12N 15/85 (2006.01)
C12N 15/90 (2006.01)

(21) International Application Number:

PCT/US2022/025282

(22) International Filing Date:

19 April 2022 (19.04.2022)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/176,846	19 April 2021 (19.04.2021)	US
63/220,181	09 July 2021 (09.07.2021)	US
63/220,124	09 July 2021 (09.07.2021)	US

(71) Applicant: **GENENTECH, INC.** [US/US]; 1 DNA Way, South San Francisco, CA 94080-4990 (US).

(71) Applicant (for all designated States except US): **F.HOFFMANN-LA ROCHE AG** [CH/CH]; Grenzacherstrasse 124, 4070 Basel (CH).

(71) Applicant (for US only): **HOFFMANN-LA ROCHE INC.** [US/US]; 150 Clove Road, Overlook at Great Notch, Suite 8, Little Falls, NJ 07424 (US).

(72) Inventors: **SHEN, Amy**; c/o GENENTECH, INC., 1 DNA Way, South San Francisco, CA 94080-4990 (US). **YUK, Inn, Huam**; c/o GENENTECH, INC., 1 DNA Way, South San Francisco, CA 94080-4990 (US). **BARNARD, Gavin, Christian**; c/o GENENTECH, INC., 1 DNA Way, South San Francisco, CA 94080-4990 (US). **MISAGHI, Shahram**; c/o GENENTECH, INC., 1 DNA Way, South San Francisco, CA 94080-4990 (US). **AUSLAENDER, Simon**; c/o Roche Diagnostics GmbH, Nonnenwald 2, 82377 Penzberg (DE). **BAUER, Niels**; c/o Roche Diagnostics GmbH, Nonnenwald 2, 82377 Penzberg (DE). **OSWALD, Benedikt**; c/o Roche Diagnostics GmbH, Nonnenwald 2, 82377 Penzberg (DE).

(74) Agent: **LENDARIS, Steven, P.**; Baker Botts LLP, 30 Rockefeller Plaza, New York, NY 10112-4498 (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,

(54) Title: MODIFIED MAMMALIAN CELLS

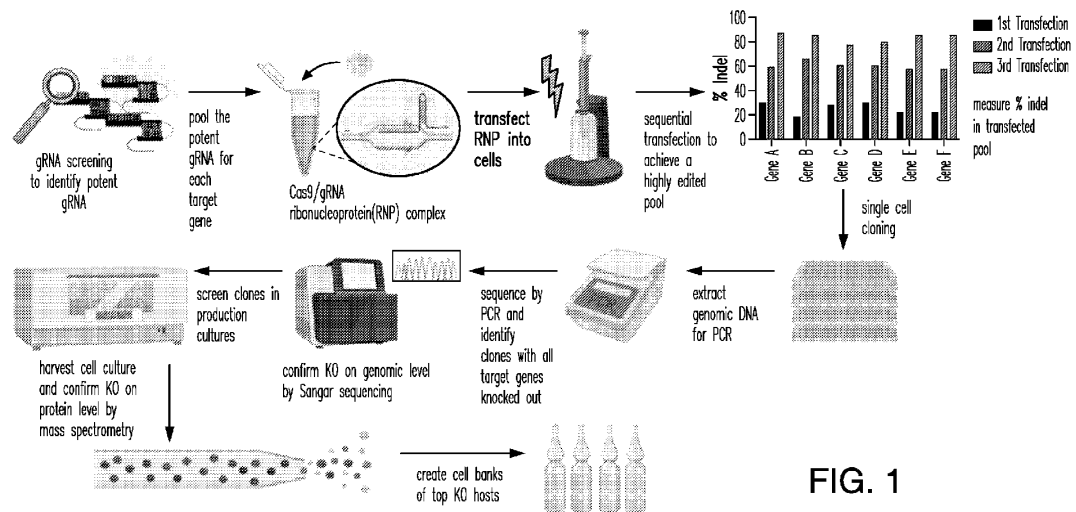


FIG. 1

(57) Abstract: The present disclosure relates to mammalian cells (e.g., Chinese Hamster Ovary (CHO) cells) that are modified to reduce or eliminate the expression of certain mammalian cell endogenous products (e.g., host cell proteins and virus-like particles), and methods of using such cells in the production of a recombinant product of interest, e.g., a recombinant protein, a recombinant viral particle, or a recombinant viral vector. These modifications were specifically chosen to generate engineered mammalian host cells with desired traits in several key areas, including improved cell culture performance (e.g., higher viability and product titers), improved product quality (e.g., more consistent and favorable glycosylation; more stable drug product), and decreased burden on purification for removing problematic or undesired endogenous host cell products (e.g., hydrolytic host cell proteins and virus-like particles) during biomanufacturing.

[Continued on next page]

CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, 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, GH, GM, KE, LR, LS, MW, MZ, NA, RW, 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, 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))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))