



(51) International Patent Classification:

C07K 16/42 (2006.01) C12P 21/08 (2006.01)
G01N 33/53 (2006.01)

(21) International Application Number:

PCT/US2021/047616

(22) International Filing Date:

25 August 2021 (25.08.2021)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/070,734 26 August 2020 (26.08.2020) US
63/081,801 22 September 2020 (22.09.2020) US

(71) Applicant: TWIST BIOSCIENCE CORPORATION

[US/US]; 681 Gateway Boulevard, South San Francisco,
California 94080 (US).

(72) Inventors: SATO, Aaron; 681 Gateway Boulevard, South

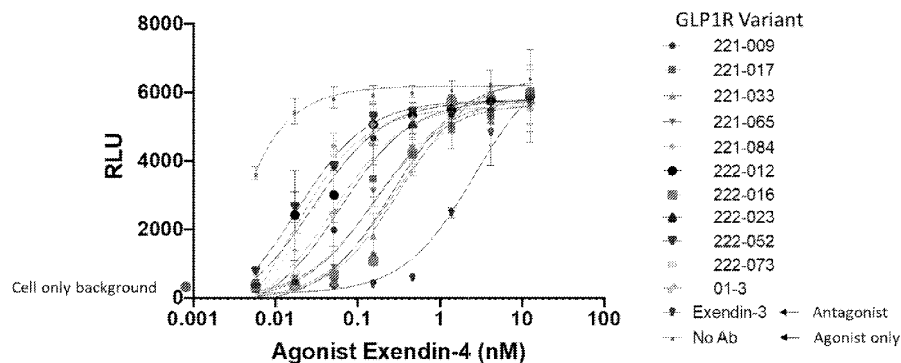
San Francisco, California 94080 (US). GARG, Pankaj;

681 Gateway Boulevard, South San Francisco, California
94080 (US). LIU, Qiang; 681 Gateway Boulevard, South
San Francisco, California 94080 (US). AXELROD, Fu-
miko; 681 Gateway Boulevard, South San Francisco, Cali-
fornia 94080 (US).

(74) Agent: DUSABAN GONZALES, Stephanie S.; WILSON
SONSINI GOODRICH & ROSATI, 650 Page Mill Road,
Palo Alto, California 94304 (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, 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, 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.

(54) Title: METHODS AND COMPOSITIONS RELATING TO GLP1R VARIANTS



IC50 (nM) to agonist	221-009	221-017	221-033	221-065	221-084	222-012	222-016	222-023	222-052	222-073	01-3
	0.06177	0.163	0.2601	0.162	0.01574	0.0285	0.3353	0.267	0.01773	0.02394	0.04982

FIG. 26

(57) Abstract: Provided herein are methods and compositions relating to glucagon-like peptide-I receptor (GLP1R) libraries having nucleic acids encoding for immunoglobulins that bind to GLP1R. Libraries described herein include variegated libraries comprising nucleic acids each encoding for a predetermined variant of at least one predetermined reference nucleic acid sequence. Further described herein are protein libraries generated when the nucleic acid libraries are translated. Further described herein are cell libraries expressing variegated nucleic acid libraries described herein.

[Continued on next page]

(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).

Declarations under Rule 4.17:

— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*

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))*

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

07 April 2022 (07.04.2022)