

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

(19) World Intellectual Property
Organization

International Bureau

(43) International Publication Date
03 November 2022 (03.11.2022)



(10) International Publication Number
WO 2022/232289 A1

(51) International Patent Classification:

A61P 31/14 (2006.01) C07K 16/10 (2006.01)
A61K 9/127 (2006.01) C12N 15/63 (2006.01)
A61K 48/00 (2006.01) C12N 15/85 (2006.01)

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))

(21) International Application Number:

PCT/US2022/026560

(22) International Filing Date:

27 April 2022 (27.04.2022)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/180,382 27 April 2021 (27.04.2021) US

(71) Applicant: **GENERATION BIO CO.** [US/US]; 301 Binney Street, 4th Floor, Cambridge, MA 02142 (US).

(72) Inventors: **SILVER, Nathaniel**; c/o Generation Bio Co., 301 Binney Street, 4th Floor, Cambridge, MA 02142 (US). **KERR, Douglas, Anthony**; c/o Generation Bio Co., 301 Binney Street, 4th Floor, Cambridge, MA 02142 (US). **SAMAYOA, Phillip**; c/o Generation Bio Co., 301 Binney Street, 4th Floor, Cambridge, MA 02142 (US). **JINDAL, Siddharth**; c/o Generation Bio Co., 301 Binney Street, 4th Floor, Cambridge, MA 02142 (US). **GAGNE, Raphael**; c/o Generation Bio Co., 301 Binney Street, 4th Floor, Cambridge, MA 02142 (US).

(74) Agent: **SPARKS, Jonathan, M.** et al.; McCarter & English, LLP, 265 Franklin Street, Boston, MA 02110 (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, 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,

(54) Title: NON-VIRAL DNA VECTORS EXPRESSING THERAPEUTIC ANTIBODIES AND USES THEREOF

(57) Abstract: The application describes methods and compositions comprising ceDNA vectors useful for the expression of antibodies and antigen-binding fragments thereof in a cell, tissue or subject, and methods of treatment and/or prevention of various diseases, disorders and cancers.

WO 2022/232289 A1