

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
02 June 2022 (02.06.2022)

(10) International Publication Number
WO 2022/115492 A9

(51) International Patent Classification:

C12N 5/0783 (2010.01) *C07K 14/725* (2006.01)
A61K 35/17 (2015.01) *C12N 15/87* (2006.01)
C07K 14/55 (2006.01)

(21) International Application Number:

PCT/US2021/060650

(22) International Filing Date:

23 November 2021 (23.11.2021)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/117,787	24 November 2020 (24.11.2020)	US
63/153,881	25 February 2021 (25.02.2021)	US
63/165,093	23 March 2021 (23.03.2021)	US

(71) Applicant: **LYELL IMMUNOPHARMA, INC.**
[US/US]; 201 Haskins Way, South San Francisco, California 94080 (US).

(72) Inventors: **VIZCARDO SAKODA, Raul E.**; c/o LYELL IMMUNOPHARMA, INC., 201 Haskins Way, South San Francisco, California 94080 (US). **RESTIFO, Nicholas**; c/o LYELL IMMUNOPHARMA, INC., 201 Haskins Way, South San Francisco, California 94080 (US). **KLAUSNER, Richard D.**; c/o LYELL IMMUNOPHARMA, INC., 201 Haskins Way, South San Francisco, California 94080 (US). **HUANG, Yin**; c/o LYELL IMMUNOPHARMA, INC., 201 Haskins Way, South San Francisco, California 94080 (US). **MAEDA, Takuya**; c/o LYELL IMMUNOPHARMA, INC., 201 Haskins Way, South San Francisco, California 94080 (US). **TAMAOKI, Naritaka**; c/o LYELL IMMUNOPHARMA, INC., 201 Haskins Way, South San Francisco, California 94080 (US). **YAMAZAKI, Yasuhi-**

(54) Title: METHODS FOR MAKING, COMPOSITIONS COMPRISING, AND METHODS OF USING REJUVENATED T CELLS

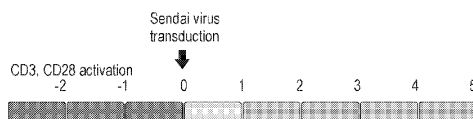


FIG. 1

(57) Abstract: The present disclosure relates generally to methods of producing rejuvenated T cells, comprising, contacting T cells with at least one reprogramming factor and reactivating the contacted cells; and compositions and methods of using same. The present disclosure also describes cell populations prepared according to methods described herein. The disclosure also provides for methods of treating patients using cell populations prepared by the methods described herein.

[Continued on next page]

ro; c/o LYELL IMMUNOPHARMA, INC., 201 Haskins Way, South San Francisco, California 94080 (US).

(74) **Agent: Ji Eun Kim et al.**; Sterne, Kessler, Goldstein & Fox PLLC, 1100 New York Avenue, N.W., Washington, DC 20005-3934 (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.

(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))

(48) **Date of publication of this corrected version:**

25 August 2022 (25.08.2022)

(15) **Information about Correction:**

see Notice of 25 August 2022 (25.08.2022)