

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
15 September 2022 (15.09.2022)

WIPO | PCT

(10) International Publication Number
WO 2022/192605 A8

(51) International Patent Classification:

C12N 5/0797 (2010.01) C12N 5/02 (2006.01)
A61K 35/30 (2015.01) C12N 5/0735 (2010.01)

(21) International Application Number:

PCT/US2022/019847

(22) International Filing Date:

10 March 2022 (10.03.2022)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/159,350 10 March 2021 (10.03.2021) US

(71) Applicant: **LINEAGE CELL THERAPEUTICS, INC.**
[US/US]; 2173 Salk Avenue, Suite 200, Carlsbad, CA
92008 (US).

(72) Inventors: **SKALITER, Rami**; C/o Lineage Cell Therapeutics, Inc., 2173 Salk Avenue, Suite 200, Carlsbad, CA 92008 (US). **BINETTE, Francois**; C/o Lineage Cell Therapeutics, Inc., 2173 Salk Avenue, Suite 200, Carlsbad, CA 92008 (US). **HAYOUN NEEMAN, Dana**; C/o Lineage Cell Therapeutics, Inc., 2173 Salk Avenue, Suite 200, Carlsbad, CA 92008 (US). **BAHAT, Assaf**; C/o Lineage Cell Therapeutics, Inc., 2173 Salk Avenue, Suite 200, Carlsbad, CA 92008 (US). **WISER, Ofer**; C/o Lineage Cell Therapeutics, Inc., 2173 Salk Avenue, Suite 200, Carlsbad, CA 92008 (US).

peutics, Inc., 2173 Salk Avenue, Suite 200, Carlsbad, CA 92008 (US).

(74) Agent: **ADAMS, Lisa** et al.; Mintz Levin Cohn Ferris Glovsky And Popeo, P.C., One Financial Center, Boston, MA 02111 (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: METHODS OF GENERATING OLIGODENDROCYTE PROGENITOR CELLS AND USE THEREOF

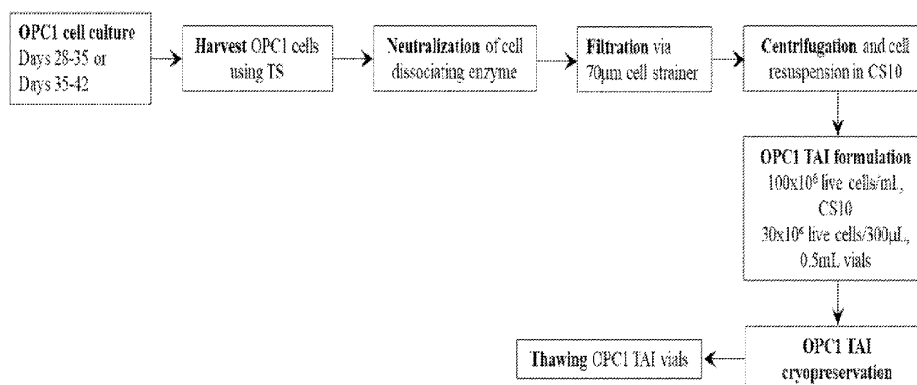


FIG. 1

(57) Abstract: Methods for differentiating human pluripotent stem cells to oligodendrocyte progenitor cells (OPCs) are provided. Also provided are cells and cellular compositions obtained by such methods, and uses of such cells. Further provided are methods and protocols for efficiently differentiating human pluripotent stem cells to OPCs.

[Continued on next page]

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:

13 October 2022 (13.10.2022)

(15) Information about Correction:

see Notice of 13 October 2022 (13.10.2022)