

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
07 April 2022 (07.04.2022)



(10) International Publication Number
WO 2022/072310 A1

(51) International Patent Classification:

A61P 25/00 (2006.01) C12N 15/88 (2006.01)
C07K 14/47 (2006.01) C12N 5/0793 (2010.01)
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))
- 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))
- with sequence listing part of description (Rule 5.2(a))

(21) International Application Number:

PCT/US2021/052302

(22) International Filing Date:

28 September 2021 (28.09.2021)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/084,927 29 September 2020 (29.09.2020) US
63/247,417 23 September 2021 (23.09.2021) US

(71) Applicant: NEUExCELL THERAPEUTICS INC.

[US/US]; 200 Innovation Blvd., Suite 258B, State College, Pennsylvania 16803 (US).

(72) Inventor: XU, Jie; 200 Innovation Blvd., Suite 258B, State College, Pennsylvania 16803 (US).

(74) Agent: MARSH, David et al.; Arnold & Porter Kaye Scholer LLP, 601 Massachusetts Ave. NW, Washington, District of Columbia 20001 (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,

(54) Title: DLX2 VECTOR

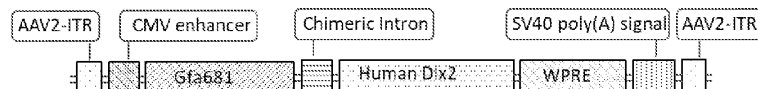


Figure 1A

(57) Abstract: The present disclosure relates to AAV vectors, compositions, and methods related to converting glial cells to neurons by the use of a *Dlx2* coding sequence in an AAV vector.

WO 2022/072310 A1