



- (51) International Patent Classification:
A61K 39/00 (2006.01)
- (21) International Application Number:
PCT/US2019/060477
- (22) International Filing Date:
08 November 2019 (08.11.2019)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
62/757,467 08 November 2018 (08.11.2018) US
62/821,031 20 March 2019 (20.03.2019) US
62/867,499 27 June 2019 (27.06.2019) US
- (71) Applicant: NEXIMMUNE, INC. [US/US]; 9119 Gaither Road, Gaithersburg, MD 20877 (US).
- (72) Inventors: OELKE, Mathias; c/o NexImmune, Inc., 9119 Gaither Road, Gaithersburg, MD 20877 (US). JONES, Kristi; c/o NexImmune, Inc., 9119 Gaither Road, Gaithers-

burg, MD 20877 (US). KIM, Sojung; c/o NexImmune, Inc., 9119 Gaither Road, Gaithersburg, MD 20877 (US). SUAREZ, Lauren; c/o NexImmune, Inc., 9119 Gaither Road, Gaithersburg, MD 20877 (US). CARTER, Ken; c/o NexImmune, Inc., 9119 Gaither Road, Gaithersburg, MD 20877 (US). CARMER, Scott; c/o NexImmune, Inc., 9119 Gaither Road, Gaithersburg, MD 20877 (US). BEDNARIK, Dan; c/o NexImmune, Inc., 9119 Gaither Road, Gaithersburg, MD 20877 (US). EDAVANA, Vineetha; c/o NexImmune, Inc., 9119 Gaither Road, Gaithersburg, MD 20877 (US). LU, Emily; c/o NexImmune, Inc., 9119 Gaither Road, Gaithersburg, MD 20877 (US).

(74) Agent: HAYMAN, Mark, L. et al.; Morgan, Lewis & Bockius, LLP, 1111 Pennsylvania Ave. Nw, Washington, DC 20004 (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,

(54) Title: T CELL COMPOSITIONS WITH IMPROVED PHENOTYPIC PROPERTIES

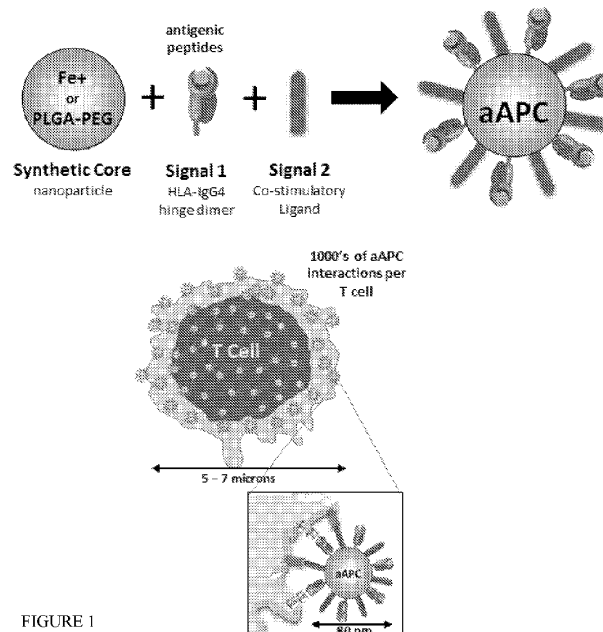


FIGURE 1

(57) Abstract: The present invention provides an isolated cell composition, which in some embodiments is suitable for adoptive immunotherapy, as well as methods of manufacturing the cell compositions and methods of treatment with the cell compositions. The composition comprises, in a pharmaceutically acceptable carrier, at least about 10^6 CD8+ T cells specific for target peptide antigen(s), which comprises T memory stem (TSCM) cells. In various embodiments, the composition is from about 1% to about 100% T memory stem cells, providing for a robust and durable adoptive therapy, as well as providing for T cell engineering advances.

[Continued on next page]

HR, HU, ID, IL, IN, IR, IS, 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, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, 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))*
- *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))*