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- (71) **Applicant: KITE PHARMA, INC.** [US/US]; 2400 Broadway, Santa Monica, California 90404 (US).
- (72) **Inventors: LI, Maolu;** Kite Pharma, Inc., c/o Gilead Sciences, Inc., 333 Lakeside Drive, Foster City, California 94404 (US). **JIANG, Kaiyuan;** 350 Village Drive, Unit 1341, King of Prussia, Pennsylvania 19406 (US). **YIP, Thanh Nguyen;** 148 Chilton Avenue, San Francisco, California 94131 (US). **SATTTLER, Andrew James;** Kite Pharma, Inc., c/o Gilead Sciences, Inc., 333 Lakeside Drive, Foster City, California 94404 (US).

- (74) **Agent: MUIR, Ryann M.** et al.; Kite Pharma, Inc., c/o Gilead Sciences, Inc., 333 Lakeside Drive, Foster City, California 94404 (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, CV, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, MG, MK, MN, MU, 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.
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(54) **Title:** SYSTEMS AND METHODS FOR UPREGULATION OF LOW-DENSITY LIPOPROTEIN RECEPTOR (LDL-R) EXPRESSION

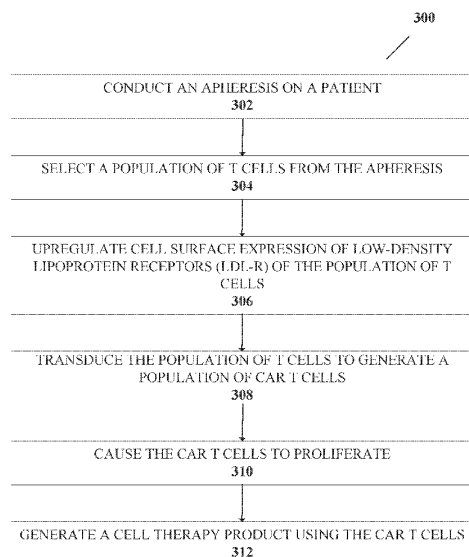


Figure 3

(57) **Abstract:** The present disclosure describes technologies for improving a T cell manufacturing process. Specifically, upregulating low-density lipoprotein receptor (LDL-R) expression on a T cell surface. The described technologies are particularly suitable in manufacturing processes using of non-activated T cells in a transduction step.

Declarations under Rule 4.17:

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

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