

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
03 November 2022 (03.11.2022)



(10) International Publication Number
WO 2022/229464 A1

(51) International Patent Classification:
C12N 5/0783 (2010.01) A61K 39/00 (2006.01)

TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,
KM, ML, MR, NE, SN, TD, TG).

(21) International Application Number:
PCT/EP2022/061639

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))

(22) International Filing Date:
29 April 2022 (29.04.2022)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
21171565.1 30 April 2021 (30.04.2021) EP

(71) Applicants: **TIGEN PHARMA SA** [CH/CH]; Voie du Chariot 3, 1003 Lausanne (CH). **LUDWIG INSTITUTE FOR CANCER RESEARCH LTD** [CH/CH]; Stadelhoferstrasse 22, 8001 Zürich (CH). **CENTRE HOSPITALIER UNIVERSITAIRE VAUDOIS (CHUV)** [CH/CH]; Rue du Bugnon 21, 1011 Lausanne (CH).

(72) Inventors: **COUKOS, George**; Rue du Bugnon 46, 1011 Lausanne (CH). **HARARI, Alexandre**; Rue du Bugnon 25A, 1005 Lausanne (CH). **STEINER, Simone**; Voie du Chariot 3, 1003 Lausanne (CH). **SALMON, Florence**; Voie du Chariot 3, 1003 Lausanne (CH).

(74) Agent: **VOSSIUS & PARTNER PATENTANWÄLTE RECHTSANWÄLTE MBB**; Siebertstraße 3, 81675 München (DE).

(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, TJ, 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: SINGLE VESSEL EXPANSION OF LYMPHOCYTES

(57) Abstract: The present invention relates to a population of lymphocytes comprising at least 90% CD3+ T cells and less than 5% B cells, wherein at least 70% of said T cell portion are viable, at least 20% are CD27/CD28 double positive and less than 10% are triple positive for CD45RA, CD57 and KLRG1 and a method for expansion of a population of lymphocytes specific for one or more antigens comprising a single culture phase.

WO 2022/229464 A1