



(51) International Patent Classification:

A61K 38/20 (2006.01) C12N 5/07 (2010.01)
A61K 38/21 (2006.01) G01N 33/50 (2006.01)
A61K 39/00 (2006.01) A61P 35/00 (2006.01)
A61K 35/14 (2015.01) A61P 37/00 (2006.01)
A61K 35/26 (2015.01) A61P 31/00 (2006.01)

(21) International Application Number:

PCT/EP2015/063108

(22) International Filing Date:

11 June 2015 (11.06.2015)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

10 2014 211 167.6 11 June 2014 (11.06.2014) DE

(71) Applicant: POLYBIOCEPT AB [SE/SE]; Sankt Eriksgatan 43a, S-112 34 Stockholm (SE).

(72) Inventor: MAEURER, Markus; Karlsborgsvägen 24, S-184 44 akersberga (SE).

(74) Agent: ULLRICH & NAUMANN; Schneidmühlstraße 21, 69115 Heidelberg (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, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR, 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))
- with sequence listing part of description (Rule 5.2(a))

(54) Title: EXPANSION OF LYMPHOCYTES WITH A CYTOKINE COMPOSITION FOR ACTIVE CELLULAR IMMUNOTHERAPY

(57) Abstract: The present invention relates to a composition for expanding lymphocytes comprising at least two types of cytokines selected from interleukin 2 (IL-2), interleukin 15 (IL-15) and interleukin 21 (IL-21). It further relates to a Method of preparing a population of clinically relevant lymphocytes, comprising the steps of: obtaining a body sample from a mammal in particular a tissue sample or body liquid sample, comprising at least one lymphocyte and optionally separating the cells in the body sample, culturing the body sample in-vitro to expand and/or stimulate lymphocytes in the sample wherein the culturing comprises using IL-2, IL-15 and/or IL-21, and optionally determining the presence of clinically relevant lymphocyte in the cultured sample. The present invention also relates to an immunotherapy and the population of clinically relevant lymphocytes.

