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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
28 June 2007 (28.06.2007)

PCT

(10) International Publication Number
WO 2007/071388 A1

(51) International Patent Classification:
C12N 5/06 (2006.01) *A61K 39/00* (2006.01)

(21) International Application Number:
PCT/EP2006/012304

(22) International Filing Date:
20 December 2006 (20.12.2006)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
PA 2005 01810 21 December 2005 (21.12.2005) DK
60/752,828 21 December 2005 (21.12.2005) US

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(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, 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, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— *with international search report*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) **Title:** IMPROVED METHOD FOR EXPANSION OF TUMOUR-REACTIVE T-LYMPHOCYTES FOR IMMUNOTHERAPY OF PATIENTS WITH CANCER

(57) **Abstract:** The present invention discloses an improved method for expansion and activation of tumour-reactive lymphocytes, in particular CD4+ helper and/or CD8+ T-lymphocytes, which may be used for treating and/or preventing cancer. The method provides high numbers of tumour-reactive T-lymphocytes within a short time span and the possibility of directing development of tumour-reactive CD4+ helper and/or CD8+ T-lymphocytes towards specific subpopulations. The method comprises a first phase of stimulating tumour-reactive CD4+ T helper and/or CD8+ T-lymphocytes with tumour-derived antigen together with at least one substance having agonistic activity towards the IL-2 receptor to promote survival of tumour-reactive CD4+ T helper and/or CD8+ T-lymphocytes; and a second phase of activating and promoting growth of tumour-reactive CD4+ T helper and/or CD8+ T-lymphocytes, wherein the second phase is initiated when the CD25 cell surface marker (or IL-2R marker) is down-regulated on CD4+ T helper and/or CD8+ T-lymphocytes.

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