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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
18 May 2012 (18.05.2012)

PCT

(10) International Publication Number
WO 2012/062904 A2

(51) International Patent Classification:
A61K 47/48 (2006.01)

(21) International Application Number:
PCT/EP2011/069931

(22) International Filing Date:
11 November 2011 (11.11.2011)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
61/413,330 12 November 2010 (12.11.2010) US

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(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, 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, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, 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, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, 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, ML, MR, NE, SN, TD, TG).

Published:

— *without international search report and to be republished upon receipt of that report (Rule 48.2(g))*

(54) Title: COMPOSITIONS AND METHODS FOR THE PREVENTION AND TREATMENT OF CANCER

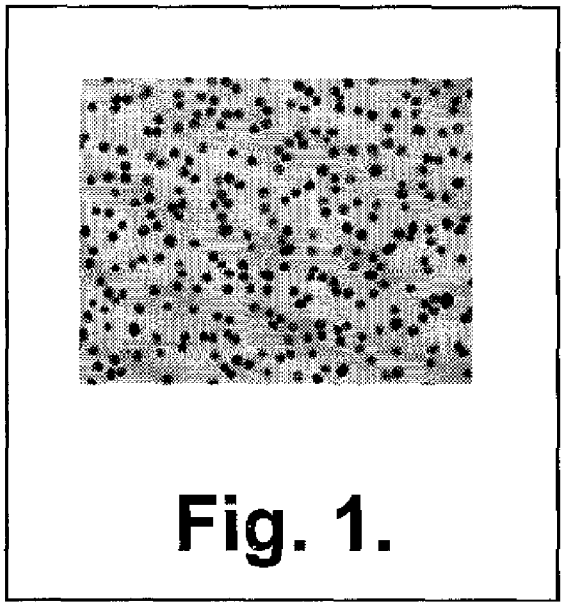


Fig. 1.

(57) Abstract: Conventional cancer immunotherapy falls short at efficiently expanding T cells that specifically target cancerous cells in numbers sufficient to significantly reduce the tumor size or cancerous cell number in vivo. To overcome this limitation, provided herein are nanoparticles coated with MHC class I and/or class II molecules presenting tumor-specific antigens and co-stimulatory molecules and their use to expand antigen-specific anti-tumorigenic T cellsto levels not achieved in current immunotherapeutic techniques. These antigen-specific anti-tumorigenic T cells includecytotoxic T cells, effector T cells, memory T cells, and helper T cells that are necessary to initiate and maintain a substantial immune response againstmetastatic or non-metastaticcancerous, pre-cancerous, or neoplastic cells in vivo. The present invention describes a systemic approach to targeting cancerous or pre-cancerous cells that are circulating cells, as in lymphomas, migratory metastatic cells, and solid tumors.

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