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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
14 May 2015 (14.05.2015)

WIPO | PCT

(10) International Publication Number
WO 2015/069770 A1

(51) International Patent Classification:
A61K 39/00 (2006.01)

(21) International Application Number:
PCT/US2014/064133

(22) International Filing Date:
5 November 2014 (05.11.2014)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
61/900,355 5 November 2013 (05.11.2013) US
61/900,309 5 November 2013 (05.11.2013) US

(71) Applicant *(for all designated States except US)*: **COGNATE BIOSERVICES, INC.** [US/US]; 7513 Connelley Drive, Hanover, MD 21076 (US).

(71) Applicants: **NORTHWEST BIOTHERAPEUTICS** [US/US]; 4800 Montgomery Lane, Suite 800, Bethesda, MD 20814 (US). **THE REGENTS OF THE UNIVERSITY OF CALIFORNIA** [US/US]; 1111 Franklin Street, 12th Floor, Oakland, CA 94607 (US). **REVLMMUNE, INC.** [US/US]; 7513 Connelley Drive, Hanover, MD 21076 (US).

(72) Inventors: **BOSCH, Marnix, Leo**; 1735 90th Avenue Ne, Clyde Hill, WA 98004 (US). **GANJEI, James, Kelly**; 4800 Montgomery Lane., Suite 800, Bethesda, MD 20814 (US). **POWERS, Linda, F.**; 4800 Montgomery Lane, Suite 800, Bethesda, MD 20814 (US). **LIAU, Linda, M.**; 10418 Windtree Drive, Los Angeles, CA 90077 (US). **PRINS, Robert, M.**; 715 Haverford Avenue, Pacific Palisades, CA 90272 (US).

[Continued on next page]

(54) Title: COMBINATIONS OF CHECKPOINT INHIBITORS AND THERAPEUTICS TO TREAT CANCER

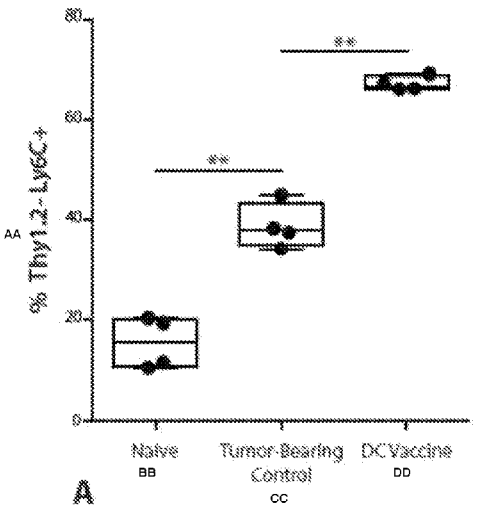


FIG. 2A

(57) Abstract: The present disclosure arises at least in part from the seminal recognition that a combination treatment regimen including one or more cycles and/or doses of a checkpoint inhibitor and a therapeutic, either sequentially, in either order, or substantially simultaneously, can be more effective in treating cancer in some subjects and/or can initiate, enable, increase, enhance or prolong the activity and/or number of immune cells, or a medically beneficial response by a tumor.

WO 2015/069770 A1

(74) **Agents**: **HAILE, Lisa A.** et al.; DLA Piper LLP (US), 4365 Executive Drive, Suite 1100, San Diego, CA 92121-2133 (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, 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))*