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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
26 June 2014 (26.06.2014)

WIPO | PCT

(10) International Publication Number
WO 2014/100483 A1

(51) International Patent Classification:
A61K 39/00 (2006.01) *G01N 33/68* (2006.01)

(21) International Application Number:
PCT/US2013/076701

(22) International Filing Date:
19 December 2013 (19.12.2013)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
61/739,353 19 December 2012 (19.12.2012) US
61/739,272 19 December 2012 (19.12.2012) US
61/739,287 19 December 2012 (19.12.2012) 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, 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, LT, 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, 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))*

WO 2014/100483 A1

(54) Title: ANTI-HUMAN B7-H4 ANTIBODIES AND THEIR USES

(57) Abstract: Anti-human B7-H4 antibody "6H3", antigen-binding fragments, derivatives, and humanized variants thereof that are capable of immunospecifically binding to B7-H4, and the uses of such molecules in the diagnosis and the treatment of cancer and other diseases are disclosed. In preferred embodiments, the molecules are used to retard or prevent tumor growth, inhibit tumor- mediated suppression, eliminate tumors and/or deplete or block the activity of tumor-associated macrophages ("TAMs") so as to alter their activity and/or decrease TAM-mediated immune suppression.