



(43) International Publication Date
18 September 2014 (18.09.2014)

WIPO | PCT

(10) International Publication Number
WO 2014/141150 A1

(51) International Patent Classification:

B01D 15/20 (2006.01) **C07K 16/00** (2006.01)
B01D 15/38 (2006.01) **C07K 1/22** (2006.01)

(21) International Application Number:

PCT/IB2014/059755

(22) International Filing Date:

13 March 2014 (13.03.2014)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

61/787,309 15 March 2013 (15.03.2013) US

(71) Applicant: **GLAXOSMITHKLINE INTELLECTUAL PROPERTY (NO.2) LIMITED** [GB/GB]; 980 Great West Road, Brentford Middlesex TW89GS (GB).

(72) Inventors: **GOKLEN, Kent E.**; 709 Swedeland Road, King of Prussia, Pennsylvania 19406 (US). **SUDA, Eric J.**; 475 Green Oaks Parkway, Holly Springs, North Carolina 27540 (US). **UBIERA, Antonio Raul**; 709 Swedeland Road, King of Prussia, Pennsylvania 19406 (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, 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).

Declarations under Rule 4.17:

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*
- *of inventorship (Rule 4.17(iv))*

Published:

- *with international search report (Art. 21(3))*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

(54) Title: METHODS FOR PURIFYING ANTIBODIES

(57) Abstract: A method for purifying a protein comprising an antibody, antibody fragment, or immunoglobulin single variable domain, from a solution containing at least one contaminant by superantigen chromatography comprising: a) adsorbing the protein to the superantigen immobilized on a solid support; b) removing the at least one contaminant by contacting the immobilized superantigen containing the adsorbed protein with a first wash buffer comprising an aliphatic carboxylate; and c) eluting the protein from the superantigen immobilized on the solid support.



WO 2014/141150 A1