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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
28 April 2011 (28.04.2011)

PCT

(10) International Publication Number
WO 2011/050071 A2

(51) International Patent Classification:
C07K 16/06 (2006.01)

(21) International Application Number:
PCT/US2010/053388

(22) International Filing Date:
20 October 2010 (20.10.2010)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
61/253,411 20 October 2009 (20.10.2009) US

(71) Applicant *(for all designated States except US)*: **ABBOTT LABORATORIES** [US/US]; 100 Abbott Park Road, Abbott Park, IL 60064-6008 (US).

(72) Inventor; and

(75) Inventor/Applicant *(for US only)*: **HICKMAN, Robert, K.** [US/US]; 6 Hibiscus Drive, Worcester, MA 01605 (US).

(74) Agents: **KOLE, Lisa, B.** et al.; Baker Botts LLP, 30 Rockefeller Plaza, New York, NY 10112-4498 (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, 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, RO, RS, RU, 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, 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).

[Continued on next page]

(54) Title: ISOLATION AND PURIFICATION OF ANTI-IL-13 ANTIBODIES USING PROTEIN A AFFINITY CHROMATOGRAPHY

(57) Abstract: Disclosed herein are methods for the isolation and purification of anti- IL- 13 antibodies wherein the use of an affinity chromatographic step results in an antibody composition sufficiently pure for pharmaceutical uses. The methods described herein comprise pH viral reduction/inactivation, ultrafiltration/diafiltration, affinity chromatography (e.g., Protein A affinity chromatography), ion exchange chromatography, and hydrophobic chromatography. Further, the present invention is directed toward pharmaceutical compositions comprising one or more antibodies of the present invention.

Figure 1.

- **Anti-IL-13 Antibody Heavy Chain Variable Region Sequence**

```
1         10         20         30         40
EVTLRESGPG LVKPTQTLTL TCTLYGFSLS TSDMGVDWIR
                                   CDR1

QPPGKGLEWL AHIWWDDVKR YNPALKSRLT ISKDTSKNQV
                     CDR2

VLKLTSVDPV DTATYYCART VSSGYIYYAM DYWGQGTLVT
                          CDR3

VSS
```

- **Anti-IL-13 Antibody Light Chain Variable Region Sequence**

```
1         10         20         30         40
DIQMTQSPSS LSASVGDRVT ISCRASQDIR NYLNWYQQKP
                               CDR1

CKAPKLLIFY TSKLESGVPS RFSGSGSGTD YTLTISSLQP
              CDR2

EDIATYYCQQ GNTLPLTFGG GTKVEIK
              CDR3
```

WO 2011/050071 A2

Published:

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