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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
12 April 2012 (12.04.2012)

PCT

(10) International Publication Number
WO 2012/047954 A1

(51) International Patent Classification:
A61K 39/395 (2006.01) *C07K 16/28* (2006.01)

(21) International Application Number:
PCT/US2011/054856

(22) International Filing Date:
5 October 2011 (05.10.2011)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
61/390,283 6 October 2010 (06.10.2010) US
13/253,103 5 October 2011 (05.10.2011) US

(71) Applicant *(for all designated States except US)*: **REGENERON PHARMACEUTICALS, INC.** [US/US]; 777 Old Saw Mill River Road, Tarrytown, NY 10591 (US).

(72) Inventors; and
(71) Applicants : **DIX, Daniel, B.** [US/US]; 55 Memory Trail, Lagrangevile, NY 12540 (US). **TANG, Xiaolin** [CN/US]; 5 Eckerson Court, Old Tappan, NJ 07675 (US).

(74) Agent: **ZAHNER, Joseph, E.**; Senior Patent Agent For Regeneron Pharmaceuticals, Inc., 777 Old Saw Mill River Road, Tarrytown, NY 10591 (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, 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:

— *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))*

— *with sequence listing part of description (Rule 5.2(a))*

WO 2012/047954 A1

(54) **Title**: STABILIZED FORMULATIONS CONTAINING ANTI-INTERLEUKIN-4 RECEPTOR (IL-4R) ANTIBODIES

(57) **Abstract**: The present invention provides pharmaceutical formulations comprising a human antibody that specifically binds to human interleukin-4 receptor (hIL-4R). The formulations may contain, in addition to an anti-hIL-4R antibody, at least one amino acid, at least one sugar, or at least one non-ionic surfactant. The pharmaceutical formulations of the present invention exhibit a substantial degree of antibody stability after storage for several months.