



(51) International Patent Classification:

C07D 211/86 (2006.01) **A61P 3/10** (2006.01)
A61K 31/4412 (2006.01) **A61P 11/00** (2006.01)

(21) International Application Number:

PCT/EP2009/067404

(22) International Filing Date:

17 December 2009 (17.12.2009)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

61/203,470 23 December 2008 (23.12.2008) US

(71) Applicant (for all designated States except US): **F. HOFFMANN-LA ROCHE AG** [CH/CH]; Grenzacherstrasse 124, CH-4070 Basel (CH).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **LOPEZ-TAPIA, Francisco Javier** [US/US]; 9 Country Lane, Mahwah, New Jersey 07430 (US). **WALKER, Keith Adrian Murray** [US/US]; 12798 Canario Way, Los Altos Hills, California 94022 (US). **ZHAO, Shu-Hai** [US/US]; 10385 Melissa Court, Cupertino, California 95014 (US).

(74) Agent: **HEIROTH, Ulrike**; Grenzacherstrasse 124, CH-4070 Basel (CH).

(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, 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, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (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, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

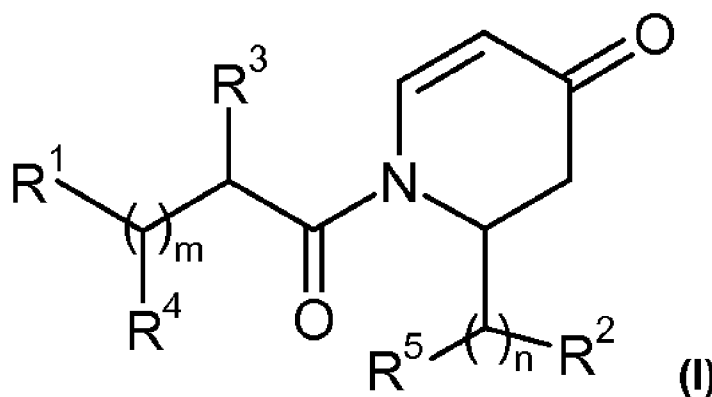
Published:

- 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))

(88) Date of publication of the international search report:

19 August 2010

(54) Title: DIHYDROPYRIDONE AMIDES USEFUL AS MEDICAMENTS FOR THE TREATMENT OF AUTOIMMUNE AND INFLAMMATORY DISEASES



(57) Abstract: Compounds of the formula (I) or pharmaceutically acceptable salts thereof, wherein m, n, R¹, R², R³, R⁴ and R⁵ are as defined herein. Also disclosed are methods of making the compounds and using the compounds for treatment of diseases associated with the P2X₇ purinergic receptor.