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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
7 July 2011 (07.07.2011)

PCT

(10) International Publication Number
WO 2011/080176 A1

(51) International Patent Classification:
C07D 401/12 (2006.01) *A61K 31/497* (2006.01)
C07D 401/14 (2006.01) *A61P 25/28* (2006.01)
C07D 403/12 (2006.01)

(21) International Application Number:
PCT/EP2010/070502

(22) International Filing Date:
22 December 2010 (22.12.2010)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
61/291,724 31 December 2009 (31.12.2009) US

(71) Applicant *(for all designated States except US)*: **NOVARTIS AG** [CH/CH]; Lichtstrasse 35, CH-4056 Basel (CH).

(72) Inventors; and
(75) Inventors/Applicants *(for US only)*: **TINTELNOT-BLOMLEY, Marina** [DE/CH]; Novartis Pharma AG, Werk Klybeck, Postfach, CH-4002 Basel (CH). **VEENSTRA, Siem Jacob** [NL/CH]; Novartis Pharma AG, Werk Klybeck, Postfach, CH-4002 Basel (CH).

(74) Agent: **CAMPBELL, Lachlan**; Novartis Pharma AG, Patent Department, CH-4002 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, 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).

Declarations under Rule 4.17:

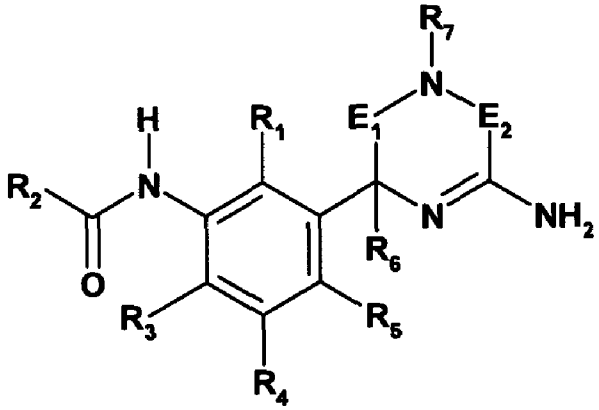
— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*

Published:

— *with international search report (Art. 21(3))*

WO 2011/080176 A1

(54) **Title**: PYRAZINE DERIVATIVES AND THEIR USE IN THE TREATMENT OF NEUROLOGICAL DISORDERS



(I)

(57) **Abstract**: The invention relates to novel heterocyclic compounds of the formula (I) in which all of the variables are as defined in the specification, in free form or in salt form, to their preparation, to their medical use and to medicaments comprising them.