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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
20 October 2005 (20.10.2005)

PCT

(10) International Publication Number
WO 2005/097122 A3

(51) International Patent Classification[7]: A61K 31/4439, A61P 25/18, 3/10

(21) International Application Number:
PCT/US2005/011107

(22) International Filing Date: 1 April 2005 (01.04.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/558,451 1 April 2004 (01.04.2004) US

(71) Applicant *(for all designated States except US)*: **AVENTIS PHARMACEUTICALS INC.** [US/US]; 300 Somerset Corporate Boulevard, Bridgewater, NJ 08807-2854 (US).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **SMITH, Craig, P.** [US/US]; 531 Brookside Lane, Hillsborough, NJ 08844 (US). **RAMPE, David, E.** [US/US]; 36 Prospect Street, Bernardsville, NJ 07924 (US). **BOROWSKY, Beth** [US/US]; 11 Crimson King Trail, Flemington, NJ 08822 (US). **KONGSAMUT, Sathapana** [TH/US]; 14 Coursen Way, Madison, NJ 07940 (US).

(74) Agents: **KURYS, Barbara, E.** et al.; Aventis Pharmaceuticals Inc., Route 202-206, P.O. Box 6800, Bridgewater, NJ 08807-0800 (US).

(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, 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, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, 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 the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for all designations*

— *of inventorship (Rule 4.17(iv)) for US only*

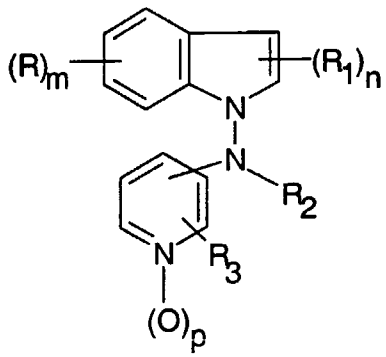
Published:

— *with international search report*

(88) Date of publication of the international search report:
2 February 2006

[Continued on next page]

(54) Title: METHOD OF TREATING SCHIZOPHRENIA AND/OR GLUCOREGULATORY ABNORMALITIES



(I)

(57) Abstract: The present invention provides methods of treating schizophrenia and/or glucoregulatory abnormalities in a patient in need thereof comprising administering to said patient a therapeutically effective amount of a compound of formula (I) wherein m is 0, 1 or 2; n is 0, 1 or 2; p is 0 or 1; each R is independently hydrogen, halogen, trifluoromethyl, C_1-C_6alkyl, C_1-C_6alkoxy, benzyloxy, hydroxy, nitro or amino; each R_1 is independently hydrogen, C_1-C_6alkyl, C_1-C_6alkenyl, C_1-C_6alkanoyl, halogen, cyano, -C(O) C_1-C_6alkyl, -C_1-C_6alkyleneCN, -C_1-C_6alkyleneNR'R" wherein R' and R" are each independently hydrogen or C_1-C_6alkyl, -C_1-C_6alkyleneOC(O)C_1-C_6alkyl, or -CH(OH)R_4 wherein R_4 is hydrogen or C_1-C_6alkyl; R_2 is hydrogen, C_1-C_6alkyl optionally substituted with halogen, hydroxy or benzyloxy, C_1-C_6alkenyl, C_1-C_6alkynyl, -CO_2C_1-C_6alkyl, or -R_5-NR'R" wherein R_5 is C_1-C_6alkylene, C_1-C_6alkenylene or C_1-C_6alkynylene and R' and R" are each independently hydrogen, C_1-C_6alkyl or alternatively the group -NR'R" as a whole is 1-pyrrolidinyl; and R_3 is hydrogen, nitro, amino, halogen, C_1-C_6alkoxy, hydroxy or C_1-C_6alkyl or a pharmaceutically acceptable salt thereof.

WO 2005/097122 A3

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.