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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
25 October 2007 (25.10.2007)

PCT

(10) International Publication Number
WO 2007/120729 A3

(51) International Patent Classification:
*C07D 213/40* (2006.01) *C07D 405/12* (2006.01)
*C07D 213/61* (2006.01) *C07D 409/12* (2006.01)
*C07D 213/65* (2006.01) *C07D 411/12* (2006.01)
*C07D 213/73* (2006.01) *C07D 413/12* (2006.01)
*C07D 213/74* (2006.01) *A61P 25/00* (2006.01)
*C07D 213/75* (2006.01) *A61K 31/435* (2006.01)
*C07D 401/04* (2006.01) *A61K 31/44* (2006.01)
*C07D 401/12* (2006.01) *A61K 31/4427* (2006.01)
*C07D 401/14* (2006.01)

(21) International Application Number:
PCT/US2007/008977

(22) International Filing Date: 11 April 2007 (11.04.2007)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/791,372 12 April 2006 (12.04.2006) US

(71) Applicant *(for all designated States except US)*: **MERCK & CO., INC.** [US/US]; 126 East Lincoln Avenue, Rahway, New Jersey 07065-0907 (US).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **BARROW, James, C.** [US/US]; 126 East Lincoln Avenue, Rahway, New Jersey 07065-0907 (US). **BIEBER, Kelly-Ann, S.** [US/US]; 126 East Lincoln Avenue, Rahway, New Jersey 07065-0907 (US). **CUBE, Rowena, V.** [US/US]; 126 East Lincoln Avenue, Rahway, New Jersey 07065-0907 (US). **MATTERN, Mamio Christa** [US/US]; 126 East Lincoln Avenue, Rahway, New Jersey 07065-0907 (US). **REGER, Thomas, S.** [US/US]; 126 East Lincoln Avenue, Rahway, New Jersey 07065-0907 (US). **SHU, Youheng** [CN/US]; 126 East Lincoln Avenue, Rahway, New Jersey 07065-0907 (US). **YANG, Zhi-Qiang** [CN/US]; 126 East Lincoln Avenue, Rahway, New Jersey 07065-0907 (US).

(74) Common Representative: **MERCK & CO., INC.**; 126 East Lincoln Avenue, Rahway, New Jersey 07065-0907 (US).

(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, 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, 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, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, 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, HU, IE, IS, IT, LT, LU, LV, MC, MT, 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).

**Published:**
— *with international search report*
— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

(88) Date of publication of the international search report:
3 January 2008

*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.*

(54) Title: PYRIDYL AMIDE T-TYPE CALCIUM CHANNEL ANTAGONISTS

(57) Abstract: The present invention is directed to pyridyl amide compounds which are antagonists of T-type calcium channels, and which are useful in the treatment or prevention of disorders and diseases in which T-type calcium channels are involved. The invention is also directed to pharmaceutical compositions comprising these compounds and the use of these compounds and compositions in the prevention or treatment of such diseases in which T-type calcium channels are involved.

WO 2007/120729 A3