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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
10 July 2008 (10.07.2008)

PCT

(10) International Publication Number
WO 2008/083333 A1

(51) International Patent Classification:
C07D 401/14 (2006.01) *A61K 31/4439* (2006.01)
A61P 1/04 (2006.01)

(21) International Application Number:
PCT/US2007/089127

(22) International Filing Date:
28 December 2007 (28.12.2007)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/877,608 29 December 2006 (29.12.2006) US
60/887,499 31 January 2007 (31.01.2007) US

(71) Applicant *(for all designated States except US)*: **TAP PHARMACEUTICAL PRODUCTS INC.** [US/US]; 675 N. Field Drive, Lake Forest, IL 60045 (US).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **BRACKETT, John, M.** [US/US]; 10011 136th Avenue, Kenosha, WI 53142 (US). **JONAITIS, David, T.** [US/US]; 255 Perrin Ave., Lafayette, IN 47901 (US). **LAI, Wei** [CN/US]; 1957 Ellison Dr., West Lafayette, IN 47906 (US). **LIU, Jih, Hua** [US/US]; 31645 Rein Court, Green Oaks, IL 60048 (US). **PARENT, Stephan, D.** [US/US]; 2120 Cumulus Ct., West Lafayette, IN 47906 (US). **SHEN, Jinyu** [CA/CA]; 1911 Holman Place, Edmonton, Alberta T64 3L7 (CA).

(74) Agents: **TOWNES, Jeffrey, N.** et al.; Nixon Peabody LLP, 401 9th Street, N.W., Suite 900, Washington, DC 20004 (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, 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, 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*

(54) Title: SOLID STATE FORMS OF RACEMIC ILAPRAZOLE

(57) Abstract: The invention relates to crystalline forms of racemic ilaprazole, 2[[(4-methoxy-3-methyl-2-pyridinyl)-methyl]sulfinyl]-5-(1H-pyrrol-1-yl) 1H-Benzimidazole. The invention also relates to a pharmaceutical composition for inhibiting gastric acid secretion comprising a crystalline Form of ilaprazole according to the invention in an amount effective to inhibit gastric acid secretion and a pharmaceutically acceptable carrier. The invention also provides methods of treatment for various acid-related gastrointestinal (GI) disorders.

WO 2008/083333 A1