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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
23 February 2006 (23.02.2006)

PCT

(10) International Publication Number
WO 2006/021000 A3

(51) International Patent Classification:
C07D 495/04 (2006.01) *A61K 31/425* (2006.01)
C07D 513/04 (2006.01) *A61P 25/24* (2006.01)

(21) International Application Number:
PCT/US2005/029383

(22) International Filing Date: 18 August 2005 (18.08.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/603,347 19 August 2004 (19.08.2004) US

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

(72) Inventors; and
(75) Inventors/Applicants *(for US only)*: **FINK, David Marc** [US/US]; 1 Kensington Court, Lebanon, New Jersey 08833 (US). **CHIANG, Yulin** [US/US]; 24 Vom Eigen Drive, Convent Station, New Jersey 07960 (US). **COLLAR, Nicola Dawn** [GB/US]; 64 Monroe Street, Hoboken, New Jersey 07030 (US).

(74) Agents: **STRUPCZEWSKI, Joseph** et al.; sanofi-aventis, Route 202-206, P. O. Box 6800, Bridgewater, New Jersey 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, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, 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, LV, 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).

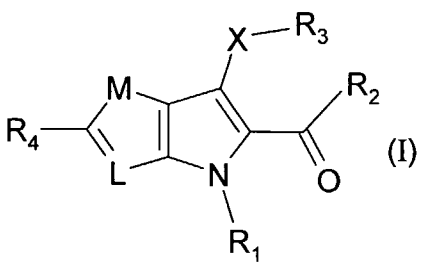
Declarations under Rule 4.17:
— *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*
— *of inventorship (Rule 4.17(iv))*

Published:
— *with international search report*

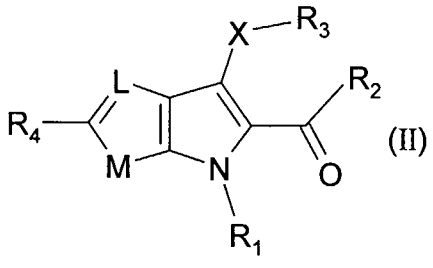
(88) Date of publication of the international search report:
15 June 2006

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: SUBSTITUTED THIENOPYRROLE CARBOXYLIC ACID AMIDES, PYRROLOTHIAZOLE CARBOXYLIC ACID AMIDES, AND RELATED ANALOGS AS INHIBITORS OF CASEIN KINASE I EPSILON



(I)



(II)

(57) Abstract: The present invention discloses and claims compounds as inhibitors of human casein kinase Iε and methods for using said compounds for treating central nervous system diseases and disorders including mood disorders and sleep disorders. Pharmaceutical compositions comprising said compounds and a method for the preparation are also disclosed and claimed.

WO 2006/021000 A3