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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))

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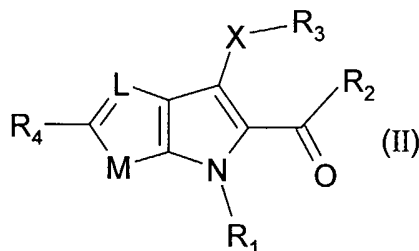
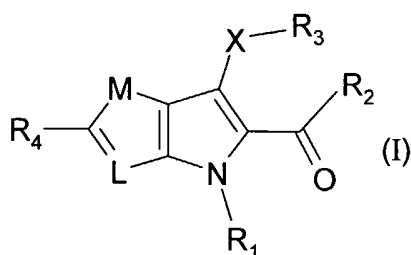
- with international search report

(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



(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.

INTERNATIONAL SEARCH REPORT

International application No

PCT/US2005/029383

A. CLASSIFICATION OF SUBJECT MATTER

C07D495/04 C07D513/04 A61K31/425 A61P25/24

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

C07D A61K A61P

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, BEILSTEIN Data, CHEM ABS Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6 555 328 B1 (KEESLER GEORGE A ET AL) 29 April 2003 (2003-04-29) cited in the application Abstract; claims; example 10. -----	1-27
A	MEGGIO, F. ET AL.: "RIBOFURANOSYL-BENZIMIDAZOLE DERIVATIVES AS INHIBITORS OF CASEIN KINASE-2 AND CASEIN KINASE-1" EUROPEAN JOURNAL OF BIOCHEMISTRY, BERLIN, DE, vol. 187, no. 1, 1990, pages 89-94, XP000646580 ISSN: 0014-2956 The whole document, in particular the compounds of table 1. ----- -/--	1-27

☒ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents :

A document defining the general state of the art which is not considered to be of particular relevance

E earlier document but published on or after the international filing date

L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

O document referring to an oral disclosure, use, exhibition or other means

P document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

& document member of the same patent family

Date of the actual completion of the international search

3 February 2006

Date of mailing of the international search report

01/03/2006

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INTERNATIONAL SEARCH REPORT

International application No

PCT/US2005/029383

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	MASHHOON, N. ET AL.: "Crystal Structure of a Conformation-selective Casein Kinase-1 Inhibitor" J. BIOL.CHEM., vol. 275, no. 26, 2000, pages 20052-20060, XP002366003 The whole document.	1-27
A	NING, K. ET AL.: "Circadian regulation of GABA-A receptor function by CKI-epsilon-CKI-delta in the rat suprachiasmatic nuclei" NATURE NEUROSCIENCE, NATURE AMERICA, INC, US, vol. 7, no. 5, May 2004 (2004-05), pages 489-490, XP002359687 ISSN: 1097-6256 The whole document, particularly reference to CKIepsilon-CKIdelta inhibitor IC261.	1-27
P,A	WO 2005/061498 A (AVENTIS PHARMACEUTICALS INC; METZ, WILLIAM, A; HALLEY, FRANK; DUTRUC-R) 7 July 2005 (2005-07-07) Abstract; claims; examples.	1-27
A	DATABASE BEILSTEIN Beilstein Institut zur Förderung der chemischen Wissenschaften, Frankfurt/Main, DE; XP002366005 Database Accession Nos. 5099280, 5108767, 5110689 (BRN's). & J. CHEM. SOC. PERKIN TRANS. 1, 1986, pages 501-506,	1-27

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2005/029383

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

Although claims 14-25 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compounds.
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2005/029383

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 6555328	B1	29-04-2003	
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