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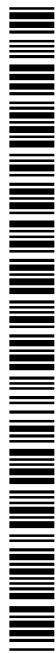


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(54) Title: METHODS FOR TREATING HYPERACTIVE GASTRIC MOTILITY

(57) Abstract: This invention provides methods and pharmaceutical compositions for treating, inhibiting or preventing hyperactive gastric motility in a mammal utilizing agonists of KCNQ potassium channels, including KCNQ2, KCNQ3, KCNQ4 and KCNQ5 potassium channels, alone or in combination. The hyperactive gastric motility may be associated with maladies including, colitis, irritable bowel syndrome and Crohn's disease. Compounds useful in these methods include the 1,2,4-triamino-benzene derivatives described in U.S. Patent No. 5,384,330 (Dieter et al.) and the substituted 3-phenyl oxindole compounds described in U.S. Patent No. 5,565,483 (Hewawasam et al.). Among the preferred compounds of this invention is N-[2-amino-4-(4-fluorobenzylamino)-phenyl]carbamic acid ethyl ester, also referred to as retigabine.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 02/10268

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A61K31/167 A61P1/00 A61K31/00 A61K31/404

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)

IPC 7 A61K

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, CHEM ABS Data, WPI Data, PAJ, BIOSIS, MEDLINE, CANCERLIT, EMBASE, SCISEARCH

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 01 01970 A (COX BRIAN ;DUPERE JOSEPH (GB); GLAXO GROUP LTD (GB); BURBIDGE STEP) 11 January 2001 (2001-01-11) page 4, line 25 - line 32 page 2, line 18 - line 26 ---	1-10, 13-17
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Y	WO 00 33834 A (JOERGENSEN TINO DYHRING ;OLESEN SOEREN PETER (DK); TEUBER LENE (DK) 15 June 2000 (2000-06-15) page 1, line 5 -page 3, line 19 page 18, line 14 - line 15 ---	1-8, 11, 12
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Further documents are listed in the continuation of box C.

Patent family members are listed in 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

1 April 2003

Date of mailing of the international search report

08. 04. 2003

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 02/10268

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6 117 900 A (DOST RITA ET AL) 12 September 2000 (2000-09-12) cited in the application column 3, line 12 - line 22 ---	1-10, 13-17
P,X	WO 02 00217 A (OLESEN SOEREN PETER ;SCHROEDER RIKKE L (DK); NEUROSEARCH AS (DK);) 3 January 2002 (2002-01-03) claims 11,15 page 12, line 3 - line 5 ---	1,3-8
T	US 6 348 486 B1 (ARGENTIERI THOMAS MICHAEL ET AL) 19 February 2002 (2002-02-19) the whole document ---	1-10, 13-17
T	WO 02 49628 A (WYETH) 27 June 2002 (2002-06-27) the whole document -----	1-10, 13-17

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 02/10268

Box I Observations where certain claims were found unsearchable (Continuation of item 1 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 1-17 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 compound/composition.
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:

see FURTHER INFORMATION sheet PCT/ISA/210
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 II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

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

see additional sheet

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.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-8 (partially), 9, 10, 13-17

Use of a compound of the formula of claim 9 for treating or inhibiting hyperactive gastric motility alone or associated with Inflammatory Bowel Disease or Crohn's Disease.

2. Claims: 1-8 (partially), 11, 12

Use of a compound of the formula of claim 11 for treating or inhibiting hyperactive gastric motility alone or associated with Inflammatory Bowel Disease or Crohn's Disease.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

Present claims 1-8 relate to a compound defined (inter alia) by reference to the following expressions:

"KCNQ potassium channel agonist" (claim 1),
"KCNQ4 potassium channel agonist" (claim 4),
"KCNQ2/3 potassium channel agonist" (claim 5)

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 02/10268

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 02/10268

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