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ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: MODULATORS OF ATP-BINDING CASSETTE TRANSPORTERS

(57) Abstract: Compounds of the present invention and pharmaceutically acceptable compositions thereof, are useful as modula-
tors of ATP-Binding Cassette ("ABC") transporters or fragments thereof, including Cystic Fibrosis Transmembrane Conductance
Regulator ("CFTR"). The present invention also relates to methods of treating ABC transporter mediated diseases using compounds
of the present invention.



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INTERNATIONAL SEARCH REPORT

International application No

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A. CLASSIFICATION OF SUBJECT MATTER
 INV. C07D405/12 C07D405/14 A61K31/404 A61P31/00

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, EMBASE, BIOSIS, 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.
Y	WO 2005/075435 A (VERTEX PHARMA [US]; HADIDA RUAH SARAH S [US]; GROOTENHUIS PETER D J [U] 18 August 2005 (2005-08-18) page 95, paragraphs 67,72; claims 1,129,131; table 1; compound 245 -----	1-39
Y	WO 2005/016884 A (LUNDBECK & CO AS H [DK]; KEHLER JAN [DK]; HANSEN TORE [NO]; POULSEN AN) 24 February 2005 (2005-02-24) page 7, line 30; claims 1,113,114 -----	1-39
Y	WO 2004/041277 A (MERCK & CO INC [US]; KIM YUNTAE [US]; SPENCER KEITH L [US]; HANNEY BAR) 21 May 2004 (2004-05-21) pages 83,89; claims 1,15,18; examples 3-78 ----- -/--	1-39

☒ 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
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- "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
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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	EP 1 380 576 A (EISAI CO LTD [JP]) 14 January 2004 (2004-01-14) pages 171,175,, column 182; examples I-85,I-159,II-25 -----	1-39
Y	WO 2004/056745 A (JANSSEN PHARMACEUTICA NV [BE]; LINDERS JOANNES THEODORUS MARI [NL]; WI) 8 July 2004 (2004-07-08) page 2, line 31 page 5, paragraph 1; claims 1,13,16; examples -----	1-39
A	WO 03/002533 A (PFIZER PROD INC [US]; BERTINATO PETER [US]; BLIZE ALAN ELWOOD [US]; BR) 9 January 2003 (2003-01-09) page 75; example 122 -----	1-39
X	WO 2004/035571 A (RIGEL PHARMACEUTICALS INC [US]; SINGH RAJINDER [US]; DARWISH IHAB S [U] 29 April 2004 (2004-04-29) pages 26,33; claims 1,25; compounds 5D,231 -----	1-31

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2007/008975

Box No. 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 32-36 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:
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 No. 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 allsearchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search reportcovers 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 and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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