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- Published:**
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- (88) **Date of publication of the international search report:**
18 December 2008



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(54) **Title:** CARBAMATES THERAPEUTIC RELEASE AGENTS AS AMIDASE INHIBITORS

(57) **Abstract:** Pharmacological inhibition of fatty acid amide hydrolase (FAAH) activity leads to increased levels of fatty acid amides. Esters of alkylcarbamic acids are disclosed that are inhibitors of FAAH activity. Compounds disclosed herein inhibit FAAH activity. Described herein are processes for the preparation of esters of alkylcarbamic acid compounds, compositions that include them, and methods of use thereof.

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2008/053785

A. CLASSIFICATION OF SUBJECT MATTER
INV. A61K31/27 C07C271/56

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)
C07C

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, 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.
X	<p>WO 2004/033422 A (UNIV CALIFORNIA [US]; PIOMELLI DANIELE [US]; DURANTI ANDREA [IT]; TONT) 22 April 2004 (2004-04-22) page 73; table 6 page 11, paragraph 39 claim 1</p> <p align="center">----- -/--</p>	1-3

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.
 - *Z* document member of the same patent family

Date of the actual completion of the international search 22 July 2008	Date of mailing of the international search report 24/10/2008
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Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer Fanni, Stefano
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INTERNATIONAL SEARCH REPORT

International application No

PCT/US2008/053785

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>FEGLEY ET AL: "Characterization of the fatty acid amide hydrolase inhibitor cyclohexyl carbamic acid 3'-carbamoyl-biphenyl-3-yl ester (URB597): Effects on anandamide and oleoylethanolamide deactivation" JOURNAL OF PHARMACOLOGY AND EXPERIMENTAL THERAPEUTICS, EXPERIMENTAL THERAPEUTICS, BALTIMORE, MD, vol. 313, no. 1, 1 January 2005 (2005-01-01), pages 352-358, XP002459348 ISSN: 0022-3565 the whole document</p>	1-3
Y	<p>GREENWALD R B: "Drug delivery systems: Anticancer prodrugs and their polymeric conjugates" EXPERT OPINION ON THERAPEUTIC PATENTS, ASHLEY PUBLICATIONS, GB, vol. 7, no. 6, 6 June 1997 (1997-06-06), pages 601-609, XP002296827 ISSN: 1354-3776 page 601, paragraph 1.2</p>	1-3
Y	<p>HERTZOG D L: "Recent advances in the cannabinoids" EXPERT OPINION ON THERAPEUTIC PATENTS, ASHLEY PUBLICATIONS, GB, vol. 14, no. 10, 1 January 2004 (2004-01-01), pages 1435-1452, XP002362228 ISSN: 1354-3776 page 1446, paragraph 7</p>	1-3

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box II.1

Although claim 2 is 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.

Continuation of Box II.1

Claims Nos.: -

Rule 39.1(iv) PCT - Method for treatment of the human or animal body by therapy

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2008/053785

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:
see FURTHER INFORMATION sheet PCT/ISA/210
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:

see additional sheet

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 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.:

see additional sheets

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.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

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

1. claims: 1-3

compound of formula I for which O-A is as defined in claim 1

2. claims: 4-6

compound of formula I for which O-A is as defined in claim 4

3. claims: 7-9

compound of formula I for which O-A is as defined in claim 7

4. claims: 10-12

compound of formula I for which O-A is as defined in claim
10

5. claims: 13-15

compound of formula I for which O-A is as defined in claim
13

6. claims: 16-18

compound of formula I for which O-A is as defined in claim
16

7. claims: 19-21

compound of formula I for which O-A is as defined in claim
19

8. claims: 22-24

compound of formula I for which O-A is as defined in claim
22

9. claims: 25-27

compound of formula I for which O-A is as defined in claim
25

10. claims: 28-30

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

compound of formula I for which O-A is as defined in claim
28

11. claims: 31-33

compound of formula I for which O-A is as defined in claim
31

12. claims: 34-36

compound of formula I for which O-A is as defined in claim
34

13. claims: 37-39

compound of formula I for which O-A is as defined in claim
37

14. claims: 40-42

compound of formula I for which O-A is as defined in claim
40

15. claims: 43-45

compound of formula I for which O-A is as defined in claim
43

16. claims: 46-48

compound of formula I for which O-A is as defined in claim
46

17. claims: 49-51

compound of formula I for which O-A is as defined in claim
49

18. claims: 52-54

compound of formula I for which O-A is as defined in claim
52

19. claims: 55-57

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

compound of formula I for which O-A is as defined in claim
55

20. claims: 58-60

compound of formula I for which O-A is as defined in claim
58

21. claims: 61-63

compound of formula I for which O-A is as defined in claim
61

22. claims: 64-66

compound of formula I for which O-A is as defined in claim
64

23. claims: 67-69

compound of formula I for which O-A is as defined in claim
67

24. claims: 70-72

compound of formula I for which O-A is as defined in claim
70

25. claims: 73-75

compound of formula I for which O-A is as defined in claim
73

26. claims: 76-78

compound of formula I for which O-A is as defined in claim
76

27. claims: 79-81

compound of formula I for which O-A is as defined in claim
79

28. claims: 82-84

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

compound of formula I for which O-A is as defined in claim
82

29. claims: 85-87

compound of formula I for which O-A is as defined in claim
85

30. claims: 88-90

compound of formula I for which O-A is as defined in claim
88

31. claims: 91-93

compound of formula I for which O-A is as defined in claim
91

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2008/053785

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2004033422 A	22-04-2004	AU 2003279877 A1	04-05-2004
		CA 2501506 A1	22-04-2004
		CN 1729171 A	01-02-2006
		EP 1558591 A2	03-08-2005
		JP 2006511484 T	06-04-2006
		KR 20050088992 A	07-09-2005
		MX PA05003715 A	30-09-2005
		UA 80841 C2	12-11-2007