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(54) Title: NEW HETEROCYCLIC DERIVATIVES USEFUL FOR THE TREATMENT OF CNS DISORDERS

(57) Abstract: The present invention relates to new compounds, processes for preparing them, pharmaceutical compositions containing them and their use as pharmaceuticals.

# INTERNATIONAL SEARCH REPORT

International application No  
PCT/EP2008/055016

A. CLASSIFICATION OF SUBJECT MATTER				
INV.	A61K31/4015	A61K31/407	A61K31/4162	A61K31/417
	A61K31/423	A61K31/426	A61K31/428	A61K31/45
	A61K31/472	A61K31/55	C07D207/38	C07D215/22

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)

A61K C07D

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, EMBASE, BIOSIS, BEILSTEIN 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 2005/054188 A (UCB SA [BE]; KENDA BENOIT [BE]; MICHEL PHILIPPE [BE]; QUESNEL YANNICK) 16 June 2005 (2005-06-16) cited in the application claims 1,20 -----	1-12,18, 19
Y	WO 01/62726 A (UCB SA [BE]; DIFFERDING EDMOND [BE]; KENDA BENOIT [BE]; LALLEMAND BENE) 30 August 2001 (2001-08-30) cited in the application claims 1,33 -----	1-12,18, 19
Y	WO 2004/087658 A (UCB SA [BE]; STARCK JEAN-PHILIPPE [FR]; KENDA BENOIT [BE]) 14 October 2004 (2004-10-14) cited in the application claims 1,19 -----	1-12,18, 19
	-/-	

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

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\*&\* document member of the same patent family

Date of the actual completion of the international search                      Date of mailing of the international search report

31 July 2008

11/11/2008

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## INTERNATIONAL SEARCH REPORT

International application No  
PCT/EP2008/055016

## C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 02/094787 A (UCB SA [BE]; MICHEL PHILIPPE [BE]; KENDA BENOIT [BE]) 28 November 2002 (2002-11-28) cited in the application claims 1,31 -----	1-12,18, 19
X,Y	WO 2005/118561 A (UCB SA [BE]; STARCK JEAN-PHILIPPE [FR]; KENDA BENOIT [BE]) 15 December 2005 (2005-12-15) claim 1 page 14 -----	1-12,18, 19
X,Y	EP 1 719 761 A (DAINIPPON SUMITOMO PHARMA CO [JP]) 8 November 2006 (2006-11-08) claim 1 page 2 -----	1-12,18, 19
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X	WO 2005/060711 A (ELIXIR PHARMACEUTICALS INC [US]; NAPPER ANDREW [US]; DISTEFANO PETER () 7 July 2005 (2005-07-07) page 14 pages 27-8; example 6 pages 56-57 page 75 -----	1-9
Y	WO 2004/051222 A (UCB SA [BE]; LYNCH BERKLEY [US]; NOCKA KARL [US]; FUKS BRUNO [US] UCB) 17 June 2004 (2004-06-17) pages 18-20 -----	1-12,18, 19
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## INTERNATIONAL SEARCH REPORT

International application No  
PCT/EP2008/055016

## C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X,Y	EP 0 292 305 A (SUMITOMO PHARMA [JP]) 23 November 1988 (1988-11-23) claims 1,11 page 31; compounds 40,41 -----	1-12,18, 19

# INTERNATIONAL SEARCH REPORT

International application No.  
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## 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:
  
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 all searchable 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 annex

### 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: 1-9(part), 10-12, 18-19(part)

use of compounds of formula (I) in which A represents an optionally fused 5 membered N-containing ring which additionally comprises in the 5-membered ring a further heteroatom (imidazolidin, oxazolidin, thiazol, thiazolidin, benzothiazol, benzoxazol, pyrazolo-pyridin) as well as such claimed compounds per se

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2. claims: 1-9(part), 13, 18-19(part)

use of compounds of formula (I) in which A represents a non-fused unsaturated pyrrol ring as well as such compounds per se

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3. claims: 1-9(part), 14(part), 18-19(part)

use of compounds of formula (I) in which A represents a non-fused piperidine ring as well as such claimed compounds per se

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4. claims: 1-9(part), 14(part), 18-19(part)

use of compounds of formula (I) in which A represents a non-fused azepan ring as well as such claimed compounds per se

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5. claims: 1-9(part), 15(part), 18-19(part)

use of compounds of formula (I) in which A represents a benzo-fused piperidine ring (quinoline, isoquinoline) as well as such claimed compounds per se

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6. claims: 1-9(part), 15(part), 16, 18-19(part)

use of compounds of formula (I) in which A represents a benzo-fused azepine ring as well as such claimed compounds per se

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7. claims: 1-9(part), 17, 18-19(part)

use of compounds of formula (I) in which A represents a thieno-fused pyrrol ring as well as such claimed compounds per se

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**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International application No

PCT/EP2008/055016

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