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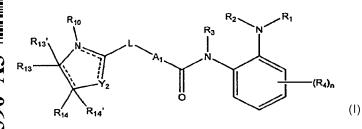
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(54) Title: HISTONE DEACETYLASE INHIBITORS



(57) Abstract: Compounds, pharmaceutical compositions, kits and methods are provided for use with histone deacetylases (HDACs) that comprise a compound selected from the group consisting of formula (I) wherein the variables are as defined herein.

INTERNATIONAL SEARCH REPORT

International application No PCT/US2007/000870

A. CLASSIFICATION OF SUBJECT MATTER
INV. C07D235/26 C07D235/28 C07D235/30 C07D277/82 C07D401/04
C07D471/04 A61K31/4184 A61K31/428 A61K31/4188 A61P35/00

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) ${\tt C07D}$

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, BEILSTEIN Data, WPI Data

C. DOCUM	ENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	
X	WO 2005/092899 A (METHYLGENE INC [CA]; DELORME DANIEL [CA]; VAISBURG ARKADII [CA]; MORAD) 6 October 2005 (2005-10-06) Whole document i.e. example 54	1-80	
X	US 2005/288282 A1 (DELORME DANIEL [CA] ET AL) 29 December 2005 (2005-12-29) whole document i.e compounds 326 and 327 in p. 150, compound 324 in p. 151 or compound 328 in p. 150	1-80	
X	US 2004/142953 A1 (DELORME DANIEL [CA] ET AL) 22 July 2004 (2004-07-22) c. 126, 128, p. 264; c. 139, p. 265; c. 172, p. 267; c. 194, p. 270; c. 228, 231, p. 271; c. 233, 236, p. 272; c. 252, p. 273; c. 311, p. 276; c. 322, 321, 320, p. 277 etc	1-80	
	-/		

X Further documents are listed in the continuation of Box C.	X 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 9 May 2007	Date of mailing of the international search report 13/07/2007
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Authorized officer SAHAGUN KRAUSE, H

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2007/000870

C(Continua	tion). DOCUMENTS CONSIDERED TO BE RELEVANT	
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2004/035525 A (METHYLGENE INC [CA]; RAEPPEL STEPHANE [CA]; GAUDETTE FREDERIC [CA]; PA) 29 April 2004 (2004-04-29) Whole document, and specially compound XVc, page 45	1-80

International application No. PCT/US2007/000870

INTERNATIONAL SEARCH REPORT

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:
2. X 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 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
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.:
A. 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. No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box II.2

Claims Nos.:

The initial phase of the search revealed a very large number of documents relevant to the issue of novelty of the first invention. So many documents were retrieved that it is impossible to determine which parts of the claims 1-80 (part) may be said to define subject-matter for which protection might legitimately be sought (Article 6 PCT). For these reasons, the search was performed taking into consideration the non-compliance in determining the extent of the search of claims 1-80 (part) and the search was restricted to a generalization of the examples provided, namely compounds with a 5-membered imidazole (also with one N substituted by another heterocycle) condensed to a 6-membered aromatic cycle and linking units consisting of -A-CH2-, wherein A is an heterocycle.

The applicant's attention is drawn to the fact that 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. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

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

1. claims: 1-6, 8-9, 12-22 (all part), 23, 24-72 (part), 73, 74-80 (part)

Compounds with A1=1,4-phenyl and differing in the linker unit (L) and /or the 5-m. N-heterocycle etc. It includes intermediates possessing the same differentiating element (A1=1,4-phenyl).

2. claims: 1-7, 10-22, 24-72, 74-80 (all part)

Compounds and intermediates with A1=1,2 or 1,3-phenyl differing therefore from the previous in the anchoring position of the A1 unit.

3. claims: 1-21, 24-71, 74-80 (all part)

All other compounds and intermediates wherein Al is not phenyl, differing in the nature of the center Al cycle

4. claims: 81-82

Intermediates not possessing the differentiating unit (A1).

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/US2007/000870

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