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(54) Title: PYRIMIDINE HYDROXY AMIDE COMPOUNDS AS PROTEIN DEACETYLASE INHIBITORS AND METHODS OF USE THEREOF

(57) Abstract: The present invention relates to novel pyrimidine hydroxy amide compounds, and the use of such compounds in the inhibition of HDAC6 and in the treatment of various diseases, disorders or conditions related to HDAC6.



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A. CLASSIFICATION OF SUBJECT MATTER*C07D 239/12(2006.01)i, C07D 239/16(2006.01)i, C07D 409/12(2006.01)i, A61K 31/495(2006.01)i, A61P 25/00(2006.01)i*

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 239/12; C07D 239/16; C07D 409/12; A61K 31/495; A61P 25/00

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 practicable, search terms used)

eKOMPASS (KIPO internal), NCBI (PubMed, MeSH), Google

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2010-080996 A1 (CURIS, INC.) 15 July 2010 See compounds 48, 49, 51-56, 58-74, 82-100, etc.; tables A-B; abstract.	1-59,74
X	WO 2009-137462 A2 (ENVIVO PHARMACEUTICALS, INC. et al.) 12 November 2009 See examples 100-159, 214, 271, 273, 275, 276, etc.; assay examples 1-4; abstract.	1-59,74
X	US 2008-0207590 A1 (ROBERT DEZIEL et al.) 28 August 2008 See example 265; abstract.	1-59,74
X	PATRICK ANGIBAUD et al., 'Discovery of pyrimidyl-5-hydroxamic acids as new potent histone deacetylase inhibitors', European Journal of Medicinal Chemistry, 2005, Vol. 40, No. 6, pp. 579-606, ISSN 0223-5234 See compounds 7a-d, 14, 19a-b; schemes 1-3; table 1; abstract.	1-59,74
X	WO 03-076401 A1 (JANSSEN PHARMACEUTICA N.V.) 18 September 2003 See formula 1; examples B1-B16; table F-1; claims 6-7; abstract.	1-59,74

 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 application or patent but published on or after the international filing date

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"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

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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.: 60-73
because they relate to subject matter not required to be searched by this Authority, namely:
The claims 60-73 pertain to methods for treatment of the human body by therapy, and thus relate to a subject matter which this International Searching Authority is not required, under Article 17(2)(a)(I) of the PCT and Rule 39.1(iv) of the Regulations under the PCT, to search.
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.: 73
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 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 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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