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(54) Title: PLADIENOLIDE COMPOUNDS AND THEIR USE

(57) Abstract: The present disclosure provides novel pladienolide compounds, pharmaceutical compositions containing such compounds, and methods for using the compounds as therapeutic agents. These compounds may be useful in the treatment of cancers, particularly cancers in which agents that target the spliceosome and mutations therein are known to be useful. Also provided herein are methods of treating cancers by administering at least one compound disclosed herein and at least one additional therapy.



Published:

- *with international search report (Art. 21(3))*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

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INTERNATIONAL SEARCH REPORT

International application No
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A. CLASSIFICATION OF SUBJECT MATTER
 INV. C07D313/00 C07D407/12 C07D407/14 A61K31/497 A61K31/4427
 A61K31/365 A61P35/00
 ADD.
 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
 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)
 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	WO 2015/175594 A1 (EISAI R&D MAN CO LTD [JP]; KEANEY GREGG F [US] ET AL.) 19 November 2015 (2015-11-19) cited in the application scheme I, compound A; scheme II, compound F; claims	1-4, 6-114
X	WO 2017/087667 A1 (EISAI R&D MAN CO LTD [JP]; KEANEY GREGG F [US] ET AL.) 26 May 2017 (2017-05-26) scheme I, compound F; paragraph [0086]; claims	1-4, 6-114
X	US 2014/275010 A1 (ZHENG GUO ZHU [US] ET AL) 18 September 2014 (2014-09-18) page 36, compound MM; paragraph [0317]; claim 20; tables	5,8-114
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Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents :

<p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier application or patent but published on or after the international filing date</p> <p>"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)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p>	<p>"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</p> <p>"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</p> <p>"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</p> <p>"&" document member of the same patent family</p>
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Date of the actual completion of the international search 1 October 2019	Date of mailing of the international search report 09/10/2019
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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 Beyss-Kahana, Ellen
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INTERNATIONAL SEARCH REPORT

International application No
PCT/US2019/026313

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2013/148324 A1 (UNIV CALIFORNIA [US]; BURKART MICHAEL D [US] ET AL.) 3 October 2013 (2013-10-03) column 95; claims; examples -----	6-114
X	EP 2 168 961 A1 (EISAI R&D MAN CO LTD [JP]; MERCIAN CORP [JP]) 31 March 2010 (2010-03-31) paragraph [0002]; examples -----	6-114
X	EP 1 508 570 A1 (MERCIAN CORP [JP]; EISAI CO LTD [JP]) 23 February 2005 (2005-02-23) claims; examples -----	6-114
X	WO 2007/110704 A2 (NOVIMMUNE SA [CH]; MERLION PHARMACEUTICALS PTE LT [SG] ET AL.) 4 October 2007 (2007-10-04) page 12, line 24 - page 13, line 9; claims -----	6-114
X	EP 1 712 642 A1 (EISAI R&D MAN CO LTD [JP]; MERCIAN CORP [JP]) 18 October 2006 (2006-10-18) claims; examples -----	6-114

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2019/026313

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.:

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: 1-4(completely); 8-114(partially)

Compounds of Formula I and their use

2. claims: 5(completely); 8-114(partially)

Compounds of Formula II and their use

3. claims: 6, 7(completely); 8-114(partially)

Compounds of Formula III and their use

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2019/026313

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Information on patent family members

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