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- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the  
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amendments (Rule 48.2(h))

[Continued on next page]

(54) Title: VIRAL AND FUNGAL INHIBITORS

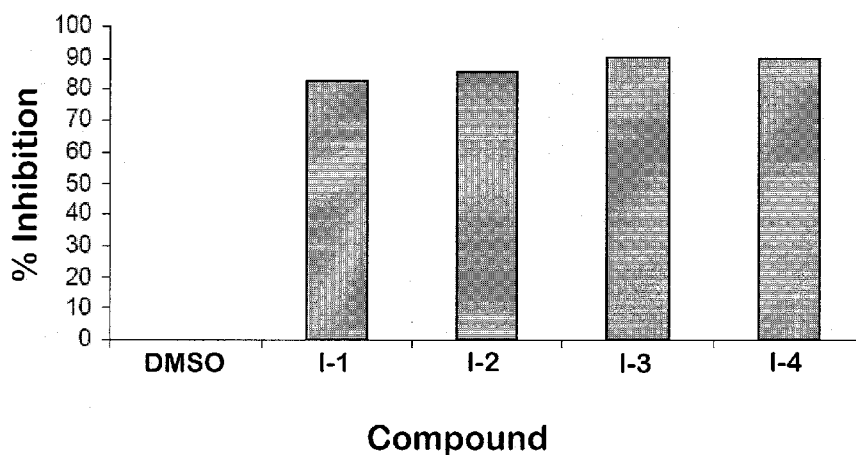


Fig. 1

(57) Abstract: Novel classes of viral and fungal inhibitors are disclosed. These compounds are useful in treating, preventing, and/or ameliorating viral infections such as, for example, Hepatitis C Virus, West Nile Virus, Dengue Virus, and Japanese Encephalitis Virus, and fungal infections such as, for example, candidiasis.



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— *with sequence listing part of description (Rule 5.2(a))*

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19 August 2010

**A. CLASSIFICATION OF SUBJECT MATTER**

*C07D 405/12(2006.01)i, C07D 413/12(2006.01)i, C07D 417/12(2006.01)i, C07D 217/24(2006.01)i, A61K 31/42(2006.01)i, A61K 31/4184(2006.01)i, A61P 31/12(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 405/12; A61K 31/40; A61K 31/44; A61P 29/00; C07D; C07D 209/34; C07D 217/00; C07D 317/54; C07D 417/12; C07D 513/04

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal), PubMed, JPO, USPTO, Google & Keywords: viral, fungal, benzothiazole

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	WO 02-081463 A1 (TELIK, INC. et al.) 17 October 2002 See Abstract, Page 11, Formula Ia-III, Claim 5.	1-5 17-21, 24-36, 39-42 , 45-49, 51-73, 84-97
X A	WO 2005-037845 A1 (RIGEL PHARMACEUTICALS, INC. et al.) 28 April 2005 See Abstract, Page 4, Formula (I), Claim 1.	24, 27 1-5, 17-21, 25, 26 , 28-36, 39-42, 45-49 , 51-73, 84-97
X A	US 5698579 A1 (MULLER; GEORGE W.) 16 December 1997 See Abstract, Claim 33.	28, 30-32 1-5, 17-21, 24-27, 29 , 33-36, 39-42, 45-49 , 51-73, 84-97
X	WO 2005-030727 A1 (MERCK & CO., INC. et al.) 07 April 2005 See Abstract, Page 4, Formula I, Claim 1.	51-53, 71-73



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

"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

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**INTERNATIONAL SEARCH REPORT**

International application No.

**PCT/US2009/058039****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.: 99-110  
because they relate to subject matter not required to be searched by this Authority, namely:  
Claims 99-110 pertain to methods for treatment of the human body by therapy, as well as diagnostic methods, and thus relate to a subject matter which this International Searching Authority is not required, under Article 17(2)(a)(i) of PCT and Rule 39.1(iv) of the Regulations under the PCT, to search.
2. ☒ Claims Nos.: 7,8,12,100-107,109-110  
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:  
Claims 7,8,12,100-107,109-110 refer to claims which are not searchable due to not being drafted in accordance with the third sentence of Rule 6.4(a).
3. ☒ Claims Nos.: 6,9-11,13-16,22-23,37-38,43-44,50,74-83,98-99,108  
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**

International application No.

**PCT/US2009/058039**

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A		1-5, 17-21, 24-36 , 39-42, 45-49, 54-70 , 84-97
X	WO 2004-058704 A2 (ICAGEN, INC. et al.) 15 July 2004	54-70
A	See Abstract, Figure 1A, Claim 1.	1-5, 17-21, 24-36 , 39-42, 45-49, 51-53 , 71-73, 84-97

**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International application No.

**PCT/US2009/058039**

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International application No.

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