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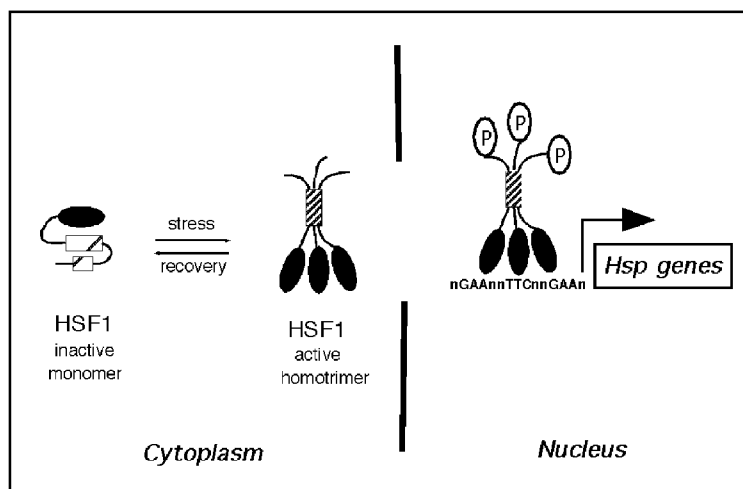
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- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

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(54) Title: COMPOSITIONS AND METHODS RELATING TO HEAT SHOCK TRANSCRIPTION FACTOR ACTIVATING COMPOUNDS AND TARGETS THEREOF

Figure 1.



(57) Abstract: The present invention relates to HSF activating compounds, methods for their discovery, and their research and therapeutic uses. In particular, the present invention provides compounds capable of facilitating HSF1 activation, and methods of using such compounds as therapeutic agents to treat a number of conditions associated with protein misfolding.



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**A. CLASSIFICATION OF SUBJECT MATTER**

*A61K 31/415(2006.01)i, A61K 31/4155(2006.01)i, A61K 31/426(2006.01)i, A61P 25/28(2006.01)i, A61P 25/16(2006.01)i, A61P 35/00(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)

IPC A61K 31/415, A61K 31/4155, A61K 31/426, A61P 25/28, A61P 25/16, A61P 35/00

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)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	LAKSHMI GALAM, et. al. 'High-throughput assay for the identification of Hsp90 inhibitors based on Hsp90-dependent refolding of firefly luciferase.' Bioorganic & Medicinal Chemistry. 2007, Vol. 15, No. 5, pp. 1939-1946, ISSN 0968-0896. See figure 5, compounds 7, 8 and 19.	1, 2 8-10
A		
A	WO 2007-120343 A2 (NEW YOURK UNIVERSITY) 25 October 2007 See pp. 3-7, abstract.	1, 2 8-10
X		
X	WO 2005-041879 A2 (PHARMACIA CORPORATION) 12 May 2005 See table 1, compounds 13-15, 110, 137, 165 and 174, claims.	1, 2 8-10
A		
X	WO 2005-044194 A2 (PHARMACIA CORPORATION) 19 May 2005 See table 1, compounds 13-15, 110, 137, 165 and 174, claims.	1, 2 8-10
A		

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

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of 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

24 DECEMBER 2009 (24.12.2009)

Date of mailing of the international search report

**05 JANUARY 2010 (05.01.2010)**

Name and mailing address of the ISA/KR

 Korean Intellectual Property Office  
Government Complex-Daejeon, 139 Seonsa-ro, Seo-gu, Daejeon 302-701, Republic of Korea

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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.: 3-7, 11-16  
because they relate to subject matter not required to be searched by this Authority, namely:  
The claims 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.:  
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/US2009/044186**

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 2005-000300 A1 (VERNALIS (CAMBRIDGE) LIMITED, CANCER RESEARCH TECHNOLOGY LTD., THE INSTITUTE OF CANCER RESEARCH) 06 January 2005	1, 2
A	See formula (I), pp. 20-21 and 24-25, abstract	8-10

**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International application No.

**PCT/US2009/044186**

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2007-120343 A2	25.10.2007	WO 2007-120343 A3 WO 2007-120343 A3	25.10.2007 02.10.2008
WO 2005-041879 A2	12.05.2005	PI 0415896 A CA 2543503 A1 EP 1682143 A2 JP 2007-509968 T JP 2007-509968 A PA 06004657 A WO 2005-041879 A3	09.01.2007 12.05.2005 26.07.2006 19.04.2007 19.04.2007 27.06.2006 06.10.2005
WO 2005-044194 A2	19.05.2005	WO 2005-044194 A3	21.07.2005
WO 2005-000300 A1	06.01.2005	EP 1638555 A1 GB 0315111 D0 US 2006-0235058 A1	29.03.2006 30.07.2003 19.10.2006