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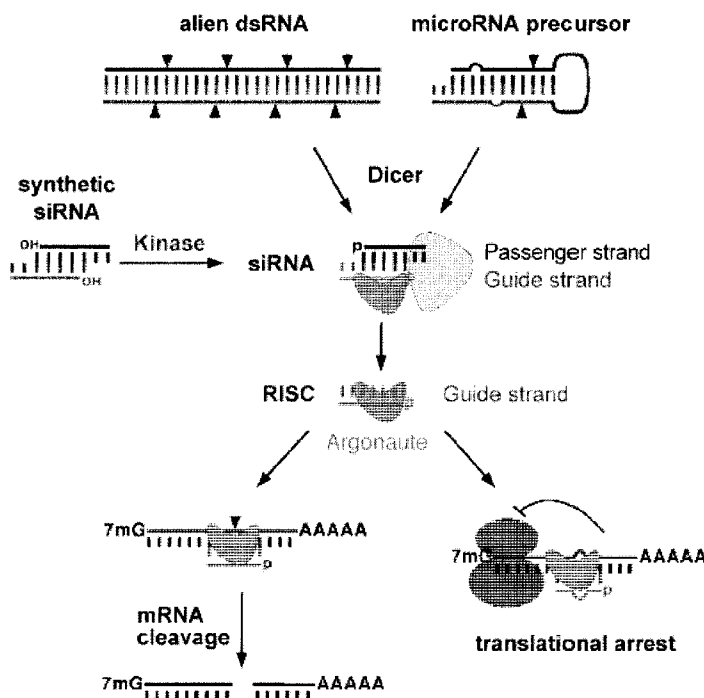
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- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

[Continued on next page]

(54) Title: SIRNA KINASE AND METHODS OF USE



(57) Abstract: The invention is based on the finding that Clp1 has the activity of an RNA kinase. Clp1 is therefore useful as an enhancer of siRNA activity. It can be used per se, in kits or expressed in cell lines. Clp1 transgenic and Clp1 knock-out non-human animals are useful for studying the function of siRNAs. Clp1 is also useful in gene therapy to enhance the efficacy of therapeutic siRNAs.

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INTERNATIONAL SEARCH REPORT

International application No

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A. CLASSIFICATION OF SUBJECT MATTER
 INV. C12N9/12 C12N15/11

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)
 C12N

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, BIOSIS, WPI Data, Sequence Search, EMBASE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2005/003316 A (PTC THERAPEUTICS, INC; TROTТА, CHRISTOPHER, R; PAUSHKIN, SERGEY) 13 January 2005 (2005-01-13)	14
Y	page 223 - page 225; claim 2; figure 25; sequence 10	15-20
X	PAUSHKIN SERGEY V ET AL: "Identification of a human endonuclease complex reveals a link between tRNA splicing and Pre-mRNA 3' end formation" CELL, vol. 117, no. 3, 30 April 2004 (2004-04-30), pages 311-321, XP002399830 ISSN: 0092-8674	14
Y	page 314, last paragraph - page 315 ----- -/--	15-20

 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 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
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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
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"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 docu-
ments, 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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Name and mailing address of the ISA/

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INTERNATIONAL SEARCH REPORT

International application No

PCT/EP2007/055175

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 2005/012875 A (BRISTOL-MYERS SQUIBB COMPANY; LI, MARTHA; RUPNOW, BRENT, A; WEBSTER, K) 10 February 2005 (2005-02-10) claim 5; sequence 567	14-20
Y	TANABE SATORU ET AL: "AF10 is split by MLL and HEAB, a human homolog to a putative Caenorhabditis elegans ATP/GTP-binding protein in an invins(10;11)(p12;q23q12)" BLOOD, vol. 88, no. 9, 1996, pages 3535-3545, XP002399831 ISSN: 0006-4971 figures 5,7	14-20
Y	DE VRIES HENK ET AL: "Human pre-mRNA cleavage factor IIm contains homologs of yeast proteins and bridges two other cleavage factors" EMBO (EUROPEAN MOLECULAR BIOLOGY ORGANIZATION) JOURNAL, vol. 19, no. 21, 1 November 2000 (2000-11-01), pages 5895-5904, XP002399832 ISSN: 0261-4189 page 5897; figures 4-7	14-20
A	NYKANEN A ET AL: "ATP requirements and small interfering RNA structure in the RNA interference pathway" CELL, CELL PRESS, CAMBRIDGE, MA, US, vol. 107, 2 November 2001 (2001-11-02), pages 309-321, XP002969117 ISSN: 0092-8674 the whole document	
A	SARASTE M ET AL: "THE P-LOOP A COMMON MOTIF IN ATP AND GTP-BINDING PROTEINS" TRENDS IN BIOCHEMICAL SCIENCES, vol. 15, no. 11, 1990, pages 430-434, XP002399833 ISSN: 0968-0004 the whole document	
A	SHUMAN S ET AL: "5' HYDROXYL POLY RIBO NUCLEOTIDE KINASE FROM HELA CELL NUCLEI PURIFICATION AND PROPERTIES" JOURNAL OF BIOLOGICAL CHEMISTRY, vol. 254, no. 20, 1979, pages 10396-10404, XP002399993 ISSN: 0021-9258 the whole document	14-20

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP2007/055175

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:

Although claims 1-5 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
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 allsearchable 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.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/EP2007/055175

Patent document cited in search report	Publication date	Publication date	Patent family member(s)	Publication date
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			EP	1649002 A2
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