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Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))
- of inventorship (Rule 4.17(iv))

Published:

- 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

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(54) Title: COMPOSITIONS AND METHODS FOR TREATING HEMATOPOIETIC MALIGNANCIES

(57) Abstract: Described herein are compositions and methods for the prevention and treatment of hematopoietic malignancies. The compositions are miRNAs and associated nucleic acids.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US08/52086

A. CLASSIFICATION OF SUBJECT MATTER

IPC: **A61K 31/70(2006.01)**

USPC: **514/44**

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)
U.S. : 514/44

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)
Medline CAPLUS EAST

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	U.S. Patent Application Publication No. 2001/0053519 (FODOR et al.) 20 Dec 2001 (20.12.2001), see entire document.	1-5
X	U.S. Patent No. 5,098,890 (GERWITZA et al.) 24 March 1992 (24.03.1992). See entire document.	6, 9
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A		1-26

Further documents are listed in the continuation of Box C.

See patent family annex.

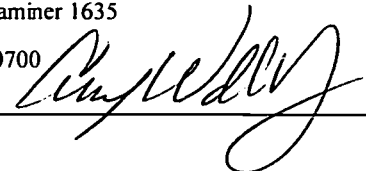
* Special categories of cited documents:	"
"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E" earlier application or patent published on or after the international filing date	"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
"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)	"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
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

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02 September 2008 (02.09.2008)

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US08/52086

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:
Please See Continuation 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 additional fees, this Authority did not invite payment of any 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.: 1-9 with SEQ ID NO: 13 and 6-26 with SEQ ID NO:2

 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.

BOX III. OBSERVATIONS WHERE UNITY OF INVENTION IS LACKING

It is noted that Applicants have traversed the holding of lack of unity. However, the proper means of traversing lack of unity is to file a protest petition and to pay the appropriate fees. Applicants have not filed the proper petition and have not paid the required fee. Therefore the traversal has not been further considered.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fees must be paid.

Groups 1-20, claim(s) 1-5, drawn to an isolated nucleic acid comprising a sequence selected from SEQ ID NO: 13-32, respectively. That is, Group 1 is drawn to an isolated nucleic acid comprising a sequence selected from SEQ ID NO: 13; Group 2 is drawn to an isolated nucleic acid comprising a sequence selected from SEQ ID NO: 14, and so forth.

Groups 21-32, claim(s) 6-26, drawn to a method comprising administering a composition comprising a nucleic acid inhibitor comprising a sequence selected from SEQ ID NO: 1-12, respectively and using the elected nucleic acid sequence to prepare a medicament. That is, Group 21 is drawn to a method comprising administering a composition comprising a nucleic acid inhibitor comprising a sequence of SEQ ID NO: 1; Group 22 is drawn to a method comprising administering a composition comprising a nucleic acid inhibitor comprising a sequence of SEQ ID NO: 2, and so forth.

The inventions listed as Groups 1-32 do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: claim 1 does not provide a special technical feature over the prior art. Instant claim 1 is drawn to an isolated nucleic acid comprising a sequence selected from SEQ ID NO: 13-32, wherein the sequence can be any sequence that is complementary to SEQ ID NO: 13-32, regardless of the size of the nucleic acid sequence (see claim 1, part (b)). The prior art teaches an isolated nucleic acid sequence that would be complementary to a sequence selected from SEQ ID NO: 13-32. For instance, U.S. Patent Application Publication No. 2001/0053519 reduces to practice an array comprising all possible 10-mer nucleic acid sequences. Therefore, 2001/0053519 teaches a composition comprising every single possible 10 nucleotide sequence of SEQ ID NO: 13-32, which anticipates at least claim 1. It is noted that PCT Rule 13.2 states "The expression "special technical features" shall mean those technical features that define a contribution which each of the claimed inventions, considered as a whole, makes *over the prior art*. (emphasis added)" Since claim 1 is anticipated, this claim provides no special technical feature over the prior art, and thus unity of invention does not exist.