Title: METHOD OF DELIVERING RNA INTERFERENCE AND USES THEREOF

Abstract: The invention provides a method of RNA interference, which comprises contacting the cell with a fusion protein-double stranded RNA complex, the complex comprising the double stranded RNA segment containing a double stranded RNA of interest and a fusion protein, the fusion protein comprising (1) a targeting moiety, which will specifically binds to a site on a target cell, and (2) a binding moiety, which will bind to the double stranded RNA, wherein the double stranded RNA segment initiates RNA interference in the cell.
For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER
IPC: C07K 16/00(2006.01); C07H 21/04(2006.01)
USPC: 536/24.5; 530/387.1
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.: 536/24.5; 530/387.1

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)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td>6, 7, 9, 13, 18, 19, 28, 29, 31, 35, 40, 41, 46</td>
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<tr>
<td></td>
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<td>13 and 35</td>
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</tbody>
</table>

Further documents are listed in the continuation of Box C. See patent family annex.

Date of the actual completion of the international search 31 March 2006 (31.03.2006)
Date of mailing of the international search report 09 MAY 2006

Name and mailing address of the ISA/US
Mail Stop PCT, Attn: ISA/US
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Alexandria, Virginia 22313-1450
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Authorized officer
Sue Liu
Telephone No. 571-272-1600

Form PCT/ISA/210 (second sheet) (April 2005)
# INTERNATIONAL SEARCH REPORT

**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.:

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
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.

Group 1, claim(s) 1-22, drawn to a method of RNA interference in a cell using a fusion protein-double stranded RNA complex.

Group 2, claim(s) 23-44, drawn to a method of delivering RNA interference into a cell.

Group 3, claim(s) 45-47, drawn to a method of delivering RNA interference into a subject.

Group 4, claim(s) 48, drawn to a method for screening for siRNAs useful for pharmaceutical intervention.

The inventions listed as Groups 1-4 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:

The linking features of Group 1-4 are structurally and functionally different from one another. For examples, the linking feature of Group 1 is a method of RNA interference in a cell; the linking feature of Group 3 is a method of delivering RNA interference in a subject; the linking feature of Group 4 is a screening method for pharmaceutical intervention. Therefore, Groups 1-4 are not so linked by the same or a corresponding special technical feature as to form a single inventive concept. In addition, the special technical feature of Group 1 is known in the prior art. For example, Wu et al (US Patent 6,000,954; Feb. 29, 2000) teach a method of delivering antisense RNA into cells using conjugated peptides or proteins (See Abstract of the reference). Thus, the inventions lack unity.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sue Liu whose telephone number is 571-272-5539. The examiner can normally be reached on M-F 9am-3pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Andrew Wang can be reached on 571-272-0811. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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