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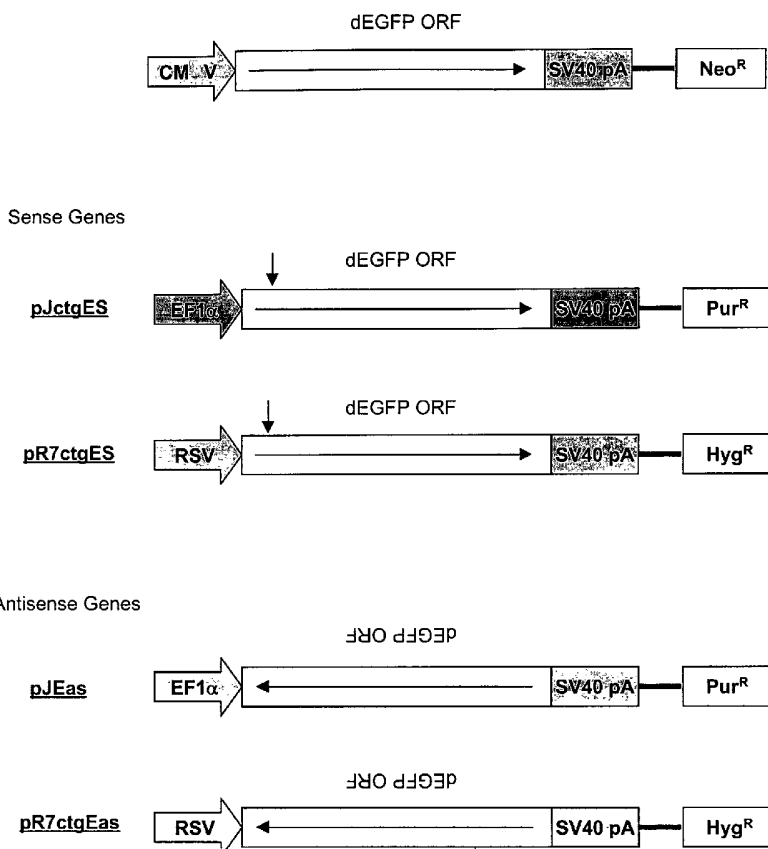
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[Continued on next page]

(54) Title: DOUBLE-STRANDED RNA-MEDIATED GENE SUPPRESSION



(57) Abstract: The present invention relates to methods for modifying gene expression and in particular to methods for controlling gene expression in eukaryotic cells using double-stranded RNA (dsRNA), and to eukaryotic cell lines in which gene expression has been altered using the method. The invention also relates to compositions suitable for controlling gene expression and to methods of treatment which utilise such compositions.



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Declarations under Rule 4.17:

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INTERNATIONAL SEARCH REPORT

International Application No

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A. CLASSIFICATION OF SUBJECT MATTER IPC 7 C12N15/11 C12N15/63 C12N9/00 A61K31/713 C12N5/10 A61K48/00 C12Q1/68 C12M3/00 A61P31/18					
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 7 C12N A61K C12Q C12M A61P					
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)					
C. DOCUMENTS CONSIDERED TO BE RELEVANT					
Category °	Citation of document, with indication, where appropriate, of the relevant passages				Relevant to claim No.
X	WO 00 63364 A (AMERICAN HOME PRODUCTS CORP. (US); PACHUK CATHERINE; SATISHCHANDRAN C.) 26 October 2000 (2000-10-26) the whole document				1-9, 14, 15, 21-41, 45-54, 59-66
X	WO 00 44914 A (MEDICAL COLLEGE OF GEORGIA RESEARCH INSTITUTE (US); LI; FARRELL; KIRBY) 3 August 2000 (2000-08-03) the whole document				1-9, 14, 15, 21-27, 29-38, 41, 45-54, 59-66
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<input checked="" type="checkbox"/> Further documents are listed in the continuation of box C.			<input checked="" type="checkbox"/> Patent family members are listed in 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 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		
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Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016			Authorized officer Macchia, G		

INTERNATIONAL SEARCH REPORT

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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national Application No
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Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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A	MONTGOMERY M.K. AND FIRE A.: "Double-stranded RNA as a mediator in sequence-specific genetic silencing and co-suppression" TRENDS IN GENETICS, vol. 14, no. 7, 1 July 1998 (1998-07-01), pages 255-258, XP004124680 ISSN: 0168-9525 ---	
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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 01/49487

Box I Observations where certain claims were found unsearchable (Continuation of item 1 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 34-45, 47-58, 60 and 62 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 II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

see additional 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 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.
- No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 12, 13, 16, 18-20, 43, 44, 56, 57 all totally; 1-9, 14, 15, 17, 21-42, 45-55, 58-66 all partially

A double-stranded RNA complex/molecule as claimed in claims 1-9 and 12-20 (i.e. further comprising at least one ribozyme).

Related products, methods, compositions, apparatus and uses.

2. Claims: 10, 11 all totally; 1-9, 14, 15, 17, 21-42, 45-55, 58-66 all partially

A double-stranded RNA complex/molecule as claimed in claims 1-11, 14, 15 and 17 (i.e. further comprising an additional RNA portion encoding a protein).

Related products, methods, compositions, apparatus and uses.

INTERNATIONAL SEARCH REPORT

Information on patent family members

national Application No

PCT/US 01/49487

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