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FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
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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.



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(54) Title: METHOD AND COMPOSITION FOR TREATING AND PREVENTING HEPATITIS C INFECTION

(57) Abstract: The present invention provides methods for preventing and treating HCV infection and symptoms thereof by introducing cells displaying a HCV altered budding phenotype into a patient, or by administering to a patient nucleic acids, polypeptides and small organic compounds to cause the formation of cells displaying a HCV altered budding phenotype in the body of the patient.

**INTERNATIONAL SEARCH REPORT**

International application No.

PCT/US03/22956

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(7) : C12N 5/00, 15/00, 15/87; A61K 38/00, 48/00  
 US CL : 435/325, 455, 320.1, 4; 514/44, 2; 424/93.1, 93.2; 530/350

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. : 435/325, 455, 320.1, 4; 514/44, 2; 424/93.1, 93.2; 530/350

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
 None

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
 Please See Continuation Sheet

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 6,228,576 B1 (DeVECCHIO et al. ) 08 May 2001 (08.05.2001), see entire document.	1-6, 8-11, 17-29, 33-38, 40-44, 53-67
Y	US 6,461,845 B1 (HAGEDORN et al. ) 08 October 2002 (08.10.2002), see entire document.	1-6, 8-11, 17-29, 33-38, 40-44, 53-67
Y	KOLYKHALOV A. A. et al. Hepatitis C Virus-encoded enzymatic activities and conserved RNA elements in the 3' nontranslated region are essential for virus replication in vivo. J. Virol. 2000, Vol. 74, No. 4, pages 2046-2051, see entire document.	1-6, 8-11, 17-29, 33-38, 40-44, 53-67
A	EGGER D. et al. Expression of hepatitis C virus proteins induces distinct membrane alterations including a candidate viral replication complex. J. Virol. June 2002, Vol. 76, No. 12, pages 5974-5984, see entire document.	1-6, 8-11, 17-29, 33-38, 40-44, 53-67

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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# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/22956

## Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1.  Claim Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2.  Claim 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.  Claim Nos.: 7, 12-16, 30-32, 39, 45-52, 68  
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:

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.

**INTERNATIONAL SEARCH REPORT**

PCT/US03/22956

**Continuation of B. FIELDS SEARCHED Item 3:**

DIALOG-Medline, Embase, Cancerlit, Scisearch, Biosis, Embase; BRS/EAST-USPatful, EPO, JPO, Derwint, PG-PUBS  
search terms: HCV, hepatitis c, ns5b, mutant, chimeric, altered, late-domain motif?, budding, cytokine?, interleukin?, fusion