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(54) Title: ENHANCED REPLICATION OF HCV RNA

(57) Abstract: This invention provides methods for generating cells that stably replicate sub-genomic virus replicons. This invention also provides methods of generating cells that have disabled PKR activity and that stably replicate HCV subgenomic replicons. The invention also provides methods of using the cells of the invention to screen for compounds that modulate viral RNA replication, including HCV RNA replication.



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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER IPC 7 C12N7/00		
According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED		
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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, MEDLINE, SCISEARCH, EMBASE, CHEM ABS Data, WPI Data		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5 840 565 A (LAU ALLAN S) 24 November 1998 (1998-11-24) cited in the application column 5, line 29 - line 65 column 12, line 6 - line 33 ---	1-21
Y	WO 99 23203 A (UNIV NEW YORK ;MOUNT SINAI SCHOOL OF MEDECINE (US)) 14 May 1999 (1999-05-14) the whole document --- -/--	1,10-14, 16,20,21
☒ Further documents are listed in the continuation of box C. ☒ 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 Niemann, F

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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.
Y	LOHMANN V ET AL: "REPLICATION OF SUBGENOMIC HEPATITIS C VIRUS RNAs IN A HEPATOMA CELLLINE" SCIENCE, AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE,, US, vol. 285, 2 July 1999 (1999-07-02), pages 110-113, XP000960693 ISSN: 0036-8075 cited in the application the whole document -----	1-21
T	RIVAS-ESTILLA ANA MARIA ET AL: "PKR-dependent mechanisms of gene expression from a subgenomic hepatitis C virus clone." JOURNAL OF VIROLOGY, vol. 76, no. 21, November 2002 (2002-11), pages 10637-10653, XP001109362 November, 2002 ISSN: 0022-538X the whole document -----	

INTERNATIONAL SEARCH REPORT
Information on patent family members

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5840565	A	24-11-1998	US 2001001290 A1	17-05-2001
			US 2001001709 A1	24-05-2001
WO 9923203	A	14-05-1999	AU 1380899 A	24-05-1999
			CA 2309114 A1	14-05-1999
			EP 1034254 A1	13-09-2000
			WO 9923203 A1	14-05-1999