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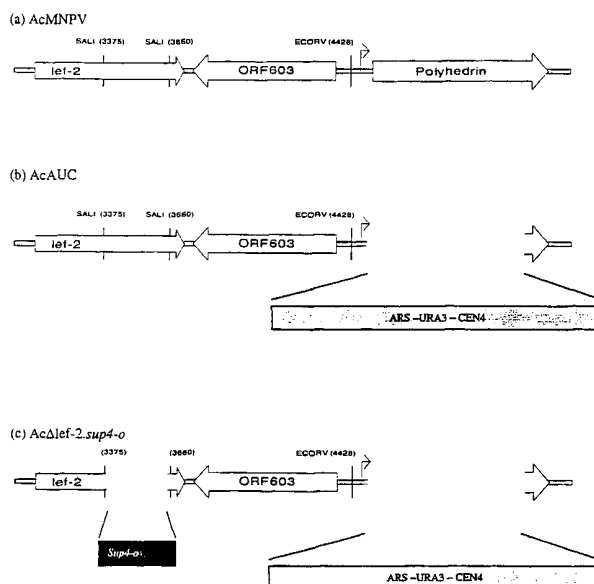
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[Continued on next page]

(54) Title: REPLICATION DEFICIENT BACULOVIRUS EXPRESSION SYSTEM



(57) Abstract: The application relates for method for cloning the gene comprising the steps of: 1. Providing a replication-deficient baculovirus vector; 2. Providing a rescue vector comprising (a) nucleic acid sequence which is capable of restoring replication in the replication-deficient baculovirus vector and (b) at least one gene to be cloned; 3. Causing the replication-deficient baculovirus vector and rescue vector to recombine to produce a replication-enabled baculovirus vector comprising the at least one gene to be cloned; and 4. Growing the replication-enabled baculovirus vector within a suitable invertebrate cell, such as an insect cell. Preferably the baculovirus vector is based upon AcMNPV. Also disclosed are replication-deficient baculovirus vectors, rescue vectors, cells containing such vectors and kits comprising such vectors.



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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.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 00/03144

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C12N15/86 C07K14/01 C12N5/10 G01N33/50 C12N15/10

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 C07K

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)

STRAND, BIOSIS, EPO-Internal, CHEM ABS Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 97 43403 A (THOMPSON BOYCE PLANT RES) 20 November 1997 (1997-11-20) page 3, line 1 -page 4, line 2 page 18, line 18 -page 20, line 24; figure 4	1-25
X	--- MERRINGTON CL, KITTS PA, KING LA, POSSEE RD: "An Autographa californica nucleopolyhedrovirus lef-2 mutant: consequences for DNA replication and very late gene expression." VIROLOGY. 1996 MAR 1;217(1):338-48., XP002162923 cited in the application the whole document --- -/--	1-11

☒ 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

Date of the actual completion of the international search

15 March 2001

Date of mailing of the international search report

29. 05. 2001

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 00/03144

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	SHIKATA M ET AL: "Isolation and characterization of a temperature-sensitive mutant of Bombyx mori nucleopolyhedrovirus for a putative RNA polymerase gene" JOURNAL OF GENERAL VIROLOGY,GB,SOCIETY FOR GENERAL MICROBIOLOGY, READING, vol. 79, 1998, pages 2071-2078, XP002085187 ISSN: 0022-1317 page 1 -page 2, column 2, paragraph 3; figure 2 ---	1-4,11
X	WO 99 10515 A (UNIV TECHNOLOGIES INT) 4 March 1999 (1999-03-04) page 8, line 16 -page 9, line 14 page 12, line 25 -page 16, line 24; claims 7,13,14; example 4 ---	11
X	GOMI S ET AL: "Deletion analysis of four of eighteen late gene expression factor gene homologues of the baculovirus, BmNPV" VIROLOGY,US,ACADEMIC PRESS,ORLANDO, vol. 230, 1997, pages 35-47, XP002085188 ISSN: 0042-6822 the whole document ---	11
A	WO 98 22607 A (YEH PATRICE ;LEBLOIS PREHAUD HELENE (FR); PERRICAUDET MICHEL (FR);) 28 May 1998 (1998-05-28) claims 33,34,38 -----	1

INTERNATIONAL SEARCH REPORT

International application No.
PCT/GB 00/03144

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:

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.:

see further information sheet invention 1.

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: 1-25

Method for cloning a gene comprising the steps of (i) Providing a replication-deficient baculovirus vector; (ii) Providing a rescue vector encoding: (a) a nucleic acid sequence which is capable of restoring replication in the replication-deficient baculovirus vector; and (b) at least one gene to be cloned; (iii) Causing the replication-deficient baculovirus vector and the rescue vector to recombine to produce a replication-enabled baculovirus vector comprising at least one gene to be cloned; and (iv) Growing the replication-enabled baculovirus vector within a suitable invertebrate cell.

2. Claim : 26

An isolated nucleic acid molecule consisting of a sequence selected from SEQ ID NO 15, SEQ ID NO 16, SEQ ID NO 17, SEQ ID NO 18, SEQ ID NO 19 AND SEQ ID NO 20.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB 00/03144

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
WO 9743403	A	20-11-1997	US	5750383 A	12-05-1998

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