

EXHIBIT 27

INTERNATIONAL SEARCH REPORT

International Application No PCT/US84/02021

I. CLASSIFICATION OF SUBJECT MATTER (if several classification symbols apply, indicate all) *

According to International Patent Classification (IPC) or to both National Classification and IPC
 G01C 3/103/52, G01H 21/04, G07G 7/00, C12P 21/02, C12Q 1/68, G01C 33/50, A61K 37/00, C12N 1/00, C12N 5/00, C12N 5/02

II. FIELDS SEARCHED

Minimum Documentation Searched *

Classification System : U.S. 424/1.1, 1.5, 85,177; 436/63,94,504; 260/112R, 112.5R; 435/6,7,68,70,71,91,172.3,240,241,243,255,256,317,253

Classification Symbols

Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in the Fields Searched *

CA Search Data Base 1972-1985

III. DOCUMENTS CONSIDERED TO BE RELEVANT 1*

Category 1*	Citation of Document, 1* with indication, where appropriate, of the relevant passages 1†	Relevant to Claim No. 1*
Y	N, Weiss et al, Proc. Natl. Acad. Sci USA, Volume 79, 1982, pages 5465-5469	1-13,16,39-41, 47-49, 51-55,59
X	N, Weiss et al, Proc. Natl. Acad. Sci. USA Volume 79, 1982, pages 5465-5469	51-54
Y,P	N, Lee-Huang, Proc. Natl. Acad. Sci USA Volume 81, May 1984, pages 2708-2712.	1-36,39-49, 51-60
X,P	N, Lee-Huang, Proc. Natl. Acad. Sci USA, Volume 81, May 1984, pages 2708-2712	14,15,24,34, 36,58
Y	N, Broome et al, Proc. Natl. Acad. Sci. USA, Volume 75, 1978, pages 2746-2749.	1-36, 39-49, 55,59
Y	US,A, 4,397,840, Published 09 August 1983, Takezawa et al	1-13,16,39-41, 47-49,55, 59

* Special categories of cited documents: 1*

"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

"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.

"A" document member of the same patent family

IV. CERTIFICATION

Date of the Actual Completion of the International Search * 25 February 1985

Date of Mailing of this International Search Report * 07 MAR 1985

International Searching Authority : JS

Signature of Authorized Officer 1* James Martinell

ISA/210 (second sheet) (October 1981)

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OTHER INFORMATION CONTINUED FROM THE SECOND SHEET

X	US,A, 4,397,840, Published 09 August 1983, Takezawa et al	40,41,47-49, 55-57
Y	N, Dunn et al, Chemical Abstracts, Volume 91, 1979, Abstract No. 190417r.	1-13,15,39-41,47-49, 55,59
Y	N, <u>Molecular Cloning-A Laboratory Manual</u> , Maniatis et al (ed), Cold Spring Harbor Laboratory, 1982, pages 108-112.	31,32

V. OBSERVATIONS WHERE CERTAIN CLAIMS WERE FOUND UNSEARCHABLE ¹⁰

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

1. Claim numbers below because they relate to subject matter is not required to be searched by this Authority, namely: Claims 37, 38 and 50 are unsearchable because claim 37 recites "either of claims 14, 17, 34 or 35". As written and understood claim 37 may depend on all of claims 14, 17 and 34 making claim 37 an improper multiple dependent claim. Claims 38 and 50 depend from claim 37 and are hence also improper multiple dependent claims.

2. Claim numbers 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:

VI. OBSERVATIONS WHERE UNITY OF INVENTION IS LACKING ¹¹

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

- I. Claims 1-13, 16, 39-41, 47-49, 55-57 and 59.
- II. Claims 14, 15, 17-36 and 58.
- III. Claims 42-46
- IV. Claims 51-54.
- V. Claim 60.

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims of the international application.

2. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims of the international application for which fees were paid, specifically claims:

3. 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 claim numbers:

4. As all searchable claims could be searched without effort justifying an additional fee, the International Searching Authority did not invite payment of any additional fee.

Remark on Protest

- The additional search fees were accompanied by applicant's protest.
- No protest accompanied the payment of additional search fees.

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III. DOCUMENTS CONSIDERED TO BE RELEVANT (CONTINUED FROM THE SECOND SHEET)

Category *	Citation of Document, ¹⁶ with indication, where appropriate, of the relevant passages ¹⁷	Relevant to Claim No ¹⁸
	N, Grantham et al, Nucleic Acids Research, Volume 9, 1981, pages r43-r74.	1-36,39-49, 55,59,60
Y	N, Bennetzen et al, J. Biol. Chem., Volume 257, 1982, pages 3026-3031.	1-36,39-49, 55,59,60
Y	N, Sue et al, Proc. Natl. Acad. Sci. USA, Volume 80, 1983, pages 3651-3655.	1-36,39-49, 51-60
X	N, Sue et al, Proc. Natl. Acad. Sci. USA Volume 80, 1983, pages 3651-3655	14,15,24,34, 36,58
Y	N, Wallace et al, Nucleic Acids Research, Volume 9, 1981, pages 879-894	1-36,39-49, 51-60
Y	N, Hamer et al, Nature, Volume 281, 1979, pages 35-40.	42-46
Y,P	US,A, 4,442,205, Published 10 April 1984, Hamer et al.	42-46
Y	US,A, 4,399,216, Published 16 August 1983, Axel et al.	14,15,17-36, 42-46
Y	US,A, 4,411,994, Published 25 October 1983, Gilbert et al.	42-46
Y	US,A, 4,538,397, Published 06 July 1982 Gilbert et al	42-46
X	US,A, 4,399,216, Published 16 August 1983, Axel et al	14,15,24, 34,36,58

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Form PCT/ISA:210 (extra sheet) (October 1981)