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Previous Correction:
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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.

(54) Title: METHOD FOR IDENTIFICATION, SEPARATION AND QUANTITATIVE MEASUREMENT OF NUCLEIC ACID FRAGMENTS

(57) Abstract: The invention relates to a new method for sequence-specific identification, separation and quantitative measurement of nucleic acid fragments. The invention is based on the use of restriction endonucleases that have degenerate bases in their recognition or cleavage sequence. The method has broad applications, including DNA fingerprinting, differential display of mRNA, mutation and polymorphism identification, diagnosis and drug screening.

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP 01/07469

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C12Q1/68

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 C12Q C12N

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, WPI Data, PAJ, EMBASE, MEDLINE, BIOSIS, SEQUENCE SEARCH

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GB 2 295 228 A (UNILEVER PLC) 22 May 1996 (1996-05-22) page 2 -page 12	49-58
Y		1-48, 59-68, 70,71

X	GB 2 295 011 A (UNILEVER PLC) 15 May 1996 (1996-05-15) page 1 -page 8	49-58
Y		1-48, 59-68, 70,71

Y	US 5 968 784 A (SAJJADI FEREYDOUN G ET AL) 19 October 1999 (1999-10-19) column 10 -column 24	1-48, 59-68, 70,71

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[X] Further documents are listed in the continuation of box C.

[X] 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	Date of mailing of the international search report
21 March 2003	02.07.03

Name and mailing address of the ISA	Authorized officer
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	BROCHADO GARGANTA, M

Form PCT/ISA/210 (second sheet) (July 1992)

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication,where appropriate, of the relevant passages	Relevant to claim No.
X	SULSTON J E ET AL: "Toward a complete human genome sequence" GENOME RESEARCH, COLD SPRING HARBOR LABORATORY PRESS, US, vol. 8, no. 11, 1998, pages 1097-1108, XP002181292 ISSN: 1088-9051 table 2 page 3	69
X	& DATABASE EBI 'Online! Homo sapiens BAC clone RP11-479N15 from 2, Database accession no. AC011306 the whole document	69
A	JELTSCH A ET AL: "Evidence for an evolutionary relationship among type-II restriction endonucleases" GENE, ELSEVIER BIOMEDICAL PRESS. AMSTERDAM, NL, vol. 160, no. 1, 4 July 1995 (1995-07-04), pages 7-16, XP004042171 ISSN: 0378-1119 the whole document	1-71

INTERNATIONAL SEARCH REPORT

ıational application No.
PCT/EP 01/07469

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.:

1-68, 71 (all completely), 69-70 (partially)

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: 1-68,71 (all completely),69-70 (partially)

   Method for the simultaneous sequence-specific identification and separation of polynucleotide fragments in a polynucleotide population, recombinant host, method for detecting polymorphisms, method for detecting a change in the pattern of RNA expression in a tissue or cell associated with an internal or external factor, method for diagnosis of disease based on detecting a change in the pattern of DNA fragments, method for constructing an expressed sequence tag library and an isolated nucleic acid molecule comprising an oligonucleotide selected from the group consisting of SEQ ID NOs: 2, 27-38

2. Claims: 69-70 (partially)

   An isolated nucleic acid molecule comprising an oligonucleotide selected from the group consisting of SEQ ID NO:3

3. Claims: 69-70 (partially)

   An isolated nucleic acid molecule comprising an oligonucleotide selected from the group consisting of SEQ ID NO:4-9

4. Claims: 69-70 (partially)

   An isolated nucleic acid molecule comprising an oligonucleotide selected from the group consisting of SEQ ID NOs:10

5. Claims: 69-70 (partially)

   An isolated nucleic acid molecule comprising an oligonucleotide selected from the group consisting of SEQ ID NOs:11-26

6. Claims: 69-70 (partially)

   An isolated nucleic acid molecule comprising an oligonucleotide selected from the group consisting of SEQ ID NOs:39-65

INTERNATIONAL SEARCH REPORT

Information on patent family members

Inte ional Application No
PC., EP 01/07469

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
GB 2295228 A	22-05-1996	NONE	
GB 2295011 A	15-05-1996	NONE	
US 5968784 A	19-10-1999	AU 5923498 A	07-08-1998
		EP 0970242 A1	12-01-2000
		JP 2001514488 T	11-09-2001
		WO 9831838 A1	23-07-1998
		US 6461814 B1	08-10-2002