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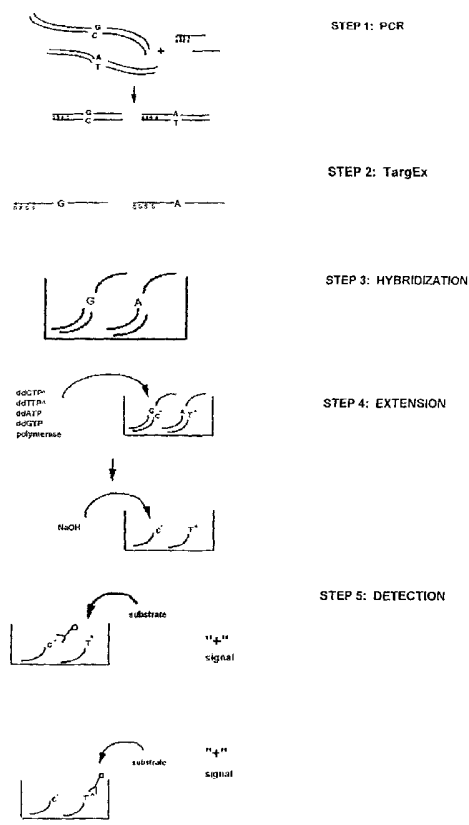
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[Continued on next page]

(54) Title: GENOTYPING REAGENTS, KITS AND METHODS OF USE THEREOF

Diagram of GBA Process



(57) Abstract: The present invention provides oligonucleotides that can be used to determine the presence, absence or identity of a single nucleotide polymorphism (SNP), kits containing such oligonucleotides, and methods of genotyping a nucleic acid sample using such oligonucleotides.



WO 01/029262 A3



IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK (utility model), SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 00/28436

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

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, SEQUENCE SEARCH, EMBL

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	NIKIFOROV T T ET AL: "Genetic Bit Analysis: A solid phase method for typing single nucleotide polymorphisms" NUCLEIC ACIDS RESEARCH, vol. 22, no. 20, 11 October 1994 (1994-10-11), pages 4167-4175, XP000606174 the whole document	18-29
P,A	--- DATABASE EMBL [Online] 22 December 1999 (1999-12-22) "SHGC-140185, human Homo sapiens STS genomic, sequence tagged site" Database accession no. G62521 XP002191442 SEQ ID 4 is at 179-229 --- -/--	1-17,30

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

26 February 2002

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05.06.02

Name and mailing address of the ISA

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 00/28436

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,A	<p>DATABASE EMBL [Online] 22 December 1999 (1999-12-22) "SHGC-140184, human Homo sapiens STS genomic, sequence tagged site" Database accession no. G62520 XP002191443 The complementary strand of SEQ ID 4, with C->A polymorphism at position 26, is at 258-308.</p> <p style="text-align: center;">-----</p>	1-17,30

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 00/28436

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.:

Invention 0: 1-27 and 30 partially; invention 935, claim 28, 29

Remark on Protest

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

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

Inventions $n=0$ to $n=934$: claims 1-27 and 30,
all partially

A SNP site SEQ ID $4n+4$, a genotyping reagent SEQ ID $4n+3$, amplification primers SEQ ID $4n+1$ and $4n+2$, fragments or complementary strands thereof; kits comprising these oligonucleotides; a method of genotyping using these oligonucleotides.

Invention 935: claims 28 and 29

A mixture of reagents and a method of amplifying a nucleic acid.