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**Declaration under Rule 4.17:**

— as to applicant's entitlement to apply for and be granted a  
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**WO 2006/137939 A3**

(54) Title: COMPOSITIONS AND METHODS FOR DETECTING GROUP A STREPTOCOCCI

(57) Abstract: Compositions, methods and kits for detecting Group A streptococci. Particularly described are oligonucleotides that are useful as amplification primers and hybridization probes for detecting very low levels of Group A streptococci nucleic acids.

**INTERNATIONAL SEARCH REPORT**

International application No.

PCT/US05/40857

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC: C07H 21/02( 2006.01),21/04( 2006.01);C12Q 1/68( 2006.01)

USPC: 536/23.1,24.3;435/6

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)  
U.S. : 536/23.1,24.3;435/6

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 practicable, search terms used)  
Please See Continuation Sheet

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	Genbank Accession number X59029. NCBI. National Library of Medicine. 1993	1-9
Y	BENTLEY, R.W. et al. Intrageneric Structure of Streptococcus Based on Comparative Analysis of Small-Subunit rRNA Sequences. International Journal of Systematic Bacteriology. October 1991, Vol. 41, No, pages 487-494, especially page 487, Figure 1.	1-9
Y	US 5,232,831 A (MILLIMAN et al) 03. August 1993 (03.08.1993), SEQ ID NO: 5.	1-9
Y	US 5,541,308 A (HOGAN et al.) 30 July 1996 (30.07.1996).	1-9
Y	US 5,925,517 A (TYAGI et al) 20 July 1999 (20.07.1999).	2-5

Further documents are listed in the continuation of Box C.  See patent family annex.

* Special categories of cited documents:	
"A" document defining the general state of the art which is not considered to be of particular relevance	"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
"E" earlier application or patent published on or after the international filing date	"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
"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)	"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
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search  
12 May 2008 (12.05.2008)

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# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US05/40857

## Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 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 No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:  
Please See Continuation 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 additional fees, this Authority did not invite payment of any additional fees.
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.: 1-9

- Remark on Protest**
- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
  - The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
  - No protest accompanied the payment of additional search fees.

**BOX III. OBSERVATIONS WHERE UNITY OF INVENTION IS LACKING**

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fees must be paid.

Group 1, claim(s) Claims 1-9, drawn to a hybridization assay probe containing a sequence from SEQ ID NO: 3.

Group 2, claim(s) 10-16, drawn to a kit comprising primers which contain sequences from SEQ ID NO:1 and 2.

This application contains claims directed to more than one species of the generic invention. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In order for more than one species to be examined, the appropriate additional examination fees must be paid. The species are as follows:

For Group 2, each species is directed to one of ID NOS 9-13 and one of SEQ ID NOS 4-7. Applicant is required to elect one primer from each set.

The claims are deemed to correspond to the species listed above in the following manner:

For Group 2, SEQ ID NOS 4-7 and 9-13 are found in claim 16. Claim 10 is generic.

The inventions listed as Groups 1 and 2 do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: The special technical feature is deemed to be the SEQ ID NOS that are targeted for each of claim 1 and claim 10. Claim 1 is directed to targeting SEQ ID NOS 3, while claim 10 is directed to targeting SEQ ID NOS 1 and 2. As these sequences are structurally different, the claims lack a special technical feature and lack unity of invention.

The species listed above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, the species lack the same or corresponding special technical features for the following reasons: Each species is directed to structurally distinct nucleic acid molecules and therefor lack unity of invention

**INTERNATIONAL SEARCH REPORT**

International application No.  
PCT/US05/40857

Continuation of B. FIELDS SEARCHED Item 3:  
Genbank, Medline; Caplus  
search terms: Streptococcus, alignment