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Published:
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— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

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4 August 2005

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: COLORIMETRIC SUBSTRATES, COLORIMETRIC SENSORS, AND METHODS OF USE

(57) Abstract: Described herein is a substrate comprising at least one colorimetric component attached to a peptide, as well as methods for detecting a modification of said substrate. Also described are methods of detecting the presence or absence of a protein, for example, a protein produced by a microorganism, by contacting a substrate with a sample. If the sample contains the protein of interest, the substrate is modified and a visible color change results, indicating the presence or absence of the protein in the sample. The present invention also features biosensors and kits for detecting the presence or absence of microorganisms and/or proteins in a sample.

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INTERNATIONAL SEARCH REPORT

Inte ional Application No
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A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C12Q1/04 C12Q1/37

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, WPI Data, BIOSIS, EMBASE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 03/063693 A (EXPRESSIVE CONSTRUCTS, INC; SANDERS, MITCHELL, C; LOWE, ADRIAN, M; HAM) 7 August 2003 (2003-08-07) cited in the application	1-26
Y	the whole document	4,18
X	WO 99/38995 A (BIO MERIEUX; ORENGA, SYLVAIN) 5 August 1999 (1999-08-05)	1-26
Y	the whole document	4,18
Y	WO 02/06821 A (HANSA MEDICAL AB; BJORCK, LARS; FRICK, INGA-MARIA; SCHMIDTCHEN, ARTUR) 24 January 2002 (2002-01-24) page 7, paragraphs 2,3 figures 7,8	4,18

☐ 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	Date of mailing of the international search report
16 March 2005	09. 06. 2005

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	Pellegrini, P

Form PCT/ISA/210 (second sheet) (January 2004)

INTERNATIONAL SEARCH REPORT

ıational application No.
PCT/US2004/036469

Box 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 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:

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.:

1-26 (in part)

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: 1-26 (in part)

Method of detecting the modification of a substrate, comprising:
(i) contacting a sample with a substrate including a peptide labelled with a colorimetric component; and
(ii) detecting a visible colour change as a consequence of the colorimetric component being cleaved from the peptide;
in particular, wherein the peptide is LLGDFFRKSKEKIGKEFKRIVXRIKDFLRNLVPRTES.

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2. claims: 1-26 (in part)

Method of detecting the modification of a substrate, comprising:
(i) contacting a sample with a substrate including a peptide labelled with a colorimetric component; and
(ii) detecting a visible colour change as a consequence of the colorimetric component being cleaved from the peptide;
wherein the peptide is one of KAAHKSALKSAE, KKASEAAHKSALKSAE, or CHHHASEAAHKSALSKSAE.

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3. claims: 1-26 (in part)

Method of detecting the modification of a substrate, comprising:
(i) contacting a sample with a substrate including a peptide labelled with a colorimetric component; and
(ii) detecting a visible colour change as a consequence of the colorimetric component being cleaved from the peptide;
wherein the peptide is KHLGGGALGGGAKE.

INTERNATIONAL SEARCH REPORT

Information on patent family members

Inter ›nal Application No
PCT/US2004/036469

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