Title: BIOMARKERS FOR THE EARLY DETECTION OF BREAST CANCER

Abstract: The present invention provides reagents and methods for breast cancer detection.
A. CLASSIFICATION OF SUBJECT MATTER

INV. G01N33/574
ADD.

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)
G01N

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, BIOSIS, EMBASE, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category*</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
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</table>

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

Date of the actual completion of the international search

17 November 2011

Date of mailing of the international search report

23/03/2012

Name and mailing address of the ISA/
European Patent Office, P.B. 5618 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040,
Fax (+31-70) 340-3016

Authorized officer

Hohwy, Morten
<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
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<tr>
<td>Y</td>
<td>RAMACHANDRAN NIROSHAN ET AL: &quot;Self-assembling protein microarrays&quot;, SCIENCE, AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE, WASHINGTON, DC; US, vol. 305, no. 5680, 2 July 2004 (2004-07-02), pages 86-90, XP002441078, ISSN: 0036-8075, DOI: 10.1126/SCIENCE.1097639 Fig. 1 and caption</td>
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Form PCT/ISA/210 (continuation of second sheet) (April 2005)
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<tr>
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<tr>
<td>WO 2008030845 A2</td>
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<td>CA 2662501 A1</td>
<td>13-03-2008</td>
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<td>CN 101573453 A</td>
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<td>JP 2010502227 A</td>
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<td>US 2008182246 A1</td>
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<td>WO 2008030845 A2</td>
<td>13-03-2008</td>
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</table>
INTERNATIONAL SEARCH REPORT

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:

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 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.:

   2, 9, 15(completely); 1, 3-8, 10-14, 16-18(partially)

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

1. claims: 2, 9, 15(completely); 1, 3-8, 10-14, 16-18(partially)

   Methods, compounds, and arrays for diagnosing breast cancer by detection of antibodies to a polypeptide, wherein the polypeptide is ATP6API (SEQ. ID. NO: 13).

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2-28. claims: 1, 3-8, 10-14, 16-18(all partially)

   Methods, compounds, and arrays for diagnosing breast cancer by detection of antibodies to a polypeptide, wherein the polypeptide for Invention n is the n'th polypeptides listed in claim 1 (For Invention 2, the polypeptide is PDCD6IP, for Invention 3, it is DBT and so on).

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