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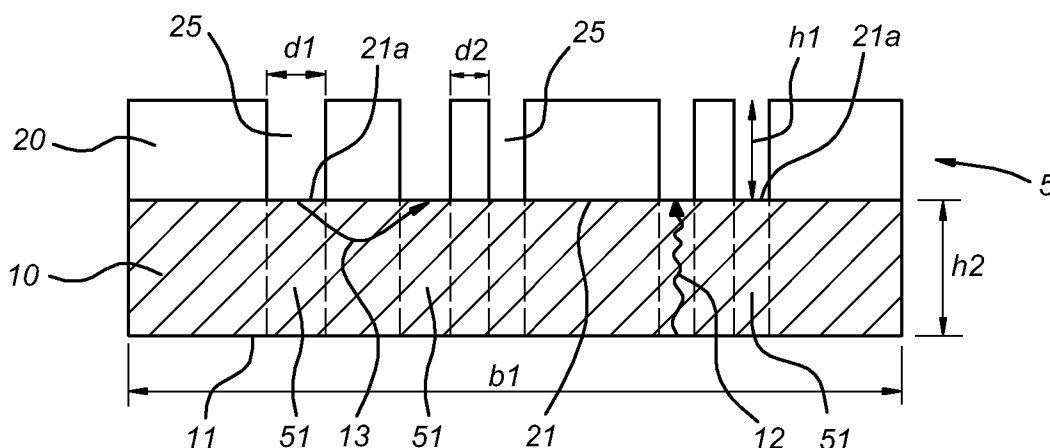
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[Continued on next page]

(54) Title: BIOCHIP AND PROCESS FOR THE PRODUCTION OF A BIOCHIP



(57) Abstract: The invention relates to a biochip (5) comprising a porous support (10), wherein the porous support (10) comprises at least one surface coated with a coating, preferably a polymer coating (20), wherein the coating is patterned with a micro compartments (25) pattern, with the support providing a bottom surface to the compartments and the coating providing edges to the compartments, and wherein the pattern comprises at least 400 compartments per mm<sup>2</sup>. The biochip (5) can be obtained by a process comprising providing a porous support (10); coating at least one surface of the support with a coating (20); arranging between the coated surface and an ion etching device a shadow mask with a predetermined hole pattern; and ion etching at least part of the coating such that a patterned coating with micro compartments (25) is obtained.

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**INTERNATIONAL SEARCH REPORT**

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**A. CLASSIFICATION OF SUBJECT MATTER**  
 INV. C12M1/00 C12M1/34 C12M3/00 C12Q1/02 C12Q1/04  
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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)  
 B01J C12Q C12M

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, COMPENDEX, BIOSIS

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 895 083 A2 (CANON KK [JP]) 3 February 1999 (1999-02-03) abstract paragraph [0010] paragraph [0016] paragraph [0022] paragraph [0031] - paragraph [0036] paragraph [0044] paragraph [0051]; figure 1 ----- -/--	1-19

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 document but 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	*Z* 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  22 February 2007	Date of mailing of the international search report  23/05/2007
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Name and mailing address of the ISA/ 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	Authorized officer  Nazario, Luis
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## INTERNATIONAL SEARCH REPORT

International application No

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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X	US 2002/192600 A1 (OKAMURA NOBUYUKI [JP] ET AL OKAMURA NOBUYUKI [JP] ET AL) 19 December 2002 (2002-12-19)	19
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International application No  
PCT/NL2006/050078

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 97/10365 A (AFFYMAX TECH NV [NL]; LOCKHART DAVID J [US]; BROWN EUGENE L [US]; WONG) 20 March 1997 (1997-03-20) abstract page 5, line 1 - line 21 page 23, line 5 - page 24, line 8 page 47, line 11 - line 23	19
X	WO 03/102578 A2 (PAMGENE B V [NL]; VAN DAMME HENDRIK SIBOLT [NL]; BLOK HERMAN JACOBUS []) 11 December 2003 (2003-12-11) cited in the application abstract page 6, line 14 - page 7, line 21 page 13, line 21 - line 32 claims	20
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# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/NL2006/050078

## 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.:

### Remark on Protest

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

# INTERNATIONAL SEARCH REPORT

International Application No. PCT/NL2006 /050078

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

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

1. claims: 1-6, 19

Independent claims 1, 19 (and dependent claims 2-6) relate to a method of producing a biochip by coating a porous substrate and ion-etching at least part of the coating via ion etching using a shadow mask and to the this mask.

1.1. claims: 7-18

Independent claim 7 (and dependent claims 8-18) relate to a biochip comprising a porous support and a patterned coating wherein the pattern comprises at least 400 compartments per mm<sup>2</sup>.

1.2. claims: 20, 21

Independent claim 20 (and dependent claim 21) relate to a method for determining heterogeneity within a population of microorganisms comprising the steps of contacting the microorganisms with a porous support, incubating the support and determining the heterogeneity.

## INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/NL2006/050078

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