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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 (Rule 48.2(h))

(88) Date of publication of the international search report:
29 October 2009

(54) Title: INFECTION MEDIATED FOAM DISSOLUTION RATE MEASUREMENT

(57) Abstract: The subject invention concerns methods and materials for determining the presence or absence of bacterial or fungal infection in a blood sample. In one embodiment, a method of the invention comprises exposing an anticoagulant treated blood sample to freezing the sample to a solid, followed by thawing of the sample and then agitation of the sample to develop foam and then observing the rate that foam dissolves.



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INTERNATIONAL SEARCH REPORT

International application No

PCT/US2009/035899

A. CLASSIFICATION OF SUBJECT MATTER

INV. C12Q1/04 G01N33/50 G01N33/49

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 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, PAJ, BIOSIS, EMBASE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	TSENG C H ET AL: "NMR of Laser-Polarized¹²⁹Xe in Blood Foam" JOURNAL OF MAGNETIC RESONANCE, ACADEMIC PRESS, ORLANDO, FL, US, vol. 126, no. 1, 1 May 1997 (1997-05-01), pages 79-86, XP004407956 ISSN: 1090-7807 cited in the application the whole document	1-51, 55-61
A	PATEL P D ET AL: "WHIPPING TEST FOR THE DETERMINATION OF FOAMING CAPACITY OF PROTEIN A COLLABORATIVE STUDY" INTERNATIONAL JOURNAL OF FOOD SCIENCE AND TECHNOLOGY, vol. 23, no. 1, 1988, pages 57-64, XP002534407 ISSN: 0950-5423 the whole document	1-51, 55-61

☐ 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
- *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

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2009/035899

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 allsearchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fees, 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.:

1-51, 55-61 (part)

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.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

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

1. claims: 1-51, 55-61(part)

Method for determining bacterial or fungal infection comprising freezing an anti-coagulated treated blood sample, thawing the sample, agitating the sample to develop a foam and measuring the rate of foam dissolution/dissipation rate.

2. claims: 52-54 55-61(part)

Method for determining bacterial or fungal infection by freezing anticoagulated treated blood sample, thawing and determining the level of aggregation of DNA with fibrin
