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(54) Title: GELLED COMPOSITE

(57) Abstract: The invention relates to composites comprising a polysaccharide gelled within pores of a foam, methods of preparation, and uses thereof, for example, in biomedical applications such as cell culture media and implants, controlled release delivery systems, food applications, industrial applications, and personal care applications such as cosmetic and oral hygiene. The composites of the present invention are simple to formulate using few steps and are useful for entrapping heat-sensitive components, such as cells, drugs, flavors or fragrances within the polysaccharide gel. In addition, the invention provides for a composite able to gently immobilize fragile components, such as living cells, without exposing such components to shear forces.



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INTERNATIONAL SEARCH REPORT

International application No
PCT/US2007/005436

A. CLASSIFICATION OF SUBJECT MATTER

INV. A61L27/20 A61L27/38 A61L27/48 A61L27/56

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)

A61L C08L A61K C08J

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 306 169 B1 (LEE DAVID ALAN [GB] ET AL) 23 October 2001 (2001-10-23) cited in the application column 4, line 28 - column 5, line 38 column 6, lines 17-66 column 9, line 35 - column 10, line 13 claims 1-3,6-10,13-22	30,33, 35-38, 40,48-50
X	WO 01/54735 A (ORTHOGENE INC [US]; BENTZ HANNE [US]; GARCIA A MINERVA [US]; HUBBELL J) 2 August 2001 (2001-08-02) cited in the application page 8, lines 11-29 page 21, lines 10-31 claims 1-6,8,18-22,25-30	30,33, 36-38, 48-50
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☒ 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

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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.
X	US 2004/071776 A1 (BOUDY VINCENT [FR] ET AL) 15 April 2004 (2004-04-15) page 1, paragraph 11-16 page 2, paragraph 19-33 page 3, paragraphs 41-45, 54, 55 claims 1-4, 8-13, 15-21 -----	1-34, 36, 37, 39-41, 49, 50, 53, 54, 56, 57

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box II.1

Although claims 48-50 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.

Continuation of Box II.1

Claims Nos.: -

Rule 39.1(iv) PCT - Method for treatment of the human or animal body by therapy

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2007/005436

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:
see FURTHER INFORMATION sheet PCT/ISA/210
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 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.:

1-41, 48-50, 53, 54, 56, 57

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: 1-41,48-50,53,54,56,57

The problem underlying these claims is how to provide an alternative way to achieve gelling of a polysaccharide solution in the pores of the polymeric foam implant.

2. claims: 42-44

The problem underlying these claims is how to provide an implant which can promote cell growth within the implant.

3. claim: 45

The problem underlying this claim is how to provide a composite implant which can inhibit cell proliferation.

4. claims: 46,47

The problem underlying this claim is how to provide a method to recover cells from a composite implant.

5. claims: 51,52

The problem underlying this claim is how to provide a method to attach a composite implant to tissue.

6. claim: 55

The problem underlying this claim is how to use the composite to prevent tissue adhesion.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2007/005436

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