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ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.*

(54) Title: CELLS ON A SUPPORT MATRIX FOR TISSUE REPAIR

(57) Abstract: The present invention relates to a method for the effective treatment of tissue defects and for tissue regeneration. The method includes seeding autologous cells on a support matrix and implanting the cell-seeded support matrix into a site of transplan-
tation. The present invention also relates to various tissue repair structures that include cells seeded onto a cell-free membrane. The present invention also provides methods for cultivation, seeding and implantation of autologous cells.



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INTERNATIONAL SEARCH REPORT

International Application No

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A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C12N5/06

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 A61L C12N

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, MEDLINE, 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,P	US 2002/177903 A1 (GEISTLICH PETER ET AL) 28 November 2002 (2002-11-28) paragraphs '0011!', '0015!', '0019!; claim 13 ---	1-7,9, 10,71-80
X	US 5 842 477 A (NAUGHTON GAIL K ET AL) 1 December 1998 (1998-12-01) column 6-9 ---	1-7,9, 10,71-80
X	HEATH C A C A: "Cells for tissue engineering" TRENDS IN BIOTECHNOLOGY, ELSEVIER, AMSTERDAM, NL, vol. 18, no. 1, January 2000 (2000-01), pages 17-19, XP004186469 ISSN: 0167-7799 the whole document --- -/--	1-7,9, 10,71-80

☒ 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)
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- *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
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- *Z* document member of the same patent family

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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	CAMPOCCIA D ET AL: "Semisynthetic resorbable materials from hyaluronan esterification" BIOMATERIALS, ELSEVIER SCIENCE PUBLISHERS BV., BARKING, GB, vol. 19, no. 23, December 1998 (1998-12), pages 2101-2127, XP004161485 ISSN: 0142-9612 page 2118 -page 2120 ----	1-7,9, 10,71-80
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T	CAO YILIN ET AL: "Bridging tendon defects using autologous tenocyte engineered tendon in a hen model." PLASTIC AND RECONSTRUCTIVE SURGERY. UNITED STATES OCT 2002, vol. 110, no. 5, October 2002 (2002-10), pages 1280-1289, XP009032693 ISSN: 0032-1052 the whole document ----	11-17, 19,20, 71,73-80
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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	HUTMACHER D W: "Scaffolds in tissue engineering bone and cartilage" BIOMATERIALS, ELSEVIER SCIENCE PUBLISHERS BV., BARKING, GB, vol. 21, no. 24, 15 December 2000 (2000-12-15), pages 2529-2543, XP004217417 ISSN: 0142-9612 page 2529, column 1 -page 2530, column 1; figures 7,8 ----	51-57, 59,60, 71,73-80
T	RODRIGUES C V M ET AL: "Characterization of a bovine collagen-hydroxyapatite composite scaffold for bone tissue engineering" BIOMATERIALS, ELSEVIER SCIENCE PUBLISHERS BV., BARKING, GB, vol. 24, no. 27, December 2003 (2003-12), pages 4987-4997, XP004464369 ISSN: 0142-9612 figures 9,11,12 ----	51-57, 59,60, 71,73-80
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INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP 03/10796

Box I Observations where certain claims were found unsearchable (Continuation of item 1 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.: 8, 18, 28, 58, 72
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.: 8, 18, 28, 58, 72
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:
see FURTHER INFORMATION sheet PCT/ISA/210
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 II Observations where unity of invention is lacking (Continuation of item 2 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.:
1-7, 9-17, 19-27, 29-30, 51-57, 59-60, 71-82
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/ EP 03 /10796

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

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

1. Claims: 1-10, 71-80

Cell-free support matrix and stem cells and use thereof.

2. Claims: 11-20, 71-80

Cell-free support matrix and tenocytes and use thereof.

3. Claims: 21-30, 71-80

Cell-free support matrix and myocytes and use thereof.

4. Claims: 31-40, 71-80

Cell-free support matrix and epithelial cells and use thereof.

5. Claims: 41-50, 71-80

Cell-free support matrix and nerve cells and use thereof.

6. Claims: 51-60, 71-80

Cell-free support matrix and osteocytes and use thereof.

7. Claims: 61-80

Cell-free support matrix and keratinocytes and use thereof.

8. Claims: 81-82

Method for increasing adipose tissue (method of treatment).

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FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.1

Although claims 71-80 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 I.1

Claims Nos.: 8, 18, 28, 58, 72

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

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

Continuation of Box I.2

Claims Nos.: 8, 18, 28, 58, 72

Present claims 8, 18, 28, 58, and 72 relate to proteins selected from a group of tissues (small intestine submucosa, peritoneum, pericardium, polylactic acid, and blood) thus lacking clarity within the meaning of Article 6 PCT and rendering a meaningful search impossible. Consequently, no search has been performed concerning subject-matter referred to in claim 8.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 03/10796

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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