(52) International Classification:
BOID 61/00 (2006.01) A61M 5/14 (2006.01)
C12N 5/08 (2006.01)

(51) International Patent Classification:

(54) Title: MEDICAL DEVICES HAVING A MICRO-FLUIDIC CHANNELED VASCULATURE

(57) Abstract: The present invention provides medical devices containing a micro-fluidic channeled vasculature capable of attaining fluid and gas flow there through, which are capable of augmenting or supplanting one or more physiological functions of an organ. The medical devices may be adapted to be exogenously seeded with at least organ specific cells. Methods of making and using the medical devices to supplant or augment one or more physiological functions of an organ are also provided.
INTERNATIONAL SEARCH REPORT

International application No
PCT/US 08/01942

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - B01D 61/00; C12N 5/08; A61M 5/14 (2008.04)
USPC - 210/645; 435/325; 604/4.01

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)
USPC: 210/645; 435/325; 604/4.01

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 practicable, search terms used)
PubWEST (PGPB, USPT, EPAB, JPAB), Google Scholar, Google Patents

Keywords: Bioreactor, microbioreactor, blood, channel, vasculature, seed, cell, siloxane, vena, cava, vein, portal, venous, artificial, prosthetic, liver, hepatocyte

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>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>US 5,605,835 A (HU et al.) 25 February 1997 (25.02.1997) col 10, l 6-8; col 11, l 56-59; col 12, l 9-12; col 23, l 24-38; col 24, l 21-42; col 26, l 44-48; Fig. 1, 24, 25</td>
<td>1-20</td>
</tr>
<tr>
<td>Y</td>
<td>US 5,902,745 A (BUTLER et al.) 11 May 1999 (11.05.1999) col 6, l 39-46</td>
<td>2, 3</td>
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<tr>
<td>Y</td>
<td>US 2002/0188240 A1 (GORSUCH) 12 December 2002 (12.12.2002) para [0017]-[0019], [0025]-[0027], [0032]; Fig. 3</td>
<td>1-19</td>
</tr>
</tbody>
</table>

Further documents are listed in the continuation of Box C

D

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- Document member of the same patent family

Date of the actual completion of the international search
04 July 2008 (04.07.2008)

Date of mailing of the international search report
14 JUL 2008

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