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

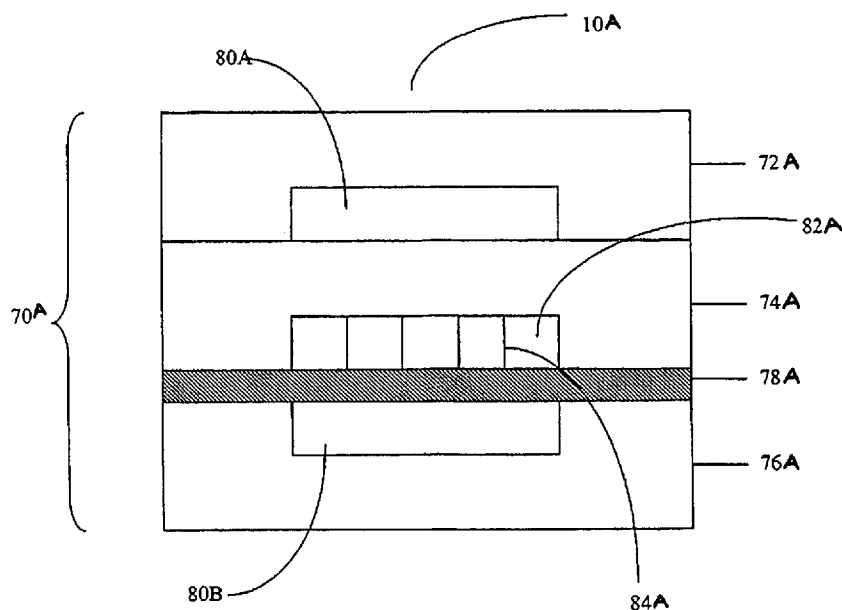


Figure 3A

(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.

WO 2008/100559 A3



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A. CLASSIFICATION OF SUBJECT MATTER

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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
USPC: 604/6.15, 604/8, 435/289.1, 435/297.1, 435/297.2, 435/297.5, 210/645, 435/325, 604/4.01

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,605,835 A (HU et al.) 25 February 1997 (25.02.1997) col 10, ln 6-8; col 11, ln 56-59; col 12, ln 9-12; col 23, ln 24-38; col 24, ln 21-42; col 26, ln 44-48; Fig. 1, 24, 25	1-20
Y	US 2006/0188488 A1 (WILLIAMS et al.) 24 August 2006 (24.08.2006) para [0012]	1-20
Y	US 5,902,745 A (BUTLER et al.) 11 May 1999 (11.05.1999) col 6, ln 39-46	2, 3
Y	US 2002/0188240 A1 (GORSUCH) 12 December 2002 (12.12.2002) para [0017]-[0019], [0025]-[0027], [0032]; Fig. 3	1-19
Y	US 2005/0084944 A1 (CARTURAN et al.) 21 April 2005 (21.04.2005) para [0061]	16

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"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

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