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(54) Title: SURFACE DIRECTED CELLULAR ATTACHMENT

(57) Abstract: Implantable biomaterials, particularly hydrogel substrates with porous surfaces, and methods for enhancing the compatibility of biomaterials with living tissue, and for causing physical attachment between biomaterials and living tissues are provided. Also provided are implants suitable for load-bearing surfaces in hard tissue repair, replacement, or augmentation, and to methods of their use. One embodiment of the invention relates to an implantable spinal disc prosthesis.

**INTERNATIONAL SEARCH REPORT**

International application No.

PCT/US05/03899

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC: A01N 63/00( 2006.01),65/00( 2006.01),59/22( 2006.01);A61F 2/00( 2006.01);A61K 35/60( 2006.01)

USPC: 424/93.7,423,520;623/23.72,23.76

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)

U.S. : 424/93.7, 423, 520; 623/23.72, 23.76

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)  
Please See Continuation Sheet

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 6,534,084 B1 (Vyakarnam et al) 18 Mar 2003 (18.03.2003), column 1, lines 17-47, column 4, lines 26-40, bridging paragraph columns 4 - 5, column 5, lines 21-24, column 6, lines 25-41, column 16, lines 8-22 and 34-50, column 17, lines 13-3.	1-44
Y	US 20040010048 A1 (Evans et al) 15 Jan 2004 (15.01.2004), paragraph 0019, Table 1, Table 2, paragraphs 0029-0043, paragraph 0057.	1-44
Y	US 20030233150 A1 (Bourne et al) 18 Dec 2003 (18.12.2003), paragraph 0009, paragraph 0016-0017, paragraph 0048-0052.	1-44

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	"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
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"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	"&"	document member of the same patent family

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**INTERNATIONAL SEARCH REPORT**

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Continuation of B. FIELDS SEARCHED Item 3:  
EAST, STN Bioscience Index  
search terms: hydrogel, pores, mold, polyvinyl alcohol, tissue, MEMS