Title: ENDOTHELIAL LIGAND BINDING COATED MEDICAL DEVICE

Abstract: A medical device for implantation into vessels or luminal structures within the body is provided. The medical device, such as a stent (100) and a synthetic graft, is coated with a pharmaceutical composition consisting of a controlled-release matrix and one or more pharmaceutical substances (110) for direct delivery of drugs to surrounding tissues. The coating on the medical device further comprises a ligand (120) such as an antibody or a small molecule for capturing progenitor endothelial cells in the blood contacting surface of the device for restoring an endothelium at the site of injury. In particular, the drug-coated stents are for use, for example, in balloon angioplasty procedures for preventing or inhibiting restenosis.
Published:
— with international search report

(88) Date of publication of the international search report:
12 April 2007

For two-letter codes and other abbreviations, refer to the “Guidance Notes on Codes and Abbreviations” appearing at the beginning of each regular issue of the PCT Gazette.
**INTERNATIONAL SEARCH REPORT**

A. **CLASSIFICATION OF SUBJECT MATTER**

**IPC:**
A61F 2/06 (2006.01)

**USPC:** 623/1.48
According to International Patent Classification (IPC) or to both national classification and IPC

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B. **FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

U.S.: 623/1.48, 1.42, 1.46, 23.64, 23.7; 424/422,426

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)
text terms used to search in EAST: matrix, ligand, peptide, antibody, coating, stent

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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 6,541,116 B1 (MICHAL et al.) 1 June 2003, Fig. 10, col. 2, lines 44-46, 49-58, col. 3, lines 16-38, col. 4, lines 36-44, col. 5, lines 1-27, col. 9, lines 54-56, col. 10, lines 14-16, col. 13, lines 27,28, col. 17, lines 45-62, col. 20, lines 50-67.</td>
<td>1-4,6,7,12,16,18,19,22-24,26,27</td>
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<tr>
<td>Y</td>
<td>US 6,613,083 B1 (ALT) 20 September 2003, Fig. 2, col. 5, lines 34-36.</td>
<td>11,13-15</td>
</tr>
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<td>Y</td>
<td>US 4,553,974 A (DEWANJEE) 19 November 1985, col. 5, lines 7-13, col. 6, lines 47-55.</td>
<td>14</td>
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</table>

Notes:

- **X** Special categories of cited documents:
  - "A" document defining the general state of the art which is not considered to be of particular relevance
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  - "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)
  - "C" document referring to an oral disclosure, use, exhibition or other means
  - "F" document published prior to the international filing date but later than the priority date claimed

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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
- **"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 of the same patent family

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Date of the actual completion of the international search: 16 October 2006 (16.10.2006)

Date of mailing of the international search report: 06 DEC 2006

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Ferm PCT/ISA/210 (second sheet) (April 2005)
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<th>Relevant to claim No.</th>
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<tr>
<td>Y</td>
<td>US 5,464,450 A (BUSCEMI et al.) 07 November 1995, Fig. 1, col. 5, lines 46-54, 64-66, col. 6, lines 9-20.</td>
<td>15,22</td>
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