CATHETER-FREE IMPLANTABLE NEEDLE BIOSensor

Electrochemical biosensors consisting of two or more needle-shaped electrodes for monitoring of molecules such as glucose in the subcutaneous tissue are provided. The two electrodes are parallel to each other, and are fixed perpendicularly to the planar side of a sensor base which provides skin fixation and electric connection. The needle electrodes are made of rigid conducting materials, capable of inserting into the skin without the need of catheters. One electrode is the sensing electrode and the other, the reference electrode. A compound sensing membrane is attached onto the sensing electrode surface to detect analyzed molecules.
Published:

— with international search report
— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:

12 October 2006

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: A61B 8/01 (2006.01), 8/12 (2006.01), 8/14 (2006.01)
A61N 1/30 (2006.01)
USPC: 604/20,890.1; 600/345,347,365
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.: 604/20,890.1; 600/345,347,365

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)

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 5,807,375A (Gross et al.) 15 September 1998 (15.09.1998), abstract, figure 3, 5.</td>
<td>1-20</td>
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<tr>
<td>Y</td>
<td>US 6,360,888 B1 (McIvor et al.) 26 March 2002 (26.03.2002), figure 2, 6.</td>
<td>1-20</td>
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<tr>
<td>Y</td>
<td>US 6,091,975A (Daddona et al.) 18 July 2000 (18.07.2000), figures 1, 2, 4.</td>
<td>1-20</td>
</tr>
</tbody>
</table>

Paragraph

Further documents are listed in the continuation of Box C.

See patent family annex.

Date of the actual completion of the international search 05 July 2006 (05.07.2006)

Date of mailing of the international search report 15 AUG 2006

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