(54) Title: TISSUE ABLATION WITH IRREVERSIBLE ELECTROPORATION

(57) Abstract: A new method for the ablation of undesirable tissue such as cells of a cancerous or non-cancerous tumor is disclosed. It involves the placement of electrodes into or near the vicinity of the undesirable tissue through the application of electrical pulses causing irreversible electroporation of the cells throughout the entire area of the undesirable tissue. The electric pulses irreversibly permeate the cell membranes, thereby invoking cell death. The irreversibly permeabilized cells are left in situ and are removed by the body immune system. The amount of tissue ablation achievable through the use of irreversible electroporation without inducing thermal damage is considerable.
Published:

— with international search report

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

17 November 2005

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(7) : A61B 18/18
US CL : 606/041
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. : 606/041; 607/96, 101, 104-106, 113

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic database consulted during the international search (name of database 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>
</table>

Further documents are listed in the continuation of Box C. See patent family annex.

<table>
<thead>
<tr>
<th>*</th>
<th>Special categories of cited documents.</th>
<th>&quot;T&quot;</th>
<th>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.</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;A&quot;</td>
<td>document defining the general state of the art which is not considered to be of particular relevance</td>
<td>&quot;X&quot;</td>
<td>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.</td>
</tr>
<tr>
<td>&quot;B&quot;</td>
<td>earlier application or patent published on or after the international filing date</td>
<td>&quot;Y&quot;</td>
<td>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.</td>
</tr>
<tr>
<td>&quot;L&quot;</td>
<td>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)</td>
<td>&quot;&amp;&quot;</td>
<td>document member of the same patent family.</td>
</tr>
<tr>
<td>&quot;O&quot;</td>
<td>document referring to an oral disclosure, use, exhibition or other means</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;P&quot;</td>
<td>document published prior to the international filing date but later than the priority date claimed</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Date of the actual completion of the international search
27 June 2005 (27.06.2005)

Name and mailing address of the ISA/US
Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
Facsimile No. (703) 305-3230

Form PCT/ISA/210 (second sheet) (January 2004)