

1) Family number: 58500071 (US2016184003A)

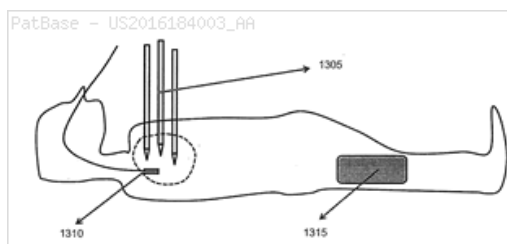
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Title: SYSTEM, METHOD AND COMPUTER-ACCESSIBLE MEDIUM FOR IN-VIVO TISSUE ABLATION AND/OR DAMAGE

Abstract: Systems, methods and computer-accessible mediums can be provided that can establish particular parameters for electric pulses based on a characteristic(s) of the tissue(s), and control an application of the electric pulses to tissue(s) for a plurality of automatically controlled and separated time periods to ablate the tissue(s) through mediation of membrane potential and through inducing the cells through a plurality of charge-discharge cycles such that an electroporation of a majority of the tissue(s) is prevented or reduced.

Classifications:

International (IPC 8-9): A61B18/04 A61B18/12 A61B18/18
A61B6/03 (Advanced/Invention)
CPC: A61B18/1815 A61B18/1492 A61B2018/00791 A61B2018/00827
A61B2018/143 A61B2018/1475 A61B18/12 A61B6/037
A61B2017/00194 A61B2018/00577 A61B2018/00613
A61B2018/00642 A61B2018/00726 A61B2018/00761
A61B2018/00767 A61B2034/2057 A61B2090/373 A61B18/1206
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A61B2090/378 A61B18/1233 A61B2018/00648 A61B2018/00666
US: 606/39



Family:

Publication number	Publication date	Application number	Application date
EP3030185 A1	20160615	EP20140833703	20140806
EP3030185 A4	20170222	EP20140833703	20140806
US2016184003 AA	20160630	US20140910600	20140806
WO15021113 A1	20150212	WO2014US49880	20140806

Priority:

US20130862580P 20130806 US20140910600 20140806 WO2014US49880 20140806

Probable Assignee: MEMORIAL SLOAN KETTERING CANCER CENTER

Assignee(s): (std): MEMORIAL SLOAN KETTERING CANCER CENTER ; SLOAN KETTERING INST CANCER

Inventor(s): (std): SOLOMON STEPHEN BARNETT ; SRIMATHVEERAVALLI GOVINDARAJAN

Agent(s): MAIWALD PATENTANWALTS GMBH; ABELEV GARY ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

2) Family number: 64368106 (US2016361109A)

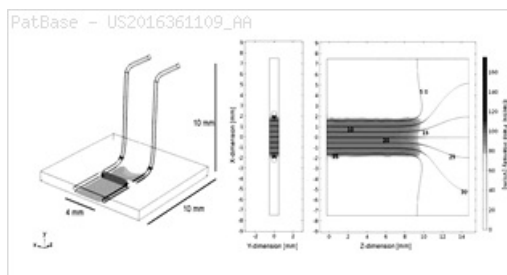
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Title: METHODS FOR INDUCING ELECTROPORATION AND TISSUE ABLATION

Abstract: The invention encompasses a method of inducing a high permeability state in a cell membrane and a method for ablating a target tissue wherein the method comprises applying an electroporation pulse to a cell, wherein at a time after the electroporation pulse is applied, a plurality of long lived pores (LLPs) are formed in the cell membrane and the presence of the LLPs causes a change in the cell osmotic pressure difference. The invention also encompasses a method for ablating a target tissue using an electrical pulse regime that induces cell permeabilization and cell death, wherein the primary mechanism of cell death is as a result of electroporation.

Classifications:

International (IPC 8-9): A61B18/14 A61N1/04 A61N1/30
A61N1/32 (Advanced/Invention)
CPC: A61B18/1402 A61N1/303 A61B18/1477 A61N1/327
A61B2018/00547 A61B2018/00577 A61B2018/00613
A61B2018/00982 A61B2018/1467 A61N1/0412
US: 607/99



Family:

Publication number	Publication date	Application number	Application date
US2016361109 AA	20161215	US20160179310	20160610
WO16201264 A1	20161215	WO2016US36943	20160610

Priority:

US20150174118P 20150611 US20160179310 20160610

Probable Assignee: VIRGINIA TECH INTELLECTUAL PROPERTIES INC

Assignee(s): (std): MASSACHUSETTS INST TECHNOLOGY ; VIRGINIA TECH INTELLECTUAL PROPERTIES INC

Assignee(s): MASSACHUSETTS INST OF TECHNOLOGY ; NATIONAL INSTITUTES OF HEALTH NIH US DEPT OF HEALTH

Inventor(s): (std): DAVALOS RAFAEL V ; GOWRISHANKAR THIRUVALLUR R ; SON REUBEN S ; SWEENEY DANIEL C ;
WEAVER JAMES C

Agent(s): HODA MAHREEN CHAUDHRY ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

3) Family number: 28234148 (US2002111615A)

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Title: CLUSTER ABLATION ELECTRODE SYSTEM

Abstract: A multiplicity of high frequency electrodes in a cluster configuration may be inserted into tissue of a patient's body for producing heat ablation of abnormal tissue such as a tumor. The electrodes are connected coherently to the voltage output of a high frequency generator. An enlarged ablation volume is accomplished by the electrode cluster with reduced risk of hemorrhage because of the smaller diameter of the individual electrodes of the cluster. The electrodes terminate in conductive tips, which are cooled by a fluid coolant to further facilitate enlarged ablation volumes. Very large ablation volumes are accomplished by this process and apparatus. Various cluster electrode configurations may be adapted to meet specific clinical requirements.

Classifications:

International (ipc 8-9): A61B17/00 A61B17/34 A61B18/00 A61B18/02 A61B18/12 A61B18/14 A61B18/18 A61B18/24 A61B19/00 (Advanced/Invention); A61B17/00 A61B18/00 A61B18/02 A61B18/12 A61B18/18 A61B18/24 A61B19/00 (Advanced/Non-invention); A61B17/34 A61B18/14 (Core/Invention); A61B17/00 A61B18/00 A61B18/18 A61B18/20 A61B19/00 (Core/Non-invention)

International (ipc 1-7): A61B17/34 A61B17/39 A61B18/04 A61B18/14 A61B18/18

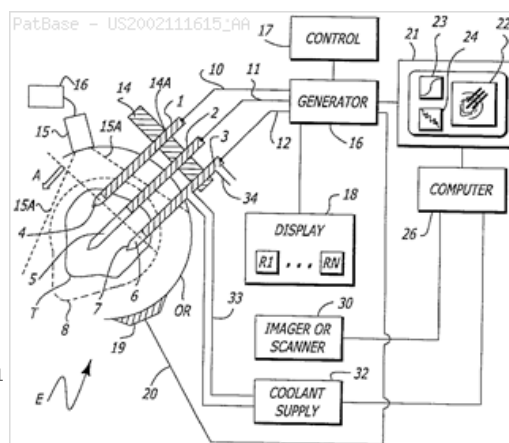
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European: A61B18/14 A61B18/14N A61B18/14R K61B17/00C1T K61B17/00C1U K61B18/00A2 K61B18/00A2C K61B18/00B14A K61B18/00B2G4 K61B18/00B6 K61B18/00F2 K61B18/00F7 K61B18/00H10A K61B18/00H10K K61B18/00H12B K61B18/00H12B1 K61B18/00H12B4 K61B18/00H12B5 K61B18/00H12R K61B18/00H2 K61B18/02 K61B18/02C K61B18/02H2C2 K61B18/12G8A K61B18/14C12 K61B18/14C12B K61B18/14H K61B18/14M K61B18/18 K61B18/24 K61B19/52H

US: 128/898 600/41 600/439 606/32 606/34 606/34S 606/41 606/41P 606/49 607/102 607/105 607/99

JP F-Term: 4C060 4C060/KK04 4C060/KK10 4C060/KK13 4C060/KK22 4C060/MM24 4C060/MM26 4C060/MM27 4C160 4C160/KK07 4C160/KK20 4C160/KK23 4C160/KK24 4C160/KK36 4C160/KK39 4C160/KK58 4C160/KK63 4C160/KK64 4C160/MM32 4C160/MM43

JP F-Index: A61B17/39/317 A61B18/14



Family:

Publication number	Publication date	Application number	Application date
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AT352999 E	20070215	AT19960015332T	19960502
AU199657270 A1	19961121	AU19960057270	19960502
AU199885129 A1	19990216	AU19980085129	19980724
AU752140 B2	20020905	AU19980085129	19980724
CA2297846 AA	20000124	CA19982297846	19980724
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EP1011495 A1	20000628	EP19960915509	19960502
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EP1462065 A2	20040929	EP20040015332	19960502
EP1462065 A3	20050105	EP20040015332	19960502
EP1462065 B1	20070131	EP20040015332	19960502
EP1493397 A1	20050105	EP20040021682	19980724
EP1493397 B1	20110914	EP20040021682	19980724
EP1493397 B2	20150729	EP20040021682	19980724
ES2234136 T3	20050616	ES19980936001T	19980724
ES2371067 T3	20111227	ES20040021682T	19980724
JP2001510702 T2	20010807	JP20000503777T	19980724
JP4203224 B2	20081224	JP20000503777T	19980724
US2002111615 AA	20020815	US20000491748	20000127
US6241725 BA	20010605	US19960661802	19960611
US6506189 BA	20030114	US20000642404	20000821

US6530922 BB	20030311	US20000491748	20000127
US6575969 BA	20030610	US20000642309	20000821
WO9634571 A1	19961107	WO1996US06315	19960502
WO9904710 A1	19990204	WO1998US15435	19980724

Priority:

US19930167676 19931215	US19950433799 19950504	US19950562986 19951124
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Probable Assignee: COVIDIEN AG

Assignee(s): (std): COSMAN ERIC R ; COSMAN ERIC RICHARD ; COVIDIEN AG ; RITTMAN WILLIAM J III ; SHERWOOD SERV AG ; SHERWOOD SERVICES AG ; WILLIAM J RITTMAN III

Assignee(s): SHERWOOD SERVICES AG SCHAFFHAUSEN ; SHERWOOD SERVICES SCHAFFHAUSEN AG ; TYCO HEALTHCARE GROUP AG ; ERIC R COSMAN ; RADIONICS INC ; RITTMAN WILLIAM J

Inventor(s): (std): COSMAN ERIC R ; COSMAN ERIC RICHARD ; COSMAN R ; RITTMAN III ; RITTMAN WILLIAM J ; RITTMAN J ; RITTMAN WILLIAM J ; WILLIAM J RITTMAN III ; RITTMAN WILLIAM J III ; ERIC R COSMAN

Agent(s): SPRUSON AND FERGUSON; ASPEN PHARMA PTY LTD; MCFADDEN FINCHAM; OSLER HOSKIN AND HARCOURT LLP; WEICKMANN AND WEICKMANN PATENTANWALTE RECHTSANWALT PARTMBB; THOMAS SIMON; STANNERS DAVID RALPH

Designated states: AL AM AT AU AZ BA BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CU CY CZ DE DK EE ES FI FR GA GB GE GH GM GN GR GW HR HU ID IE IL IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MC MD MG MK ML MN MR MW MX NE NL NO NZ PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TT UA UG UZ VN YU ZW

4) Family number: 49120177 (US2011152859A)

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Title: SURGICAL INSTRUMENT COMPRISING AN ELECTRODE

Abstract: A surgical instrument can comprise a first electrode, a second electrode, and a retractable sheath. At least one of the electrodes can comprise an insulative jacket extending along the length thereof which can comprise a tissue stop for limiting the progression of the electrode into tissue. In various embodiments, a surgical instrument can comprise a first electrode, a second electrode, and a displaceable arc guard positioned between the electrodes. In certain embodiments, a surgical instrument can comprise an electrode including a flexible mesh configured to conform to the tissue against which it is positioned.

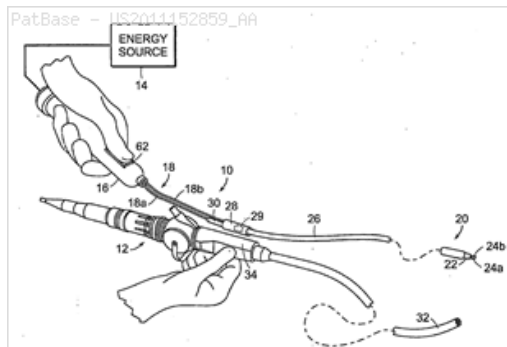
Classifications:

International (IPC 8-9): A61B18/14 (Advanced/Invention); A61B17/00 A61B18/00 A61B19/00 A61N1/32 (Advanced/Non-invention)

CPC: A61B18/1477 A61B2017/00221 A61B2018/00083 A61B2018/0022 A61B2018/00547 A61B2018/00577 A61N1/327 A61B18/1402 A61B2018/00107 A61B2090/065 A61B2018/00077 A61B2018/1465

European: A61B18/14N K61B17/00C10 K61B18/00B14A K61B18/00B2G4 K61B18/00F13 K61B18/00G1 K61B19/46H2 K61N1/32S

US: 606/41 606/41P 606/48



Family:

Publication number	Publication date	Application number	Application date
US2011152859 AA	20110623	US20090641837	20091218
US2015230858 AA	20150820	US20150695824	20150424
US2018303541 AA	20181025	US20180021479	20180628
US9028483 BB	20150512	US20090641837	20091218
US10098691 BB	20181016	US20150695824	20150424
WO11075482 A2	20110623	WO2010US60325	20101214
WO11075482 A3	20111027	WO2010US60325	20101214

Priority:

US20090641837 20091218	US20150695824 20150424	US20180021479 20180628
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Probable Assignee: ETHICON ENDO SURGERY INC

Assignee(s): (std): ETHICON ENDO SURGERY INC ; ETHICON LLC ; LONG GARY L ; PLESCIA DAVID N

Inventor(s): (std): LONG GARY L ; PLESCIA DAVID N

Agent(s): MORENO VICTOR ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

5) Family number: 49120181 (US2011152858A)

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Title: SURGICAL INSTRUMENT COMPRISING AN ELECTRODE

Abstract: A surgical instrument can comprise two positive electrodes positioned along a first line, and two negative electrodes positioned along a second line, wherein the first line can be perpendicular to the second line. The positive electrodes can be positioned further away from a central axis than the negative electrodes in order to expand the voltage

field created by the electrodes. In various embodiments, a surgical instrument can comprise a first array of electrodes positioned along a first line and a second array of electrodes positioned along a second line. In at least one embodiment, the first array of electrodes can comprise both positive and negative electrodes, and, in addition, the second array of electrodes can comprise both positive and negative electrodes.

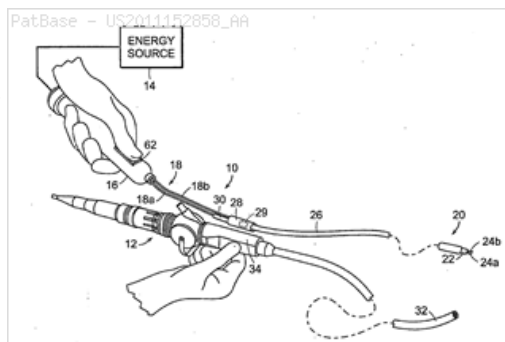
Classifications:

International (IPC 8-9): A61B18/14 (Advanced/Invention)

CPC: A61B18/1477 A61B18/1492 A61B2018/0022 A61B2018/00577 A61N1/327

European: A61B18/14N K61B18/00B14A K61B18/00G1 K61B18/14V K61N1/32S

US: 606/41 606/41P 607/101 607/116



Family:

Publication number	Publication date	Application number	Application date
US2011152858 AA	20110623	US20090641823	20091218
US8506564 BB	20130813	US20090641823	20091218
WO11075485 A2	20110623	WO2010US60335	20101214
WO11075485 A3	20110915	WO2010US60335	20101214

Priority:

US20090641823 20091218

Probable Assignee: ETHICON ENDO SURGERY INC

Assignee(s): (std): ETHICON ENDO SURGERY INC ; LONG GARY L ; PLESCIA DAVID N

Inventor(s): (std): LONG GARY L ; PLESCIA DAVID N

Agent(s): JOHNSON PHILIP S ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

6) Family number: 51169349 (US2013253415A)

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Title: IRREVERSIBLE ELECTROPORATION USING TISSUE VASCULATURE TO TREAT ABERRANT CELL MASSES OR CREATE TISSUE SCAFFOLDS

Abstract: The present invention relates to the field of medical treatment of diseases and disorders, as well as the field of biomedical engineering. Embodiments of the invention relate to the delivery of Irreversible Electroporation (IRE) through the vasculature of organs to treat tumors embedded deep within the tissue or organ, or to decellularize organs to produce a scaffold from existing animal tissue with the existing vasculature intact. In particular, methods of administering non-thermal irreversible electroporation (IRE) in vivo are provided for the treatment of tumors located in vascularized tissues and organs. Embodiments of the invention further provide scaffolds and tissues from natural sources created using IRE ex vivo to remove cellular debris, maximize recellularization potential, and minimize foreign body immune response. The engineered tissues can be used in methods of treating subjects, such as those in need of tissue replacement or augmentation.

Classifications:

International (IPC 8-9): A61B18/12 A61B18/14 A61F2/20 A61K48/00 A61L27/00 A61M5/00 A61N1/18 C12M1/00 C12M1/42 C12M3/00 C12N5/071 (Advanced/Invention);

A61B18/00 A61N1/32 (Advanced/Non-invention)

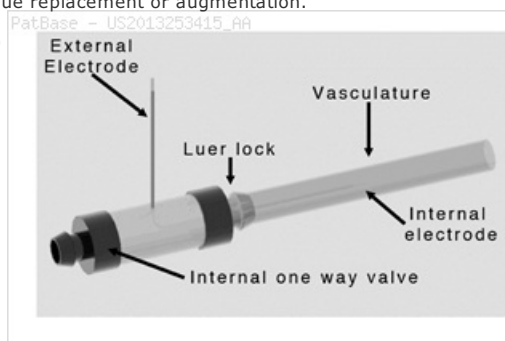
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US: 604/20 606/41

JP F-Term: 4B029 4B029/AA23 4B029/AA27 4B029/BB11 4B029/CC02 4B029/DG08 4B065 4B065/AA90 4B065/BA12 4B065/BC41 4B065/BD50 4B065/CA44 4C081 4C081/AB34 4C081/AB35 4C081/BA13 4C081/CD34 4C081/DA01 4C081/EA02

JP F-Index: A61L27/00/V A61L27/38 C12M1/00/A C12M1/42 C12M3/00/Z C12N5/00/202/A C12N5/071



Family:

Publication number	Publication date	Application number	Application date
EP2642937 A2	20131002	EP20110842994	20111123
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WO12071526 A2	20120531	WO2011US62067	20111123
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Priority:

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US20090171564P 20090422 US20090432295 20090429 US20090491151 20090624
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US20170843888 20171215

Probable Assignee: VIRGINIA TECH INTELLECTUAL PROPERTIES INC

Assignee(s): (std): DAVALOS RAFAEL ; DAVALOS RAFAEL V ; GARCIA PAULO A ; NEAL II ROBERT E ; NEAL ROBERT E ; ROBERTSON JOHN ; VIRGINIA TECH INTELLECTUAL PROPERTIES INC ; VIRGINIA TECH INTELL PROP ; SANO MICHAEL ; SANO MICHAEL B ; ROBERTSON JOHN L

Assignee(s): VIRGINIA POLYTECHNIC INST AND STATE UNIV

Inventor(s): (std): DAVALOS RAFAEL ; ROBERTSON JOHN ; GARCIA PAULO A ; NEAL ROBERT E ; SANO MICHAEL ; SANO MICHAEL B ; ROBERTSON JOHN L ; DAVALOS RAFAEL V ; NEAL II ROBERT E

Agent(s): STEINECKE PETER; MOEGI PATENT OFFICE; MICHELE L; NEW RIVER VALLEY IP LAW PC; MAYBERRY MICHELE L

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

7) Family number: 48434516 (US2012226218A)

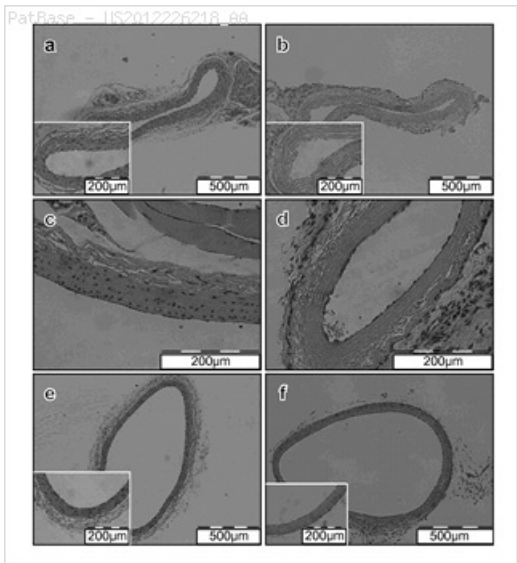
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Title: EXTRACELLULAR MATRIX MATERIAL CREATED USING NON-THERMAL IRREVERSIBLE ELECTROPORATION

Abstract: Extracellular matrix material is disclosed which is created by subjecting a target area to non-thermal irreversible electroporation (NTIRE) with a pulsed electrical field to kill cells in the absence of thermal damage. The dead cellular material may be removed and the remaining non-cellular matrix material may be implanted into a repair site to be treated medically or cosmetically.

Classifications:

International (IPC 8-9): A61B18/18 A61K35/12 A61K35/22 A61K35/34 A61K35/38 A61K35/42 A61K35/44 A61L2/03 A61L27/36 A61L27/38 A61M37/00 (Advanced/Invention)
CPC: A61K35/34 A61K35/22 A61K35/38 A61K35/42 A61K35/44 A61L27/3604 A61L27/3683 A61L27/3834 A61L2430/40
European: A61K35/22 A61K35/34 A61K35/38 A61K35/42 A61K35/44 A61L27/36B A61L27/36H A61L27/38B14 K61L430/40
US: 424/520 424/551 424/557 424/558 424/569 435/325 604/20 607/50



Family:

Publication number	Publication date	Application number	Application date
US2012226218 AA	20120906	US20100391577	20100902
US8835166 BB	20140916	US20100391577	20100902
WO11028937 A1	20110310	WO2010US47725	20100902

Priority:

US20090239923P 20090904 US20100391577 20100902 WO2010US47725 20100902

Probable Assignee: THE UNIV OF CALIFORNIA

Assignee(s): (std): LAVEE JACOB ; MAOR ELAD ; PHILLIPS MARY ; UNIV CALIFORNIA ; RUBINSKY BORIS

Assignee(s): THE UNIV OF CALIFORNIA ; THE REGENTS OF THE UNIVERSITY OF CALIFORNIA ; NATIONAL INSTITUTES OF HEALTH NIH US DEPT OF HEALT ; NATIONAL INSTITUTES OF HEALTH NIH US DEPT OF HEALTH AND HUMAN SERVICES DHHS US GOVERNMENT

Inventor(s): (std): RUBINSKY BORIS ; PHILLIPS MARY ; MAOR ELAD ; LAVEE JACOB

Agent(s): BOZICEVIC FIELD AND FRANCIS LLP; KARL; BOZICEVIC KARL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

8) Family number: 28098569 (US2001029393A)

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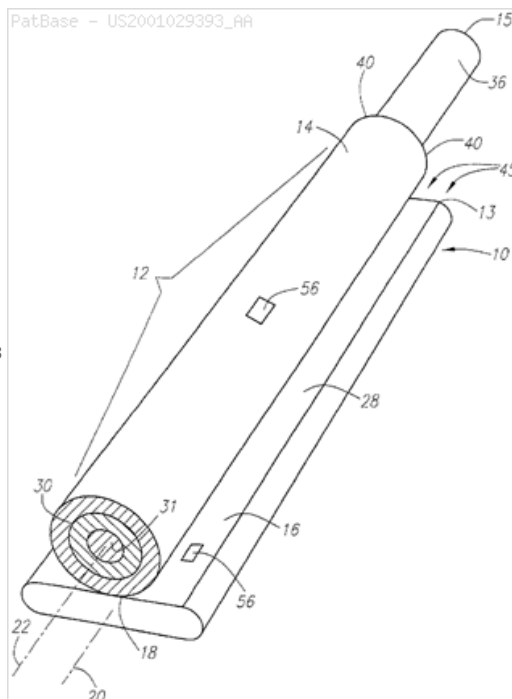
Title: THERMOTHERAPY PROBE

Abstract: A thermotherapy device for treatment of diseased biological tissues. The thermotherapy device includes a primary and at least one secondary cooling and/or radiation shielding lumen. The lumens are connected or disposed adjacent one another along their longitudinal exterior walls. An energy source is insertable into one or more of the cooling lumens to carry out a heating protocol to treat the diseased tissue while screening and/or cooling normal tissue. A transrectal ultrasound positioning and temperature sensing device can control the energy source for effective treatment.

Classifications:

International (IPC 8-9): A61B18/18 A61B19/00 A61F7/00 A61F7/12 A61N5/04 A61N7/02 (Advanced/Invention); A61B17/00 A61B17/22 A61B18/00 A61B18/24 A61B19/00 A61F7/00 A61F7/12 A61N5/04 (Advanced/Non-invention); A61B18/18 A61B19/00 A61N5/02 A61N7/00 (Core/Invention);

A61B17/00 A61B19/00 A61F7/12 (Core/Non-invention)
International (IPC 1-7): A61B17/20 A61F2/00 A61F7/00 A61F7/12
A61N1/18 A61N5/04 A61N7/02
CPC: A61B90/04 A61B2090/0472 A61B2090/0481 A61B2090/049
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A61B18/1815 A61B18/18 A61B18/24 A61B2017/00092
A61B2017/00106 A61B2017/00274 A61B2017/22051
A61B2017/22065 A61B2018/00017 A61B2018/00547 A61F7/12
A61F2007/0095 A61N5/04 A61N7/02 A61N7/022
European: A61B18/18 A61B18/18M A61B19/40 A61F7/12
A61N5/04B A61N7/02 A61N7/02C K61B17/00C1T4 K61B17/00C1U
K61B17/00E1P K61B17/22H K61B17/22H7 K61B18/00A2A
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K61B19/40H K61B19/40J K61B19/52H14 K61B19/54F K61F7/00T
K61F7/12 K61N5/04
US: 128/662.03 600/439 600/459 601/2 601/3 601/3P 601/97
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Family:

Publication number	Publication date	Application number	Application date
EP0597463 A2	19940518	EP19930118223	19931110
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Probable Assignee: DORNIER MEDTECH AMERICA INC

Assignee(s): (std): DORNIER MEDICAL SYSTEMS INC ; DORNIER MED SYSTEMS INC ; DORNIER MEDICAL SERVICES INC ; UNIV CALIFORNIA ; DIEDERICH CHRIS J

Assignee(s): DIMONDA RICHARD ; BURDETTE EVERETTE C ; UNIV ; TIERNEY MARK ; UNIV OF CALIFORNIA ; DORNIER MEDICAL SYSTEMS INC ; DORNIER MEDTECH AMERICA INC ; OF CALIFORNIA UNIV ; THE REGENTS OF THE UNIVERSITY OF CALIFORNIA ; THE UNIV ; THE UNIV OF CALIFORNIA

Inventor(s): (std): TIERNEY MARK ; DIMONDA RICHARD ; DIEDERICH CHRIS J ; BURDETTE EVERETTE C DR ; BURDETTE EVERETTE C

Agent(s): JOHN P

Designated states: CH DE ES FR GB IT LI

9) Family number: 33328623 (US2006200120A)

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Title: APPARATUS FOR SWITCHING NOMINAL AND ATTENUATED POWER BETWEEN ABLATION PROBES

Abstract: A tissue ablation system comprises an ablation source, such as an RF ablation source, configured for generating a common power signal, and a power multiplexor configured for splitting the power signal into first and second power signals, substantially attenuating the second power signal relative to the first power signal to create nominal and attenuated power signals, and sequentially delivering the nominal power signal to each tissue ablation probe, while delivering the attenuated power signal to the remaining ablation probes to which the nominal power signal is currently not delivered.

Classifications:

International (IPC 8-9): A61B18/12 A61B18/14

A61B18/18 (Advanced/Invention);

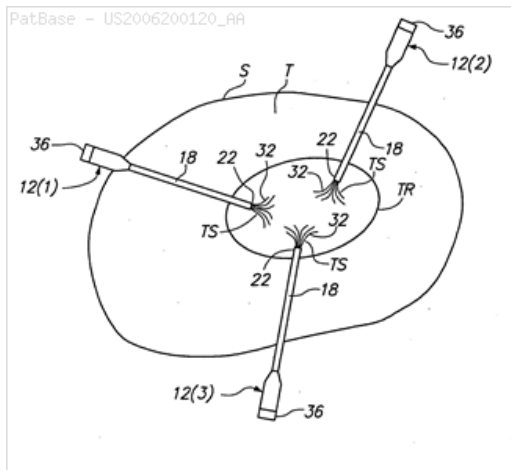
A61B18/12 A61B18/14 A61B18/18 (Core/Invention)

CPC: A61B18/14 A61B2560/0214 A61B18/1206 A61B18/1477

A61B2018/124 A61B2018/1273 A61B2018/1425

European: A61B18/12G

US: 606/33 606/33P 606/34 606/41 606/41P 606/41S 606/42

**Family:**

Publication number	Publication date	Application number	Application date
EP1855606 A1	20071121	EP20060736758	20060302
US2006200120 AA	20060907	US20050073917	20050307
US2010023002 AA	20100128	US20090573031	20091002
US2014364850 AA	20141211	US20140469267	20140826
US2019000527 AA	20190103	US20180105473	20180820
US7601149 BB	20091013	US20050073917	20050307
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Priority:

US20050073917 20050307 WO2006US07492 20060302 US20090573031 20091002
 US20140469267 20140826 US20180105473 20180820

Probable Assignee: SCIMED LIFE SYSTEMS INC**Assignee(s):** (std): DICARLO PAUL ; RIOUX ROBERT F ; SCIMED LIFE SYSTEMS INC ; BOSTON SCIENT SCIMED INC**Assignee(s):** BOSTON SCIENTIFIC SCIMED INC**Inventor(s):** (std): DICARLO PAUL ; RIOUX ROBERT F**Inventor(s):** RIOUX ROBERT**Agent(s):** VISTA IP LAW GROUP LLP; KACVINSKY DAISAK BLUNI PLLC; PAULY DEVRIES SMITH AND DEFFNER LLC

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LC LI LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MW MX MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

10) Family number: 60549694 (US2017072228A)

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Title: METHODS AND SYSTEMS FOR SELECTIVELY DISRUPTING TISSUE WITH HIGH INTENSITY FOCUSED ULTRASOUND

Abstract: Methods and systems for selectively disrupting tissue using high intensity focused ultrasound ("HIFU") therapy are disclosed herein. A method of treating tissue in accordance with an embodiment of the present technology can include, for example, pulsing HIFU waves from an ultrasound source toward a volume of tissue that includes an extracellular matrix ("ECM") and generating, from nonlinear propagation of the HIFU waves, shock waves in the tissue to induce boiling in the volume of the tissue. The method can further include lysing cells in the volume of tissue while leaving the ECM at least substantially intact. The emulsification of cells can be to a sufficient degree to decellularize the tissue and form a decellularized scaffold for subsequent tissue growth.

Classifications:**International (IPC 8-9):** A61N7/02 (Advanced/Invention)**CPC:** A61N2007/0091 A61N2007/0004 A61N7/02**US:** 601/3

Publication number	Publication date	Application number	Application date
US2017072228 AA	20170316	US20150126131	20150330
WO15153441 A1	20151008	WO2015US23306	20150330

Probable Assignee: OF WASHINGTON UNIV

Assignee(s): NATIONAL INSTITUTES OF HEALTH NIH US DEPT OF HEALTH AND HUMAN SERVICES DHHS US GOVERNMENT ; OF WASHINGTON UNIV

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR
CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID
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SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UB US UZ VC VN ZA ZM ZW

Abstract: A method and device for forming artificial openings in a biological membrane with a pyrotechnic charge that is exploded in a controlled manner in proximity of the biological membrane to form the artificial opening(s) therein. The method and device are useful in connection with transdermal delivery and monitoring applications.

CPC: A61B10/0045 A61B17/205 A61B2010/008 A61B2017/00761 A61K41/0047 A61M5/2046 A61M37/00 A61N1/30 A61M2005/3022 A61M2037/0038 A61M2037/0053 A61N1/0452 A61N1/0456 A61N1/306 A61N1/0412 A61M2037/0061 A61M2210/04 A61M37/0015 A61M2037/0023 A61N1/0424 A61N1/044 A61N1/325 A61B5/14503 A61B5/685 A61M2205/33 A61M2205/3303 A61M2230/20 A61N1/0476 A61N1/326 A61B5/14532 A61B5/15 A61M2037/0007 A61N1/0428 A61N1/303 A61N1/327

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Family:

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Probable Assignee: NITTO DENKO CORP

Assignee(s): (std): ALTEA TECH INC ; ALTEA TECHNOLOGIES ; ALTEA TECHNOLOGIES INC ; EPPSTEIN JONATHAN A ; EPPSTEIN JONATHAN ; ALTEA THERAPEUTICS CORP ; BRAUN STEVEN WILSON ; BRAUN STEPHEN W ; FARQUHAR DAVID ; BOWERMAN WENDY E ; BRAUN STEPHEN WILSON ; HATCH MICHAEL R ; MCRAE STUART ; KOCH ERIN MELISSA ; LANTZ LOREN J ; FISHER MARK JAMES ; KASCAK UROS ; NOVAKOVIC ZORAN ; MESSIER BERNADETTE ; HENKEL ERIN KOCH ; NITTO DENKO CORP ; SPECTRX INC ; SMITH ALAN ; PAPP JOSEPH ; O LEARY JEREMIAH PETER ; SPIEHL REGINA

Assignee(s): SPECTRX INC6000A UNITY DRIVENORCROSSGA30071US ; SMART TECHNOLOGIES INC ; ALTEA DEVELOPMENT CORP ; ALTEA DEVELOPMENT CORP2056 WEEMS ROADTUCKERGA30084US ; MIDCAP FUNDING III LLC SUCCESSOR IN INTEREST TO MIDCAP FINANCIAL LLC AS ; MIDCAP FUNDING III LLC ; MIDCAP FINANCIAL LLC ; MIDCAP FINANCIAL LLC AS AGENT AND AS A LENDER ; MIDCAP FINANCIAL LLC7255 WOODMOUNT AVESUITE 200BETHESDAMD20814US ; NITTO DENKO CORP1 - 2, SHIMOHOZUMI 1-CHOMEIBARAKI-SHI567-86800SAKAJP ; MIDCAP FUNDING III LLC400 - 7735 OLD GEORGETOWN ROADBETHESDAMD20814US ; NITTO DENKO IBARAKI SHI CORP ; GE BUSINESS FINANCIAL SERVICES INC ; KUMAR KRISHNA ; FAUPEL MARK L ; MIDCAP FINANCIAL LLC AGENT AND A LENDER AS ; MIDCAP FUNDING III LLC AGENT AS ; MIDCAP FUNDING III LLC SUCCESSOR IN INTEREST TO MI ; ALTEA TECHNOLOGIES INC100 - 387 TECHNOLOGY CIRCLE NWATLANTAGA30313-2412US ; ALTEA THERAPEUTICS CORP100 - 387 TECHNOLOGY CIRCLE NWATLANTAGA30313-2412US ; ALTES TECHNOLOGIES INC

Inventor(s): (std): FAUPEL MARK L ; HATCH MICHAEL R ; KUMAR KRISHNA ; EPPSTEIN JONATHAN ; PAPP JOSEPH ; ZORAN NOVAKOVIC ; WENDY E BOWERMAN ; UROS KASCAK ; STEVEN WILSON BRAUN ; SPIEHL REGINA ; REGINA SPIEHL ; MESSIER BERNADETTE ; MARK JAMES FISHER ; LOREN J LANTZ ; LANTZ LOREN J ; KOCH ERIN MELISSA ; KASCAK UROS ; JEREMIAH PETER O LEARY ; HATCH R ; O LEARY JEREMIAH PETER ; NOVAKOVIC ZORAN ; HATCH MICHAEL P ; FISHER MARK JAMES ; EPPSTEIN JONATHAN A ; DAVID FARQUHAR ; BRAUN STEVEN WILSON ; BRAUN STEPHEN W ; BOWERMAN WENDY E ; BERNADETTE MESSIER ; STUART MCRAE ; O LEARY JEREMIAH ; LANTZ LOREN ; KOCH ERIN ; HATCH MICHAEL ; FISHER MARK ; FAUPEL MARK ; BRAUN STEVEN ; BOWERMAN WENDY ; MICHAEL R HATCH ; MARK L FAUPEL ; KRISHNA KUMAR ; JOSEPH PAPP ; JONATHAN EPPSTEIN ; JONATHAN A EPPSTEIN ; SMITH ALAN ; MCRAE STUART ; OLEARY JEREMIAH PETER ; HENKEL ERIN KOCH ; ERIN KOCH MELISSA ; BRAUN STEPHEN WILSON ; FARQUHAR DAVID

Inventor(s): ERIN MELISSA KOCH ; EPPSTEIN JONATHAN AUS ; ALAN SMITH ; SPIEHL REGINA NORCROSS ; O LEARY JEREMIAH PETER CHICAGO ; NOVAKOVIC ZORAN ATLANTA ; MESSIER BERNADETTE ATLANTA ; MCRAE STUART DECATUR ; LANTZ LOREN J TUCKER ; KOCH ERIN MELISSA CHICAGO ; KASCAK UROS TUCKER ; FISHER MARK JAMES HIGHLAND PARK ; FARQUHAR DAVID COMMERCE ; EPPSTEIN JONATHAN A ATLANTA ; BRAUN STEVEN WILSON ROSWELL ; BOWERMAN WENDY E LAWRENCEVILLE ; O'LEARY JEREMIAH PETER ; FAUPEL MARK LUS ; MICHAEL P HATCH ; HATCH MICHAEL RUS ; KUMAR KRISHNAUS ; PAPP JOSEPHUS ; SMITH ALAN ATLANTA ; EPPSTEIN JONATHAN ATLANTA ; MCRAE STUART ATLANTA

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Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

12) Family number: 43926719 (US2009269317A)

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Title: IRREVERSIBLE ELECTROPORATION TO CREATE TISSUE SCAFFOLDS

Abstract: The present invention provides engineered tissue scaffolds, engineered tissues, and methods of using them. The scaffolds and tissues are derived from natural tissues and are created using non-thermal irreversible electroporation (IRE). Use of IRE allows for ablation of cells of the tissue to be treated, but allows vascular and neural structures to remain essentially unharmed. Use of IRE thus permits preparation of thick tissue scaffolds and tissues due to the presence of vasculature within the scaffolds. The engineered tissues can be used in methods of treating subjects, such as those in need of tissue replacement or augmentation.

Classifications:

International (IPC 8-9): A61B17/00 A61B18/00 A61B18/04
A61B18/12 A61B18/14 A61B18/18 A61B19/00 A61B34/10 A61B5/05
A61B5/055 A61B8/00 A61K35/12 A61L27/36 A61L27/38 A61M25/00
A61M31/00 A61M37/00 A61N1/00 A61N1/04 A61N1/05 A61N1/06
A61N1/18 A61N1/30 A61N1/32 A61N5/00 C12N13/00 C12N5/00
C12N5/02 C12N5/08 G06F17/50 (Advanced/Invention);
A61B18/00 A61B34/00 A61B34/10 A61B90/00 A61N1/04 A61N1/05
G06F19/00 (Advanced/Non-invention);
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C12N5/08 (Core/Invention)
CPC: A61M37/00 A61B18/18 A61N1/0424 A61B2018/00892
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European: A61B18/14 A61B18/14N A61K35/12 A61N1/32S
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PatBase - US2009269317_AA

Patent Application Publication Oct. 29, 2009 Sheet 1 of 7 US 20090269317 A1

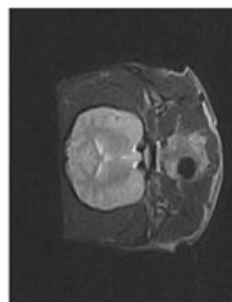


Figure 1A

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Priority:

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US20170424335 20170203	US20170423986 20170203	US20180881414 20180126
US20180152743 20181005		

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Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

13) Family number: 28241812 (US2002107511A)

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Title: APPARATUS AND METHODS FOR MAPPING AND ABLATION IN ELECTROPHYSIOLOGY PROCEDURES

Abstract: An electrophysiology catheter and method of use for mapping and ablation procedures. The catheter includes a braided conductive member at its distal end that can be radially expanded. The catheter can be used in endocardial and epicardial mapping and ablation procedures.

Classifications:

International (IPC 8-9): A61B17/00 A61B18/00 A61B18/02

A61B18/12 A61B18/14 A61B18/18 A61B5/01 A61B5/0408

A61B5/0478 A61B5/0492 (Advanced/Invention);

A61B17/00 A61B18/00 (Advanced/Non-invention)

International (IPC 1-7): A61B18/00 A61B18/02 A61B18/12 A61B18/14 A61B18/18 A61B5/00 A61B5/04 A61B5/0408

A61B5/0478 A61B5/0492

CPC: A61B18/1492 A61B2017/003 A61B2018/00029 A61B2018/00083 A61B2018/0016 A61B2018/00196 A61B2018/00214

A61B2018/00267 A61B2018/00577 A61B2018/00797 A61B2018/00821 A61B2018/00946 A61B2018/1497

European: A61B18/14V K61B17/00E3G K61B18/00A2E K61B18/00B12C K61B18/00B14 K61B18/00B14C K61B18/00B2G4

K61B18/00B6 K61B18/00G1 K61B18/00H12B1 K61B18/00H12B5 K61B18/00N1C1 K61B18/14Y

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4C160 4C160/JJ11 4C160/JK01 4C160/KK04 4C160/KK07 4C160/KK36 4C160/KK37 4C160/KK47 4C160/MM33 4C160/NN02

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JP F-Index: A61B17/00/700 A61B17/36 A61B17/36/310 A61B17/36/330 A61B17/36/340 A61B17/39 A61B18/02 A61B18/08

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Family:

Publication number	Publication date	Application number	Application date
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Priority:

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Assignee(s): C R BARD INC ; CR BARD INC ; CRBARD INC ; BOSTON SCIENTIFIC SCIMED INC ; BOSTON SCIENTIFIC SCIMED INC MAPLE GROVE

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Inventor(s): BURNS STEVEN J HAVERHILL ; BENE ERIC A LYNN ; COLLINS DENYSE M DERRY ; BENE ERIC ; GIBSON CHARLES A MALDEN ; FALWELL GARY S WILMINGTON ; COLLINS RUSSELL F SANDOWN ; SAGON STEPHEN W AMHERST ; PATTERSON DONALD F NORTH CHELMSFORD ; LECLAIR PAUL E MERRIMACK ; JAIS PIERRE AVENUE DE MAGELLAN33604 ; HE DING SHENG TYNGSBORO ; SAGON STEPHEN ; PATTERSON DONALD ; LECLAIR PAUL ; GIBSON CHARLES ; FALWELL GARY ; COLLINS DENYSE ; BURNS STEVEN

Agent(s): PFENNING MEINIG AND PARTNER MBB PATENTANWALTE; STYLE KELDA CAMILLA KAREN ET AL; DRIVER VIRGINIA ROZANNE ET AL; DRIVER VIRGINIA ROZANNE; PFENNING MEINIG AND PARTNER GBR; CHIBA AKIO; MASUI CHUJI; HOSHINO OSAMU; ONO SHINJIRO; TOMITA HIROYUKI; SHAMOTO ICHIO; KOBAYASHI YASUSHI; WOLF GREENFIELD AND SACKS PC FEDERAL RESERVE PLAZA; WOLF GREENFIELD AND SACKS PC; SEAGER TUFTE AND WICKHEM LLC

Designated states: AT BE CH CY DE DK ES FI FR GB GR IE IT JP LI LU MC NL PT SE TR