

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT3095308

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	SECURITY INTEREST
CONVEYING PARTY DATA	
Name	Execution Date
ARTERIOCYTE MEDICAL SYSTEMS, INC.	10/24/2014
RECEIVING PARTY DATA	
Name:	COMERICA BANK
Street Address:	39200 W. SIX MILE ROAD
Internal Address:	MC 7578
City:	LIVONIA
State/Country:	MICHIGAN
Postal Code:	48152
PROPERTY NUMBERS Total: 61	
Property Type	Number
Patent Number:	5964724
Patent Number:	6855119
Patent Number:	6444228
Patent Number:	6830762
Patent Number:	7811607
Patent Number:	7838039
Patent Number:	6942639
Patent Number:	6942880
Application Number:	11172200
Patent Number:	7934603
Application Number:	12459829
Application Number:	12079238
Patent Number:	7347948
Patent Number:	6605028
Patent Number:	6951612
Patent Number:	6612975
Patent Number:	6589153
Application Number:	11985616
Patent Number:	7811463
Patent Number:	6579219

PATENT

Property Type	Number
Patent Number:	5855773
Patent Number:	7897054
Patent Number:	6582350
Patent Number:	7252758
Patent Number:	7306555
Patent Number:	7867159
Patent Number:	6983038
Patent Number:	6835316
Application Number:	11796045
Patent Number:	8669106
Application Number:	11282276
Application Number:	12454839
Application Number:	12454832
Application Number:	12001257
Patent Number:	7306741
Patent Number:	6827863
Patent Number:	7635343
Patent Number:	8088099
Patent Number:	6596181
Patent Number:	5964690
Patent Number:	6475175
Patent Number:	6610002
Patent Number:	6899813
Patent Number:	7413652
Patent Number:	6793828
Application Number:	14099769
Patent Number:	8303993
Application Number:	10848302
Application Number:	11049010
Patent Number:	6890728
Application Number:	09832881
Patent Number:	6589155
Patent Number:	6936033
Patent Number:	7604626
Patent Number:	7883501
Patent Number:	5851169
Patent Number:	6790371
Patent Number:	6596180
Patent Number:	6887371

PATENT

REEL. 034170 FRAME. 0304

Property Type	Number
Patent Number:	6719901
Patent Number:	5769385

CORRESPONDENCE DATA

Fax Number: (858)550-6420

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: 858-550-6403

Email: erin.obrien@cooley.com

Correspondent Name: ERIN O'BRIEN

Address Line 1: C/O COOLEY LLP

Address Line 2: 4401 EASTGATE MALL

Address Line 4: SAN DIEGO, CALIFORNIA 92121

ATTORNEY DOCKET NUMBER:	036703-1334 ARTERIOCYTE
NAME OF SUBMITTER:	ERIN O'BRIEN
SIGNATURE:	/Erin O'Brien/
DATE SIGNED:	11/05/2014

Total Attachments: 8

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AMENDED AND RESTATED INTELLECTUAL PROPERTY SECURITY AGREEMENT

This Amended and Restated Intellectual Property Security Agreement (the "**AR IPSA**") is entered into as of October 24, 2014 by and between COMERICA BANK ("**Bank**") and ARTERIOCYTE MEDICAL SYSTEMS, INC., a Delaware corporation ("**Grantor**").

RECITALS

A. Bank has agreed to make certain advances of money and to extend certain financial accommodations to Grantor (the "**Loans**") in the amounts and manner set forth in that certain Loan and Security Agreement by and between Bank and Grantor dated of October 24, 2007, as amended by that certain First Amendment to Loan and Security Agreement dated as of January 17, 2008, that certain Second Amendment and Waiver to Loan and Security Agreement dated as of March 26, 2009, that certain Third Amendment and Waiver to Loan and Security Agreement dated as of January 11, 2010, that certain Fourth Amendment to Loan and Security Agreement dated as of May 13, 2010, that certain Fifth Amendment to Loan and Security Agreement dated as of June 24, 2010, that certain Sixth Amendment to Loan and Security Agreement, that certain Seventh Amendment to Loan and Security Agreement dated as of February 10, 2011, that certain Eighth Amendment to Loan and Security Agreement dated as of October 20, 2011 that certain Ninth Amendment to Loan and Security Agreement dated as of October 4, 2012, that certain Tenth Amendment to Loan and Security Agreement dated as of October 22, 2012, that certain Eleventh Amendment and Forbearance to Loan and Security Agreement dated as of November 8, 2013, that certain Twelfth Amendment and Waiver to Loan and Security Agreement dated as of January 31, 2014, that certain Thirteenth Amendment to Loan and Security Agreement dated as of March 20, 2014, and that certain Fourteenth Amendment to Loan and Security Agreement dated as of June 11, 2014 (collectively, the "**Original Loan Agreement**"). Bank and Grantor propose to enter into that certain Amended and Restated Loan and Security Agreement dated as of October 24, 2014 (as the same may from time to time be amended, modified, supplemented, or restated, the "**AR Loan Agreement**"). Capitalized terms used herein and not otherwise defined shall have the meaning as set forth in the AR Loan Agreement.

B. In connection with the Original Loan Agreement, Bank and Grantor entered into that certain Intellectual Property Security Agreement dated as of October 24, 2007, and Bank and Arterioocyte Medical Systems Manufacturing of Massachusetts Incorporated entered into that certain Intellectual Property Security Agreement dated as of March 26, 2009 (collectively, the "**Original IPSA**"). In connection with the AR Loan Agreement, Grantor and Bank wish to amend and restate the terms of the Original IPSA in accordance with the terms of this AR IPSA.

C. Bank is willing to enter into the AR Loan Agreement, but only upon the condition, among others, that Grantor shall grant to Bank a security interest in certain Copyrights, Trademarks and Patents to secure the obligations of Grantor under the AR Loan Agreement. Pursuant to the terms of the AR Loan Agreement, Grantor has granted to Bank a security interest in all of Grantor's right, title and interest, whether presently existing or hereafter acquired, in, to and under all of the Collateral.

NOW, THEREFORE, for good and valuable consideration, receipt of which is hereby acknowledged, and intending to be legally bound, as collateral security for the prompt and complete payment when due of its obligations under the AR Loan Agreement and all other agreements now existing or hereafter arising between Grantor and Bank, Grantor hereby represents, warrants, covenants and agrees as follows:

AGREEMENT

To secure its obligations under the AR Loan Agreement and under any other agreement now existing or hereafter arising between Grantor and Bank, Grantor grants and pledges to Bank a security interest in all of Grantor's right, title and interest in, to and under its Intellectual Property Collateral (including without limitation those Copyrights, Patents and Trademarks listed on Exhibits A, B and C hereto), and including without limitation all proceeds thereof (such as, by way of example but not by way of limitation, license royalties and proceeds of infringement suits), the right to sue for past, present and future infringements, all rights corresponding thereto

throughout the world and all re-issues, divisions continuations, renewals, extensions and continuations-in-part thereof.

This security interest is granted in conjunction with the security interest granted to Bank under the AR Loan Agreement. The rights and remedies of Bank with respect to the security interest granted hereby are in addition to those set forth in the AR Loan Agreement and the other Loan Documents, and those which are now or hereafter available to Bank as a matter of law or equity. Each right, power and remedy of Bank provided for herein or in the AR Loan Agreement or any of the Loan Documents, or now or hereafter existing at law or in equity shall be cumulative and concurrent and shall be in addition to every right, power or remedy provided for herein and the exercise by Bank of any one or more of the rights, powers or remedies provided for in this AR IPSA, the AR Loan Agreement or any of the other Loan Documents, or now or hereafter existing at law or in equity, shall not preclude the simultaneous or later exercise by any person, including Bank, of any or all other rights, powers or remedies.

Grantor represents and warrants that Exhibits A, B, and C attached hereto set forth any and all intellectual property rights in connection to which Grantor has registered or filed an application with either the United States Patent and Trademark Office or the United States Copyright Office, as applicable.

This AR IPSA may be executed in two or more counterparts, each of which shall be deemed an original but all of which together shall constitute the same instrument.

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IN WITNESS WHEREOF, the parties have caused this Amended and Restated Intellectual Property Security Agreement to be duly executed by its officers thereunto duly authorized as of the first date written above.

GRANTOR:

Address of Grantor:

45 South Street, Suite 270
Hopkinton, MA 01748
Attn: Manager

ARTERIOCYTE MEDICAL SYSTEMS, INC.

By: 

Name: Donald Baum

Title: Chief Executive Officer

BANK:

COMERICA BANK

Address of Bank:

M/C 7578
39200 Six Mile Road
Livonia, MI 48152
Attn: Livonia Operations Center

By: 

Name: Walter Weston

Title: VP

EXHIBIT A

Copyrights

<u>Description</u>	<u>Registration Number</u>	<u>Registration Date</u>
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EXHIBIT B**Patents**

Description	Patent / Application Number	Issue/ Application Date
Apparatus and method for blood separation	5,964,724	10/12/99
Apparatus for sequestering platelet rich plasma	6,855,119	02/15/05
Autologous fibrin sealant and method for making same	6,444,228	09/03/02
Autologous fibrin sealant and method for making same	6,830,762	12/14/04
Autologous fibrin sealant and method for making same	7,811,607	10/12/10
Autologous fibrin sealant and method for making same	7,838,039	11/23/10
Autologous platelet gel delivery system	6,942,639	09/13/05
Autologous platelet gel having beneficial geometric shapes and methods of making the same	6,942,880	09/13/05
Autologous platelet gel having beneficial geometric shapes and methods of making the same	11/172,200	06/30/05
Autologous platelet gel spray delivery system	7,934,603	05/03/11
Biological therapeutic compositions and methods thereof	12/459,829	07/07/09
Blood centrifuge having clamshell blood reservoir holder with index line	12/079,238	03/24/08
Blood centrifuge having clamshell blood reservoir holder with index line	7,347,948	03/25/08
Blood centrifuge having integral heating to control cellular component temperature	6,605,028	08/12/03
Blood centrifuge having overhanging disposable blood container	6,951,612	10/04/05
Blood centrifuge with an enhanced internal drive assembly	6,612,975	09/02/03
Blood centrifuge with exterior mounted, self-balancing collection chambers	6,589,153	07/08/03
Cell-based therapies for treating liver disease	11/985,616	11/15/07
Centrifuge apparatus and methods for on-line harvesting of a predetermined component of a fluid medium	7,811,463	10/12/10

Description	Patent / Application Number	Issue/ Application Date
Centrifuge bag and methods of use	6,579,219	06/17/03
Centrifuge bowl housing and latch for blood separation apparatus	5,855,773	01/05/99
Centrifuge container and methods of use	7,897,054	03/01/11
Centrifuge container having curved linear shape	6,582,350	06/24/03
Centrifuge system utilizing disposable components and automated processing of blood to collect platelet rich plasma	7,252,758	08/07/07
Centrifuge system utilizing disposable components and automated processing of blood to collect platelet rich plasma	7,306,555	12/11/07
Centrifuge system utilizing disposable components and automated processing of blood to collect platelet rich plasma	7,867,159	01/11/11
Centrifuge system utilizing disposable components and automated processing of blood to collect platelet rich plasma	6,983,038	01/03/06
Clam shell blood reservoir holder with index line	6,835,316	12/28/04
Compositions and methods of preparation thereof	11/796,045	04/26/07
Erythrocytes differentiated in vitro from nanofiber expanded DC 133+ cells	8,669,106	03/11/14
Fibrin sealants and platelet concentrates applied to effect homeostasis at the interface of an implantable medical device with body tissue	11/282,276	11/18/05
Flexible centrifuge bag and methods of use	12/454,839	05/21/09
Flexible centrifuge bag and methods of use	12/454,832	05/21/09
Flexible centrifuge bag and methods of use	12/001,257	12/10/07
Flexible centrifuge bag and methods of use	7,306,741	12/11/07
Flexible centrifuge bag and methods of use	6,827,863	12/07/04
Fluid dispenser	7,635,343	12/22/09
Fluid dispenser	8,088,099	01/03/12
Hard shell disposable reservoir having complex internal design for use in a centrifuge	6,596,181	07/22/03
Mechanism for fixing a blood centrifuge bowl to a rotating spindle	5,964,690	10/12/99

Description	Patent / Application Number	Issue/ Application Date
Method and apparatus for sequestering platelet rich plasma	6,475,175	11/05/02
Method for handling blood sample to ensure blood components are isolated	6,610,002	08/26/03
Method for the production of a blood component composition	6,899,813	05/31/05
Method for the production of a blood component composition	7,413,652	08/19/08
Method of separating and collecting components from a fluid	6,793,828	09/21/04
Methods and compositions for culturing cells	14/099,769	12/06/13
Methods for applying a biological composition to an individual	8,303,993	11/06/12
Methods of applying a biological composition to an individual	10/848,302	05/18/04
Methods of applying a biological composition to an individual	11/049,010	02/02/05
Methods of isolating blood components using a microcentrifuge and uses thereof	6,890,728	05/10/05
Miniaturized blood centrifuge having side mounted motor with belt drive	09/832,881	04/09/01
Miniaturized blood centrifuge having side mounted motor with belt drive	6,589,155	07/08/03
Multiple ratio fluid dispenser	6,936,033	08/30/05
Multiple ratio fluid dispenser	7,604,626	10/20/09
Multiple ratio fluid dispenser	7,883,501	02/08/11
Rotary plate and bowl clamp for blood centrifuge	5,851,169	12/22/98
System and method for automated separation of blood components	6,790,371	09/14/04
System and method for the production of autologous platelet gel	6,596,180	07/22/03
System for automated separation of fluid components	6,887,371	05/03/05
System for the production of autologous platelet gel useful for the delivery of medicinal and genetic agents	6,719,901	04/13/04
Tubing clamps for blood separating apparatus	5,769,385	06/23/98

EXHIBIT C**Trademarks**

Description	Registration/ Application Number	Registration/ Application Date
ALL PRP IS NOT CREATED EQUAL	86/289,917	05/22/14
MAGELLAN	2,900,650	11/02/04
MAR01	77/921,667	01/27/10
MAR01	4,505,555	04/01/04
EQUINE-STEM	3,779,173	04/20/10
SPORT-PREP	3,693,939	10/06/09
STEM-PREP	3,693,938	10/06/09
ARTERIOCYTE MEDICAL SYSTEMS	3,854,317	09/28/10

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