

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT4263928

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	SECURITY INTEREST
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
GRIFOLS SHARED SERVICES NORTH AMERICA INC.	01/31/2017
GRIFOLS THERAPEUTICS INC.	01/31/2017
GRIFOLS BIOLOGICALS INC.	01/31/2017
BIOMAT USA, INC.	01/31/2017
GRIFOLS DIAGNOSTIC SOLUTIONS INC.	01/31/2017
GRIFOLS WORLDWIDE OPERATIONS USA, INC.	01/31/2017
GRIFOLS USA, LLC	01/31/2017
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	BANK OF AMERICA, N.A., AS COLLATERAL AGENT
<b>Street Address:</b>	101 N TRYON ST
<b>Internal Address:</b>	ONE INDEPENDENCE CENTER, ATTN: MAC LEGAL
<b>City:</b>	CHARLOTTE
<b>State/Country:</b>	NORTH CAROLINA
<b>Postal Code:</b>	28255-0001
<b>PROPERTY NUMBERS Total: 65</b>	
<b>Property Type</b>	<b>Number</b>
Patent Number:	5319072
Patent Number:	5356878
Patent Number:	5399670
Patent Number:	5288853
Patent Number:	5561108
Patent Number:	5688912
Patent Number:	5723579
Patent Number:	5844087
Patent Number:	6037452
Patent Number:	6121422
Patent Number:	6693173
Patent Number:	5286849
Patent Number:	5659017

Property Type	Number
Patent Number:	6566504
Patent Number:	5744586
Patent Number:	6162904
Patent Number:	5561115
Patent Number:	5610285
Patent Number:	5783663
Patent Number:	5831003
Patent Number:	5911165
Patent Number:	5985836
Patent Number:	6355243
Patent Number:	6462180
Patent Number:	6964764
Patent Number:	6969515
Patent Number:	7544500
Patent Number:	7871608
Patent Number:	8075175
Patent Number:	8231869
Patent Number:	8852585
Application Number:	12741030
Patent Number:	8560246
Patent Number:	8101394
Patent Number:	8772461
Patent Number:	8617863
Patent Number:	9206410
Application Number:	14819001
Patent Number:	8596326
Application Number:	14926450
Patent Number:	8759293
Patent Number:	8648177
Patent Number:	8840637
Patent Number:	9121857
Patent Number:	9273366
Patent Number:	9512493
Application Number:	13761684
Patent Number:	8182808
Application Number:	15161931
Application Number:	14803416
Patent Number:	8034913

Property Type	Number
Patent Number:	8268782
Patent Number:	8420079
Patent Number:	8512980
Application Number:	14294460
Application Number:	14221341
Patent Number:	6391298
Patent Number:	8232369
Patent Number:	6984492
Patent Number:	6521226
Patent Number:	9290820
Application Number:	15312365
Application Number:	12724032
Application Number:	14288691
Application Number:	62442134

#### CORRESPONDENCE DATA

##### Fax Number:

*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: 2028357500

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Correspondent Name: JAVIER J. RAMOS

Address Line 1: 1850 K STREET, N.W., SUITE 1100

Address Line 2: MILBANK, TWEED, HADLEY & MCCLOY LLP

Address Line 4: WASHINGTON, D.C. 20006

ATTORNEY DOCKET NUMBER: 26152.17101

NAME OF SUBMITTER: JAVIER J. RAMOS

SIGNATURE: /Javier J. Ramos/

DATE SIGNED: 02/07/2017

#### Total Attachments: 10

source=2.5 Grifols - Patent Security Agreement [Executed]#page1.tif  
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## PATENT SECURITY AGREEMENT

This **PATENT SECURITY AGREEMENT**, dated as of January 31, 2017 (as it may be amended, restated, supplemented or otherwise modified from time to time, this “Agreement”), is made by the entities identified as grantors on the signature pages hereto (collectively, the “Grantors”) in favor of **BANK OF AMERICA, N.A.**, as collateral agent for the Secured Parties (in such capacity, together with its successors and permitted assigns, the “Collateral Agent”).

**WHEREAS**, the Grantors are party to a Pledge and Security Agreement dated as of January 31, 2017 (the “Pledge and Security Agreement”) between each of the Grantors and the other grantors party thereto and the Collateral Agent pursuant to which the Grantors granted a security interest to the Collateral Agent in the Patent Collateral (as defined below) and are required to execute and deliver this Agreement.

**NOW, THEREFORE**, in consideration of the foregoing and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Grantors hereby agree with the Collateral Agent as follows:

### SECTION. 1. Defined Terms

Unless otherwise defined herein, terms defined in the Pledge and Security Agreement and used herein have the meaning given to them in the Pledge and Security Agreement.

### SECTION 2. Grant of Security Interest

Each Grantor hereby grants to the Collateral Agent, for the benefit of the Secured Parties, a security interest in and continuing lien on all of such Grantor’s right, title and interest in, to and under the following, in each case whether now owned or existing or hereafter acquired, developed, created or arising and wherever located (collectively, the “Patent Collateral”):

all United States issuances and applications for any of the following: patents and certificates of invention, or similar industrial property rights, and applications for any of the foregoing, including, but not limited to: (i) each patent and patent application listed or required to be listed in Schedule A attached hereto, (ii) all reissues, divisions, continuations, continuations-in-part, extensions, renewals, and reexaminations thereof, (iii) all patentable inventions and improvements thereto, (iv) all rights to sue or otherwise recover for any past, present and future infringement or other violation thereof, (v) all Proceeds of the foregoing, including, without limitation, license fees, royalties, income, payments, claims, damages, and proceeds of suit now or hereafter due and/or payable with respect thereto, and (vi) all other rights of any kind accruing thereunder or pertaining thereto throughout the world.

### SECTION 3. Security Agreement

The security interest granted pursuant to this Agreement is granted in conjunction with the security interest granted to the Collateral Agent for the Secured Parties pursuant to the Pledge and Security Agreement, and the Grantors hereby acknowledge and affirm that the rights and remedies of the Collateral Agent with respect to the security interest in the Patent Collateral made and granted hereby are more fully set forth in the Pledge and Security Agreement, the terms and provisions of which are incorporated by reference herein as if fully set forth herein. In the event that any provision of this Agreement is deemed to conflict with the Pledge and Security Agreement, the provisions of the Pledge and Security Agreement shall control.

#### **SECTION 4. Governing Law**

THIS AGREEMENT AND THE RIGHTS AND OBLIGATIONS OF THE PARTIES HEREUNDER AND ALL CLAIMS AND CONTROVERSIES ARISING OUT OF THE SUBJECT MATTER HEREOF WHETHER SOUNDING IN CONTRACT LAW, TORT LAW OR OTHERWISE SHALL BE GOVERNED BY, AND SHALL BE CONSTRUED AND ENFORCED IN ACCORDANCE WITH, THE LAWS OF THE STATE OF NEW YORK, WITHOUT REGARD TO CONFLICTS OF LAW PROVISIONS THAT WOULD RESULT IN THE APPLICATION OF ANY LAW OTHER THAN THE STATE OF NEW YORK (OTHER THAN ANY MANDATORY PROVISIONS OF LAW RELATING TO THE LAW GOVERNING PERFECTION AND THE EFFECT OF PERFECTION OF THE SECURITY INTEREST).

#### **SECTION 5. Counterparts**

This Agreement may be executed in one or more counterparts and by different parties hereto in separate counterparts, each of which when so executed and delivered shall be deemed an original, but all such counterparts together shall constitute but one and the same instrument.

[Remainder of page intentionally left blank]

**IN WITNESS WHEREOF**, each Grantor has caused this Agreement to be executed and delivered by its duly authorized officer as of the date first set forth above.

**GRIFOLS SHARED SERVICES NORTH AMERICA, INC.,**

as Grantor

By:   
Name: Alfredo Arroyo  
Title: Authorized Signatory

**GRIFOLS THERAPEUTICS INC.,**  
as Grantor

By:   
Name: Alfredo Arroyo  
Title: Authorized Signatory


**GRIFOLS BIOLOGICALS INC.,**  
as Grantor

By:   
Name: Alfredo Arroyo  
Title: Authorized Signatory

**BIOMAT USA, INC.,**  
as Grantor

By:   
Name: Alfredo Arroyo  
Title: Authorized Signatory

**GRIFOLS DIAGNOSTIC SOLUTIONS INC.,**  
as Grantor

By:   
Name: Alfredo Arroyo  
Title: Authorized Signatory

**GRIFOLS WORLDWIDE OPERATIONS USA,  
INC.**

as Grantor

By:  \_\_\_\_\_

Name: Alfredo Arroyo

Title: Authorized Signatory

**GRIFOLS USA, LLC,**

as Grantor

By:  \_\_\_\_\_

Name: Alfredo Arroyo

Title: Authorized Signatory

Accepted and Agreed:

**BANK OF AMERICA, N.A.,**  
as Collateral Agent

By: \_\_\_\_\_

Name:

Title:

*Angela Larkin*  
**Angela Larkin**  
**Assistant Vice President**

By: \_\_\_\_\_

Name:

Title:



**SCHEDULE A**  
**to**  
**PATENT SECURITY AGREEMENT**  
**PATENTS AND PATENT APPLICATIONS<sup>1</sup>**

<b>Title</b>	<b>Application No.</b>	<b>Filing Date</b>	<b>Patent No. / Pub No.</b>	<b>Issue Date / Pub Date</b>
HUMAN ANTITHROMBIN-III PREPARATION	07818831	01/10/1992	5319072	06/07/1994
GEL FILTRATION OF FACTOR VIII	08000852	01/04/1993	5356878	10/18/1994
SOLUBILIZATION AND STABILIZATION OF FACTOR VIII COMPLEX	08054903	04/29/1993	5399670	03/21/1995
FACTOR VIII PURIFICATION PROCESS	07876410	4/30/1992	5,288,853	2/22/1994
PREPARATION OF ALPHA-1-ANTICHYMOTRYPSIN	08282860	07/29/1994	5561108	10/01/1996
PEPTIDE LIGANDS WHICH BIND TO VON WILLEBRAND FACTOR	08537069	09/22/1995	5688912	11/18/1997
FIBRINOGEN BINDING PEPTIDES	08595718	02/02/1996	5723579	03/03/1998
METHOD AND DEVICE FOR DELIVERING FIBRIN GLUE	08744488	11/05/1996	5844087	12/01/1998
POLY(ALKYLENE OXIDE)-FACTOR VIII OR FACTOR IX CONJUGATE	07866518	04/10/1992	6037452	03/14/2000
METHOD AND DEVICE FOR DELIVERING FIBRIN GLUE	09200636	11/25/1998	6121422	09/19/2000 <sup>2</sup>
METHOD TO REMOVE CITRATE AND ALUMINUM FROM PROTEINS	09805397	03/13/2001	6693173	02/17/2004
PURIFICATION OF FACTOR IX	07913666	7/14/1992	5,286,849	2/15/1994
ANION EXCHANGE PROCESS FOR THE PURIFICATION OF FACTOR VIII	08554724	11/7/1995	5,659,017	8/19/1997
PROCESS FOR VIRAL INACTIVATION OF LYOPHILIZED BLOOD PROTEINS	09894346	6/28/2001	6,566,504	5/20/2003
MANUFACTURING PROCESS FOR THE PRODUCTION OF PURIFIED TRANSFERRIN	08668351	6/26/1996	5,744,586	4/28/1998

<sup>1</sup> Patent rights on this schedule that are registered to Talecris Biotherapeutics, Inc. are owned by Grifols Therapeutics Inc.

<sup>2</sup> Inventor assignment not recorded.

MANUFACTURING METHOD FOR INTRAVENOUSLY ADMINISTRABLE IMMUNE GLOBULIN AND RESULTANT PRODUCT	09421405	10/21/1999	6,162,904	12/19/2000
LOW TEMPERATURE ALBUMIN FRACTIONATION USING SODIUM CAPRYLATE AS A PARTITIONING AGENT	08288180	8/10/1994	5,561,115	10/1/1996
PURIFICATION OF ALPHA-1 PROTEINASE INHIBITOR USING NOVEL CHROMATOGRAPHIC SEPARATION CONDITIONS	08295119	8/24/1994	5,610,285	3/11/1997
PEPTIDE LIGANDS FOR AFFINITY PURIFICATION OF FIBRINOGEN	09012343	1/23/1998	5,783,663	7/21/1998
PEPTIDES WHICH BIND TO PROTHROMBIN AND THROMBIN	08672805	6/28/1996	5,831,003	11/3/1998
METHOD AND DEVICE FOR MECHANICAL TESTING OF FIBRIN GLUE STRENGTH	08864797	5/29/1997	5,911,165	6/8/1999
ALPHA-1 PROTEINASE INHIBITOR BINDING PEPTIDES	09127574	7/31/1998	5,985,836	11/16/1999
METHOD OF THROMBOLYSIS BY LOCAL DELIVERY OF ACTIVE PLASMIN, PLASMIN FORMULATION AND PROCESS OF PRODUCING	09438331	11/13/1999	6,355,243	3/12/2002
METHOD OF PREPARING ALPHA-1 PROTEINASE INHIBITOR	09449695	11/24/1999	6,462,180	10/8/2002
METHOD OF THROMBOLYSIS BY LOCAL DELIVERY OF REVERSIBLY INACTIVATED ACIDIFIED PLASMIN	10143157	5/10/2002	6,964,764	11/15/2005
METHOD OF THROMBOLYSIS BY LOCAL DELIVERY OF REVERSIBLY ACIDIFIED PLASMIN	10280444	10/25/2002	6,969,515	11/29/2005
PROCESS FOR THE PRODUCTION OF A REVERSIBLY INACTIVE ACIDIFIED PLASMIN COMPOSITION	10692105	10/23/2003	7,544,500	6/9/2009
REVERSIBLY INACTIVATED ACIDIFIED PLASMIN	12197617	8/25/2008	7,871,608	1/8/2011 <sup>3</sup>
METHOD FOR MELTING FROZEN, WATER-CONTAINING PRODUCTS IN A MIXER	10579401	2/1/2007	8,075,175	12/13/2011
RECOMBINANT PLASMIN FOR OPHTHALMIC INDICATIONS	12090782	3/23/2009	8,231,869	7/31/2012
METHOD OF TREATMENT AND PROPHYLAXIS OF DISEASES RELATED TO AMYLOID DEPOSITION USING IGM	12162532	5/7/2009	8,852,585	10/7/2014

<sup>3</sup> Inventor assignment not recorded.

METHOD COMPOSITION AND ARTICLE OF MANUFACTURE FOR PROVIDING ALPHA-1 ANTITRYPSIN	12741030	9/14/2010		
METHOD FOR ADJUSTING RESULTS OF A POLYMERASE CHAIN	12742801	9/14/2010	8,560,246	10/15/2013
RECOMBINANTLY MODIFIED PLASMIN	12744376	9/16/2010	8,101,394	1/24/2012
TWO-STAGE ULTRAFILTRATION / DIAFILTRATION	12937454	10/12/2010	8,772,461	7/8/2014
COMPOSITION, METHOD AND KIT FOR PREPARING PLASMIN	12995447	3/18/2011	8,617,863	12/31/2013
COMPOSITION, METHOD AND KIT FOR PREPARING PLASMINOGEN, AND PLASMIN DERIVED THEREFROM	13147491	9/23/2011	9,206,410	12/8/2015
COMPOSITION, METHOD AND KIT FOR PREPARING PLASMINOGEN, AND PLASMIN DERIVED THEREFROM	14819001	8/5/2015		
DEVICE FOR MAINTAINING STERILE INTEGRITY OF CONNECTED FLUID	13262269	12/16/2011	8,596,326	12/3/2013
COMPOSITION, METHOD, AND KIT FOR ALPHA-1 PROTEINASE INHIBITOR	14926450	10/29/2015 <sup>4</sup>		
VON WILLEBRAND FACTOR (VWF)-CONTAINING PREPARATIONS, AND METHODS, KITS, AND USES RELATED THERETO	13509309	7/31/2012	8,759,293	6/24/2014
LYOPHILIZATION METHODS, COMPOSITIONS AND KITS	13510401	10/31/2012	8,648,177	2/11/2014
THERAPEUTIC DELIVERY DEVICES, SYSTEMS, AND METHODS	13581697	11/12/2012	8,840,637	9/23/2014
IMMUNOCHROMATOGRAPHY DEVICES, METHODS AND KITS	13823505	3/14/2013	9,121,857	9/1/2015
METHODS, COMPOSITIONS, AND KITS FOR DETERMINING HUMAN IMMUNODEFICIENCY VIRUS (HIV)	14119563	11/22/2013	9,273,366	3/1/2016
COMPOSITIONS, METHODS, AND KITS FOR NUCLEIC ACID HYBRIDIZATION	14237746	6/5/2014	9,512,493	12/6/2016 <sup>5</sup>
REVERSIBLY INACTIVATED ACIDIFIED PLASMIN COMPOSITION	13761684	2/7/2013		
RECOMBINANTLY MODIFIED PLASMIN	13302322	11/22/2011	8,182,808	5/22/2012 <sup>6</sup>

<sup>4</sup> Inventor assignment not recorded.

<sup>5</sup> Typo in inventor name in recorded inventor assignment.

<sup>6</sup> Inventor assignment not recorded.

METHOD OF PREPARING ALPHA-1 PROTEINASE INHIBITOR	15161931	5/23/2016		
IMMUNOCHROMATOGRAPHY DEVICES, METHODS, AND KITS	14803416	7/20/2015 <sup>7</sup>		
RECOMBINANTLY MODIFIED PLASMIN	11568023	2/1/2008	8,034,913	10/11/2011 <sup>8</sup>
PROCESS FOR THE PRODUCTION OF A REVERSIBLY INACTIVE ACIDIFIED PLASMIN COMPOSITION	12399438	3/6/2009	8,268,782	9/18/2012 <sup>9</sup>
RECOMBINANTLY MODIFIED PLASMIN	13223373	9/1/2011	8,420,079	4/16/2013 <sup>10</sup>
RECOMBINANTLY MODIFIED PLASMIN	13463437	5/3/2012	8,512,980	8/20/2013 <sup>11</sup>
TWO-STAGE ULTRAFILTRATION/DIAFILTRATION	14294460	6/3/2014 <sup>12</sup>		
METHODS, COMPOSITIONS, AND KITS FOR DETERMINING HUMAN IMMUNODEFICIENCY VIRUS (HIV)	14221341	3/21/2014 <sup>13</sup>		
METHOD OF USING PON-1 TO DECREASE ATHEROMA FORMATION	09199672	11/25/1998	6,391,298	5/21/2002
DEVICE AND METHOD FOR PRECIPITATION OF PEPTIDES	12520117	12/23/2009	8,232,369	7/31/2012 <sup>14</sup>
METHODS AND COMPOSITIONS FOR TREATING HERPES INFECTIONS	10656781	9/5/2003	6,984,492	1/10/2006
METHOD OF USING PON-1 TO DECREASE ATHEROMA FORMATION	10105640	03/25/2002	6,521,226	02/18/2003
METHODS FOR DETECTION OF PARVOVIRUS B19	14053245	10/14/2013	9,290,820	3/22/2016 <sup>15</sup>
DEVICE AND METHOD FOR DETECTING BLOOD GROUP ANTIGENS BY MEANS OF AN INCOMPLETE ANTIBODY	15312365	5/23/2015		
HUMAN ERYTHROVIRUS	12724032	3/15/2010		
HUMAN ERITROVIRUS	14288691	5/28/2014		
COMPOSITION COMPRISING HIGHLY CONCENTRATED ALPHA -1- PROTEINASE INHIBITOR AND METHOD FOR OBTAINING THEREOF	62442134	1/4/2017		

<sup>7</sup> Inventor assignment not recorded.

<sup>8</sup> Inventor assignment not recorded.

<sup>9</sup> Inventor assignment not recorded.

<sup>10</sup> Inventor assignment not recorded.

<sup>11</sup> Inventor assignment not recorded.

<sup>12</sup> Inventor assignment not recorded.

<sup>13</sup> Inventor assignment not recorded.

<sup>14</sup> Co-owned with Bayer Intellectual Property GmbH.

<sup>15</sup> Inventor assignment not recorded.

