

## TRADEMARK ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

ETAS ID: TM590692

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT		
<b>NATURE OF CONVEYANCE:</b>	SECURITY INTEREST		
<b>CONVEYING PARTY DATA</b>			
<b>Name</b>	<b>Formerly</b>	<b>Execution Date</b>	<b>Entity Type</b>
PAVMED INC.		08/05/2020	Corporation: DELAWARE
LUCID DIAGNOSTICS, INC		08/05/2020	Corporation: DELAWARE
<b>RECEIVING PARTY DATA</b>			
<b>Name:</b>	ALTO OPPORTUNITY MASTER FUND, SPC - SEGREGATED MASTER PORTFOLIO B		
<b>Street Address:</b>	222 BROADWAY		
<b>Internal Address:</b>	C/O AYRTON CAPITAL LLC, 19TH FLOOR		
<b>City:</b>	NEW YORK		
<b>State/Country:</b>	NEW YORK		
<b>Postal Code:</b>	10038		
<b>Entity Type:</b>	Corporation: DELAWARE		
<b>PROPERTY NUMBERS Total: 13</b>			
<b>Property Type</b>	<b>Number</b>	<b>Word Mark</b>	
<b>Serial Number:</b>	88347269	ESOGUARD	
<b>Serial Number:</b>	88361927	ESOSCREEN	
<b>Serial Number:</b>	88202914	PAVMED	
<b>Serial Number:</b>	88202918	PAVILION	
<b>Serial Number:</b>	88202925	PAVILION MEDICAL	
<b>Serial Number:</b>	88202913	PAVMED	
<b>Serial Number:</b>	88202911	PPPP	
<b>Serial Number:</b>	88202927	INNOVATING AT THE SPEED OF LIFE	
<b>Serial Number:</b>	87828085	CARPX	
<b>Serial Number:</b>	88602470	DEFY GRAVITY	
<b>Registration Number:</b>	5909679	ESOCHECK	
<b>Serial Number:</b>	88489566	COLLECT+PROTECT	
<b>Serial Number:</b>	88489564	COLLECT+PROTECT	
<b>CORRESPONDENCE DATA</b>			
<b>Fax Number:</b>			
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent</i>			

OP \$340.00 88347269

*using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.*

**Phone:** 212-808-7800  
**Email:** Trademarks@kelleydrye.com  
**Correspondent Name:** Patricia L. Werner  
**Address Line 1:** Kelley Drye & Warren LLP  
**Address Line 2:** 101 Park Avenue  
**Address Line 4:** New York, NEW YORK 10178

<b>NAME OF SUBMITTER:</b>	Patricia L. Werner
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<b>SIGNATURE:</b>	/Patricia L. Werner/
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<b>DATE SIGNED:</b>	08/06/2020
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**Total Attachments: 22**

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**INTELLECTUAL PROPERTY SECURITY AGREEMENT**

This INTELLECTUAL PROPERTY SECURITY AGREEMENT (as amended, modified, supplemented, renewed, restated or replaced from time to time, this “**IP Security Agreement**”), dated August 5, 2020, is made by the Persons listed on the signature pages hereof (collectively, the “**Grantors**”) in favor of Alto Opportunity Master Fund, SPC - Segregated Master Portfolio B, in its capacity as collateral agent (the “**Collateral Agent**”) for the Noteholders. All capitalized terms not otherwise defined herein shall have the meanings respectively ascribed thereto in the Security Agreement (as defined below).

WHEREAS, PAVmed Inc., a Delaware corporation with offices located at One Grand Central Place, Suite 4600, New York, NY 10165 (the “**Company**”), and each party listed as a “**Buyer**” therein (collectively, the “**Buyers**”) are parties to that certain (i) Securities Purchase Agreement, dated November 4, 2019, pursuant to which the “**Buyer**” specified therein purchased the “**Notes**” (as defined therein) issued pursuant thereto (as such Notes may be amended, modified, supplemented, renewed, restated or replaced from time to time in accordance with the terms thereof, collectively, the “**2019 Notes**”), and (ii) the Securities Purchase Agreement, dated as of August 5, 2020 (as amended, modified, supplemented, extended, renewed, restated or replaced from time to time, the “**2020 Securities Purchase Agreement**” and together with the 2019 Securities Purchase Agreement, the “**Securities Purchase Agreements**”) pursuant to which the Company shall be required to sell, and the “**Buyers**” specified therein shall purchase or have the right to purchase, the “**Notes**” (as defined therein) issued pursuant thereto (as such Notes may be amended, modified, supplemented, renewed, restated or replaced from time to time in accordance with the terms thereof, collectively, the “**2020 Note**”, and together with the 2019 Notes, the “**Notes**”);

WHEREAS, it is a condition precedent to the purchase of the Notes under the Securities Purchase Agreements that each Grantor has executed and delivered a Second Amended and Restated Security and Pledge Agreement, made by the Grantors to the Collateral Agent (as amended, modified, supplemented, renewed, restated or replaced from time to time, the “**Security Agreement**”); and

WHEREAS, under the terms of the Security Agreement, the Grantors have granted to the Collateral Agent, for the ratable benefit of the Collateral Agent and the Noteholders, a security interest in, among other property, certain intellectual property of the Grantors, and have agreed as a condition thereof to execute this IP Security Agreement for recording with the U.S. Patent and Trademark Office, the United States Copyright Office and other governmental authorities.

WHEREAS, the Grantors have determined that the execution, delivery and performance of this IP Security Agreement directly benefits, and is in the best interest of, the Grantors.

NOW, THEREFORE, in consideration of the premises and the agreements herein and in order to induce the Buyers to perform under the Securities Purchase Agreements, each Grantor agrees with the Collateral Agent, for the benefit of the Noteholders, as follows:

SECTION 1. Grant of Security. Each Grantor hereby grants to the Collateral Agent for the ratable benefit of the Collateral Agent and the Noteholders a security interest in all of such Grantor's right, title and interest in and to the following (the "Collateral"):

- (i) the Patents and Patent applications set forth in Schedule A hereto;
- (ii) the Trademark and service mark registrations and applications set forth in Schedule B hereto (provided that no security interest shall be granted in United States intent-to-use trademark applications to the extent that, and solely during the period in which, the grant of a security interest therein would impair the validity or enforceability of such intent-to-use trademark applications under applicable federal law), together with the goodwill symbolized thereby;
- (iii) all Copyrights, whether registered or unregistered, now owned or hereafter acquired by such Grantor, including, without limitation, the copyright registrations and applications and exclusive copyright licenses set forth in Schedule C hereto;
- (iv) all reissues, divisions, continuations, continuations-in-part, extensions, renewals and reexaminations of any of the foregoing, all rights in the foregoing provided by international treaties or conventions, all rights corresponding thereto throughout the world and all other rights of any kind whatsoever of such Grantor accruing thereunder or pertaining thereto;
- (v) any and all claims for damages and injunctive relief for past, present and future infringement, dilution, misappropriation, violation, misuse or breach with respect to any of the foregoing, with the right, but not the obligation, to sue for and collect, or otherwise recover, such damages; and
- (vi) any and all proceeds of, collateral for, income, royalties and other payments now or hereafter due and payable with respect to, and supporting obligations relating to, any and all of the Collateral of or arising from any of the foregoing.

SECTION 2. Security for Obligations. The grant of a security interest in, the Collateral by each Grantor under this IP Security Agreement secures the payment of all Obligations of such Grantor now or hereafter existing under or in respect of the Notes and the Transaction Documents, whether direct or indirect, absolute or contingent, and whether for principal, reimbursement obligations, interest, premiums, penalties, fees, indemnifications, contract causes of action, costs, expenses or otherwise.

SECTION 3. Recordation. Each Grantor authorizes and requests that the Register of Copyrights, the Commissioner for Patents and the Commissioner for Trademarks and any other applicable government officer record this IP Security Agreement.

SECTION 4. Execution in Counterparts. This IP Security Agreement may be executed in any number of counterparts, each of which when so executed shall be deemed to be an original and all of which taken together shall constitute one and the same agreement.

SECTION 5. Grants, Rights and Remedies. This IP Security Agreement has been entered into in conjunction with the provisions of the Security Agreement. Each Grantor does hereby acknowledge and confirm that the grant of the security interest hereunder to, and the rights and remedies of, the Collateral Agent with respect to the Collateral are more fully set forth in the Security Agreement, the terms and provisions of which are incorporated herein by reference as if fully set forth herein.

SECTION 6. Governing Law; Jurisdiction; Jury Trial.

(i) All questions concerning the construction, validity, enforcement and interpretation of this Agreement shall be governed by the internal laws of the State of New York, without giving effect to any choice of law or conflict of law provision or rule (whether of the State of New York or any other jurisdictions) that would cause the application of the laws of any jurisdictions other than the State of New York.

(ii) Each Party hereby irrevocably submits to the exclusive jurisdiction of the state and federal courts sitting in The City of New York, Borough of Manhattan, for the adjudication of any dispute hereunder or in connection herewith or under any of the other Transaction Documents or with any transaction contemplated hereby or thereby, and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim, defense or objection that it is not personally subject to the jurisdiction of any such court, that such suit, action or proceeding is brought in an inconvenient forum or that the venue of such suit, action or proceeding is improper. Each party hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof to such party at the address for such notices to it under Section 9(f) of each of the Securities Purchase Agreement and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any manner permitted by law. Nothing contained herein shall be deemed or operate to preclude the Collateral Agent or the Noteholders from bringing suit or taking other legal action against any Grantor in any other jurisdiction to collect on a Grantor's obligations or to enforce a judgment or other court ruling in favor of the Collateral Agent or a Noteholder.


(iii) WAIVER OF JURY TRIAL, ETC. EACH PARTY IRREVOCABLY WAIVES ANY RIGHT IT MAY HAVE TO, AND AGREES NOT TO REQUEST, A JURY TRIAL FOR THE ADJUDICATION OF ANY DISPUTE HEREUNDER OR UNDER ANY OTHER TRANSACTION DOCUMENT OR IN CONNECTION WITH OR ARISING OUT OF THIS AGREEMENT, ANY OTHER TRANSACTION DOCUMENT OR ANY TRANSACTION CONTEMPLATED HEREBY OR THEREBY.

(iv) Each Party irrevocably and unconditionally waives any right it may have to claim or recover in any legal action, suit or proceeding referred to in this Section any special, exemplary, indirect, incidental, punitive or consequential damages.

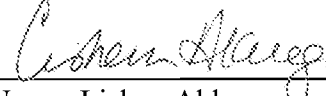
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IN WITNESS WHEREOF, each Grantor has caused this Agreement to be duly executed and delivered by its officer thereunto duly authorized as of the date first above written.

PAVMED INC.

By:   
Name: Lishan Aklog  
Title: CEO

LUCID DIAGNOSTICS, INC.

By:   
Name: Lishan Aklog  
Title: Executive Chairman

Address for Notices:

One Grand Central Place  
Suite 4600  
New York, New York 10165

*[Signature Page to Second A&R IP Security Agreement]*

**TRADEMARK**  
**REEL: 007016 FRAME: 0927**

**Schedule A**  
**Patents**

See Exhibit-1 attached.

**Schedule B**  
**Trademarks**

See Exhibit-1 attached.



**Schedule C  
Copyrights**

<b><u>Grantor</u></b>	<b><u>Country</u></b>	<b><u>Title</u></b>	<b><u>Type of Work</u></b>	<b><u>Application or Registration No.</u></b>	<b><u>Issue Date</u></b>	<b><u>Assignees</u></b>
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N/A

**EXHIBIT-1**

[PAVMED (155848) Master Patent Status Chart as of 3/4/2020]

PAVMED (155848) Master Patent Status Chart as of 7/13/2020									
Patent #	Country	Title	Status	Application No./ Application Date	Publication No./ Publication Date	Patent No./ Issue Date	Inventories / Applicants	Action Due	Comments
010100/PRO	US	Long-Term Intraosseous Infusion Ports	Expired	62079,266 11/13/2014			Lishan Aklog		Converted to 010101/US and 010102/PCT
010101/US	US	Intraosseous Infusion Ports	Granted	14940,889 11/13/2015	2016-0136410 A1 8/19/2016	10,426,940 10/1/2019	Lishan Aklog Brian J. DeGuzman Mark Orphanos	Request for Reissue Due 10/1/2021	Directed to the inputs/outputs of the channel being in axial alignment and the septum with guide pathway fallback
010102/PCT	PCT	Intraosseous Infusion Ports	Expired	PCT/US15/060669 11/13/2015	WO 2016/017748 8/19/2016		Lishan Aklog Brian J. DeGuzman Mark Orphanos		Nationalized in 010103/AU, 010104/CA, 010105/CN, 010106/EP, 010107/JP
010103/AU	Australia	Intraosseous Infusion Ports	Pending Application	2015346130 11/13/2015			Lishan Aklog Brian J. DeGuzman Mark Orphanos	Acceptance Deadline 8/8/2020	
010104/CA	Canada	Intraosseous Infusion Ports	Pending Application	2967759 11/13/2015			Lishan Aklog Brian J. DeGuzman Mark Orphanos	Request for Examination Due 11/13/2020	
010105/CN	China	Intraosseous Infusion Ports	Pending Published	201580061766.3 11/13/2015	106999646A 8/1/2017		Lishan Aklog Brian J. DeGuzman Mark Orphanos	Response to Office Action Due 8/2/2020	
010106/EP	Europe	Intraosseous Infusion Ports	Pending Published	15859903.5 11/13/2015	3218026 9/20/2017		Lishan Aklog Brian J. DeGuzman Mark Orphanos	Response to Deficient Limitation Request 11/9/2020	Directed to a concave shape with sloped walls and fallback having inputs/outputs of the channel being aligned in a same direction
010107/JP	Japan	Intraosseous Infusion Ports	Pending Published	2017-544850 11/13/2015	2018-500145 1/11/2018		Lishan Aklog Brian J. DeGuzman Mark Orphanos		Directed to the channel being aligned in a same direction and the anchor channel terminating at an opening
010108/US/DIV	US	Intraosseous Infusion Ports	Granted	15964,292 4/27/2018	2018-0256869 8/13/2018	10,434,296 10/8/2019	Lishan Aklog Brian J. DeGuzman Mark Orphanos	Request for Reissue Due 10/8/2021	
010109/PRO	US	Infusion Ports and Methods of Use	Expired	62820,742 3/19/2019			Lishan Aklog, Richard Yazbeck, Melissa Alvarez, Kevin Guhl, Daniel Jimenez, Michaela Salisbury		
010110/US			To be filed						procedural simplification, installation tool improved needle insertion Pediatric PortIO
010111/JP/DIV	JP	Infusion Ports and Methods of Use	Pending Published	2019-171926 9/20/2019	2020-014870 1/30/2020		Lishan Aklog Brian J. DeGuzman Mark Orphanos		
010200/PRO	US	Self-Anchoring Catheters and Methods of Use	Expired	62083,838 12/1/2014			Lishan Aklog Brian J. DeGuzman		Converted to 010201/US and 010202/PCT
010201/US	US	Self-Anchoring Catheters and Methods of Use	Granted	14956,141 12/1/2015	2016-0151608 A1 6/2/2016	10,252,034 4/9/2019	Lishan Aklog Brian J. DeGuzman	Request for Reissue Due 4/9/2021	
010202/PCT	PCT	Self-Anchoring Catheters and Methods of Use	Expired	PCT/US15/063221 12/1/2015	WO 2016/089894 6/9/2016		Lishan Aklog Brian J. DeGuzman		Nationalized in 010204/AU, 010205/CA, 010206/CN, 010207/EP, 010208/JP
010204/AU	Australia	Self-Anchoring Catheters and Methods of Use	Granted	2015355062 12/1/2015		2015355062 7/9/2020	Lishan Aklog Brian J. DeGuzman		Foreign Associate received instructions 11/18
010205/CA	Canada	Self-Anchoring Catheters and Methods of Use	Pending Published	2,969,448 6/9/2016	2,969,448 6/9/2016		Lishan Aklog Brian J. DeGuzman	Request for Examination due 12/1/2020	
010206/CN	China	Self-Anchoring Catheters and Methods of Use	Pending Published	201580065441.2 12/1/2015	107106813A 8/29/2017		Lishan Aklog Brian J. DeGuzman	Response to Office Action Due 7/21/2020, ext. to 9/21/2020	
010207/EP	Europe	Self-Anchoring Catheters and Methods of Use	Pending Published	15865776.7 12/1/2015	3226955 10/11/2017		Lishan Aklog Brian J. DeGuzman		
010208/JP	Japan	Self-Anchoring Catheters and Methods of Use	Pending Application	2017-530180 12/1/2015			Lishan Aklog Brian J. DeGuzman		
010209/US/DIV1	US	Self-Anchoring Catheters and Methods of Use	Pending Published	16251,372 1/18/2019	US-2019-0151618-A1 5/23/2019		Lishan Aklog Brian J. DeGuzman		Divisional application based on US app 14956,141 (010201); directed to canceled claims 5-9
010210/US/DIV2	US	Self-Anchoring Catheters and Methods of Use	Pending Published	16251,397 1/18/2019	US-2019-0151619-A1 5/23/2019		Lishan Aklog Brian J. DeGuzman		Divisional application based on US app 14956,141 (010201); directed to canceled claims 10-17
010211/US/DIV3	US	Self-Anchoring Catheters and Methods of Use	Pending Published	16251,411 1/18/2019	US-2019-0151620-A1 5/23/2019		Lishan Aklog Brian J. DeGuzman		Divisional application based on US app 14956,141 (010201); directed to canceled claims 18-20
010212/JP/DIV	JP	Self-Anchoring Catheters and Methods of Use	Pending Published	2019-008109 12/1/2015	2019-088839 6/13/2019		Lishan Aklog Brian J. DeGuzman		Divisional application based on JP app 2017-530180 (010208); directed to canceled claims 5-9
010213/JP/DIV	JP	Self-Anchoring Catheters and Methods of Use	Pending Application	2020-080451 4/30/20			Lishan Aklog Brian J. DeGuzman		based on 010208
010300/PRO	US	Systems and Methods for Percutaneous Division of Fibrous Structures	Expired	62086,950 12/3/2014			Lishan Aklog Brian J. DeGuzman		Converted to 010301/US and 010302/PCT
010301/US	US	Systems and Methods for Percutaneous Division of Fibrous Structures	Granted	14958,003 12/3/2015	2016-015780 A1 6/9/2016	10,335,189 7/2/2019	Lishan Aklog Brian J. DeGuzman	Request for Reissue Due 7/2/2021	
010302/PCT	PCT	Systems and Methods for Percutaneous Division of Fibrous Structures	Expired	PCT/US15/063703 12/3/2015	WO 2016/090122 6/9/2016		Lishan Aklog Brian J. DeGuzman		Nationalized in 010304/AU, 010305/CA, 010306/CN, 010307/EP, 010308/JP
010303/US	US	Systems and Methods for Minimally-Invasive Division of Fibrous Structures	Pending Application	16984,648 5/27/2020					Introducer Sheath/Method Serrary Nerve Sensing/Method commercial embodiment
010304/AU	Australia	Systems and Methods for Percutaneous Division of Fibrous Structures	Allowed	201538424 12/3/2015		201538424	Lishan Aklog Brian J. DeGuzman	Divisional Application Due 7/30/2020	

[PAVMED (155848) Master Patent Status Chart as of 3/4/2020]

PAVMED (155848) Master Patent Status Chart as of 7/13/2020									
010305/CA	Canada	Systems and Methods for Percutaneous Division of Fibrous Structures	Pending Application	2,969,579 12/3/2015				Lishan Aklog Brian J. DeGuzman	Request for Examination Due 12/3/2020
010306/CN	China	Systems and Methods for Percutaneous Division of Fibrous Structures	Granted	201580072247.7 12/3/2015	107106200A 8/29/2017	ZL 201580072247.7 4/17/2020		Lishan Aklog Brian J. DeGuzman	
010307/EP	Europe	Systems and Methods for Percutaneous Division of Fibrous Structures	Pending Published	15865054.9 12/3/2015	3226783 10/11/2017			Lishan Aklog Brian J. DeGuzman	
010308/JP	Japan	Systems and Methods for Percutaneous Division of Fibrous Structures	Pending Published	2017-530119 12/3/2015	2018-501847 1/25/2018			Lishan Aklog Brian J. DeGuzman	Response to Office Action due 8/7/2020
010309/US/DIV	US	Systems and Methods for Percutaneous Division of Fibrous Structures	Pending Published	15964531 4/27/2018	2018-0342995 8/30/2018			Lishan Aklog Brian J. DeGuzman	
010310/US/DIV	US	Systems and Methods for Percutaneous Division of Fibrous Structures	Pending Published	15964550 4/27/2018	2018-0271552 9/27/2018			Lishan Aklog Brian J. DeGuzman	
010320/PCT	PCT	Systems and Methods for Minimally-Invasive Division of Fibrous Structures	Pending Application	PCT/US2020034686 5/27/2020					20Mo National Phase Deadline 1/27/2022  PCT of 010303
010400/PRO	US	Continuous Flow Balloon Catheter Systems and Methods of Use	Expired	62131214 3/10/2015				Lishan Aklog Brian J. DeGuzman	Converted to 010403/US and 010404/PCT
010401/PRO	US	Continuous Flow Thermal Ablation Balloon Catheter Systems and Methods of Use	Expired	62131217 3/10/2015				Lishan Aklog Brian J. DeGuzman	Converted to 010403/US and 010404/PCT
010403/US	US	Continuous Flow Balloon Catheter Systems and Methods of Use	Granted	15067148 3/10/2016	2016-0262823 A1 9/15/2016	10213245 2/26/2019		Lishan Aklog Brian J. DeGuzman	Request for Reissue Due 2/26/2021
010404/PCT	PCT	Continuous Flow Balloon Catheter Systems and Methods of Use	Expired	PCT/US16/021804 3/10/2016	WO 2016/145214 9/15/2016			Lishan Aklog Brian J. DeGuzman	Nationalize in EP only
010405/EP	EP	Continuous Flow Balloon Catheter Systems and Methods of Use	Pending Published	16762527.6 3/10/2016	3267955 1/17/2018			Lishan Aklog Brian J. DeGuzman	
010406/DIV1	US	Continuous Flow Balloon Catheter Systems and Methods of Use	Pending Published	15923140 3/16/2018	2018-0199983 7/19/2018			Lishan Aklog Brian J. DeGuzman	
010407/DIV2	US	Continuous Flow Balloon Catheter Systems and Methods of Use	Pending Published	15923224 3/16/2018	2018-0199984 7/19/2018			Lishan Aklog Brian J. DeGuzman	
010408/CON	US	Continuous Flow Balloon Catheter Systems and Methods of Use	Granted	16254717 1/23/2019	US-2019-0151007-A1 5/23/2019	10,687,883 6/23/2020		Lishan Aklog Brian J. DeGuzman	Request for Reissue 6/23/2022
010501/US (previously Pavilion Holdings 010301)	US	System and Methods for Infusion of Fluids Using Stored Potential Energy and A Variable Flow Resistor	Granted	13041296 3/4/2011	2011-0251579 10/13/2011	8,622,976 1/7/2014		Lishan Aklog, Brian DeGuzman, Michael Gernon, Paul John Cronin, William Edgar Barker	
010504/PCT/EP (previously Pavilion Holdings 010304)	EP	System and Methods for Infusion of Fluids Using Stored Potential Energy and A Variable Flow Resistor	Granted	11751472.9 3/4/2011	2542297 1/9/2013	2542297 5/6/2020		Lishan Aklog, Brian DeGuzman, Michael Gernon, Paul John Cronin	National Validation Deadline 8/6/2020  Monitoring communication for notification of Grant date.
010505/EP/DIV	EP	System and Methods for Infusion of Fluids Using Stored Potential Energy and A Variable Flow Resistor	Pending Published	19158539.1 3/4/2011	EP3511049 7/17/2019				
010506/DIV (previously Pavilion Holdings 010306)	US	System and Methods for Infusion of Fluids Using Stored Potential Energy and A Variable Flow Resistor	Granted	14094046 12/2/2013	2014-0083529 A1 3/27/2017	9,155,834 10/13/2015		Lishan Aklog, Brian DeGuzman, Michael Gernon, Paul John Cronin, William Edgar Barker	
010508/PRO	US	Systems and Methods for a Variable Flow Resistor	Expired	62853005 4/10/2019				Lishan Aklog Richard Yazbeck	
010509/US	US	Systems and Methods for a Variable Flow Resistor	Pending Application	16845752 4/10/2020					Response to Office Action 10/10/2020, ext. to 1/10/2021  Microfluidics/DIP FloSure
010510/PCT	PCT	Systems and Methods for a Variable Flow Resistor	Pending Application	PCT/US20/27702 4/10/2020					20 Month National Phase Deadline 12/10/2020
010511/US			To be filed						
010801/PRO	PRO	A Catheter Device System and Method of Use	Expired	62849203 5/17/2019				Lishan Aklog, Michael Boutillette, Brian deGuzman, Gregory Eberl, Shaun O'Neil, Dennis Siedak, Richard Yazbeck	
010802/US	US	A Catheter Device System and Method of Use	Pending Application					Lishan Aklog, Michael Boutillette, Brian deGuzman, Gregory Eberl, Shaun O'Neil, Dennis Siedak, Richard Yazbeck	
010803/PCT	PCT	A Catheter Device System and Method of Use	Pending Application					Lishan Aklog, Michael Boutillette, Brian deGuzman, Gregory Eberl, Shaun O'Neil, Dennis Siedak, Richard Yazbeck	20Mo National Phase Deadline 1/17/2021
010901/PRO	PRO	Biological Sampling Device and Method of Use	To be filed						

[Case Western Reserve University (CWRU Reference #2014-2510) Patent Cases Status as of 7/13/2020]

Status	Application No. and Date	Publication No. and Date	Patent No. and Date	Country	Title	Comments	Due Dates
Expired	615/18027 12/12/2013			US	IAN BRUSH ESOPHAGEAL COLLECTION DEVICE		
Granted	15/103,638 6/10/2016	2016-0317132 11/3/2016	10,660,621 5/26/2020	US	DEVICE FOR COLLECTING A BIOLOGICAL SAMPLE		Request for Reissue 5/26/2022
Expired	PCT/US18/78083 12/12/2018	WO2018/099422 6/18/2018		FCY	DEVICE FOR COLLECTING A BIOLOGICAL SAMPLE		
Granted	2014361829 12/12/2014		2014361829 11/7/2019	AU	DEVICE FOR COLLECTING A BIOLOGICAL SAMPLE		
Published	2933550 12/12/2014	2933550 6/18/2015		CA	DEVICE FOR COLLECTING A BIOLOGICAL SAMPLE		
Published	14870556 12/12/2014	3079598 10/19/2016		EP	DEVICE FOR COLLECTING A BIOLOGICAL SAMPLE		
Published	16/405634 5/7/2019	2019-0261962 8/29/2019		US	DEVICE FOR COLLECTING A BIOLOGICAL SAMPLE		
Published	19208108.1 11/8/2019	3622894 3/18/2020		EP	DEVICE FOR COLLECTING A BIOLOGICAL SAMPLE		Response to Search Report/Examination Deadline 9/18/2020
Pending Application	2019253820 10/22/2019			AU	DEVICE FOR COLLECTING A BIOLOGICAL SAMPLE	DIV to pursue claims in US DIV application	Response to Examination Report 7/7/2020; Acceptance Deadline 4/2/2021
Expired	62/806213 5/3/2017			US	DEVICE FOR COLLECTING A BIOLOGICAL SAMPLE		
Expired	PCT/US18/030907 5/3/2018	WO2018/204659 11/8/2018		PCT	DEVICE FOR COLLECTING A BIOLOGICAL SAMPLE		
Published	16/610,115 11/1/2019	20200077992 3/12/2020		US	DEVICE FOR COLLECTING A BIOLOGICAL SAMPLE		
Pending Application	2018261544 11/4/2019			AU	DEVICE FOR COLLECTING A BIOLOGICAL SAMPLE		Examination Request Deadline 5/3/2023
Pending Application	3062305 11/1/2019			CA	DEVICE FOR COLLECTING A BIOLOGICAL SAMPLE		Examination Request Deadline 5/3/2023
Published	201880036871.5 12/3/2019	CN110709015 1/17/2020		CN	DEVICE FOR COLLECTING A BIOLOGICAL SAMPLE		Voluntary Amendments Deadline 8/5/2020
Published	18794027.5 11/5/2019	3618724 3/11/2020		EP	DEVICE FOR COLLECTING A BIOLOGICAL SAMPLE		Request to Record Application in Hong Kong due 9/11/2020
Pending Application	2019-560210 11/1/2019			JP	DEVICE FOR COLLECTING A BIOLOGICAL SAMPLE		Examination Request Deadline 5/3/2021
Pending Application	16/902,579 6/16/2020			US	Device for Biological Cell Collection and Method of Use	EsoCheck	
Pending Application	PCT/US2020/037883 6/16/2020			PCT	Device for Biological Cell Collection and Method of Use	EsoCheck	20 Month National Phase Deadline 2/16/2022; Art. 34 Amendments Due 4/16/2022
To be filed					Device for Biological Cell Collection and Method of Use	EsoCheck	
Pending Application	63/030,547 5/27/2020			US	Biological Sampling Device and Method of Use		Domestic/Foreign Conversion Deadline 5/27/2021

[Case Western Reserve University – Lucid – EsoGuard Patents]

1848493-0002-020-102	METHODS AND COMPOSITIONS FOR DETECTING COLON CANCERS	United States of America	Issued	12/215,608	8,481,707	1. A kit for detecting a vimentin-associated neoplasia in a subject, comprising at least a primer pair, wherein said primer pair is selected from the group of primer pairs consisting of: a) SEQ ID NOs: 62 and 63 b) SEQ ID NOs: 72 and 71 c) SEQ ID NOs: 23 and 24 d) SEQ ID NOs: 27 and 65 e) SEQ ID NOs: 39 and 64 f) SEQ ID NOs: 54 and 15; and g) SEQ ID NOs: 56 and 15.
1848493-0002-020-104	METHODS AND COMPOSITIONS FOR DETECTING COLON CANCERS	United States of America	Issued	13/105,588	8,221,977	1. A method for detecting a vimentin-associated proliferative disorder, comprising assaying a sample obtained from a patient for the presence of methylation within a nucleotide sequence as set forth in SEQ ID NO: 2 or fragments thereof, wherein methylation of said nucleotide sequence is indicative of a vimentin-associated proliferative disorder, and wherein said vimentin-associated proliferative disorder is a gastro-intestinal neoplasia.
1848493-0002-020-105	METHODS AND COMPOSITIONS FOR DETECTING COLON CANCERS	United States of America	Issued	13/167,670	8,415,102	1. A method for detecting neoplasia of the upper gastrointestinal tract, comprising: a) obtaining a human sample; and b) assaying said sample for the presence of methylation within a nucleotide sequence as set forth in SEQ ID NO: 2, wherein methylation of said nucleotide sequence is indicative of a neoplasia of the upper gastrointestinal tract.
1848493-0002-020-106	METHODS AND COMPOSITIONS FOR DETECTING GASTROINTESTINAL AND OTHER CANCERS	United States of America	Issued	13/670,155	9,580,754	1. An isolated polynucleotide comprising a bisulfite-converted nucleic acid, wherein the polynucleotide is 20-3000 nucleotides in length; wherein the polynucleotide comprises a region having: a) a nucleotide sequence comprising the bisulfite-converted methylated nucleotide sequence of SEQ ID NO: 41, SEQ ID NO: 42, or SEQ ID NO: 44, a complement thereof, or a fragment thereof; wherein said nucleotide sequence, said complement or said fragment is at least 20 nucleotides in length; or b) a nucleotide sequence that is at least 95% identical to the bisulfite-converted methylated nucleotide sequence of SEQ ID NO: 41, SEQ ID NO: 42, or SEQ ID NO: 44, a complement thereof, or a fragment thereof; wherein said nucleotide sequence, said complement or said fragment is at least 20 nucleotides in length; and wherein said nucleic acid, prior to bisulfite conversion, comprises at least one methylated cytosine and at least one unmethylated cytosine.
1848493-0002-020-107	METHODS AND COMPOSITIONS FOR DETECTING GASTROINTESTINAL AND OTHER CANCERS	United States of America	Issued	15/413,108	10,400,286	1. A method for detecting vimentin methylation in a human subject, comprising: a) obtaining a sample from a human subject suspected of having or is known to have colon neoplasia; and b) assaying a vimentin nucleic acid in the sample for the presence or absence of methylation within a nucleotide sequence selected from the group consisting of SEQ ID NO: 2 and fragments thereof, and SEQ ID NOS: 40-45.
1848493-0002-020-108	METHODS AND COMPOSITIONS FOR DETECTING GASTROINTESTINAL AND OTHER CANCERS	United States of America	Issued	16/388,029	10,450,615	A method for determining vimentin methylation in a human subject, comprising: a) obtaining a sample from a human subject; and b) assaying a vimentin nucleic acid in the sample for the presence or absence of methylation within a nucleotide sequence selected from the group consisting of SEQ ID NOS: 2 and fragments thereof, and SEQ ID NOS: 40-45, wherein the sample is obtained from a subject suspected of having or is known to have an esophageal neoplasia.
1848493-0002-020-109	METHODS AND COMPOSITIONS FOR DETECTING GASTROINTESTINAL AND OTHER CANCERS	United States of America	Pending	16/564,392		A method for determining vimentin methylation in a human subject, comprising assaying a vimentin nucleic acid in a sample obtained from a subject for the presence or absence of methylation within a sequence that is at least 95% identical to SEQ ID NO: 2 or fragments thereof or to any one of SEQ ID NOS: 40-45; wherein the sample was obtained from a subject suspected of having or that is known to have an esophageal neoplasia.
1848493-0002-020-AU2	METHODS AND COMPOSITIONS FOR DETECTING GASTROINTESTINAL AND OTHER CANCERS	Australia	Issued	2012272697		A method for detecting neoplasia of the upper gastrointestinal tract, comprising: a) obtaining a human sample; and b) assaying said sample for the presence of methylation within a nucleotide sequence as set forth in SEQ ID NO: 2, wherein methylation of said nucleotide sequence is indicative of a neoplasia of the upper gastrointestinal tract, wherein said neoplasia of the upper gastrointestinal tract is selected from the group consisting of: Barrett's esophagus, Barrett's esophagus with high grade dysplasia, esophageal neoplasia, adenocarcinoma of the gastroesophageal junction, and adenocarcinoma of the stomach.
1848493-0002-020-CA1	METHODS AND COMPOSITIONS FOR DETECTING COLON CANCERS	Canada	Issued	2,535,910	2,535,910	22. An oligonucleotide primer for detecting methylation of a vimentin nucleotide sequence, selected from SEQ ID NOS: 8-39, 52-53 and 54-72. 30. A polynucleotide having the nucleotide sequence of any one of SEQ ID NOS: 3-4, 6-7, 45-47 and 49-50.
1848493-0002-020-CA2	METHODS AND COMPOSITIONS FOR DETECTING GASTROINTESTINAL AND OTHER CANCERS	Canada	Pending	2,840,324		1. A method for detecting neoplasia of the upper gastrointestinal tract in a subject suspected of having or who is known to have a neoplasia of the upper gastrointestinal tract, comprising: assaying a sample from a subject for the presence of methylation within a nucleotide sequence that is at least 95% identical to SEQ ID NO: 2; wherein the sample comprises cells derived from upper gastrointestinal tract tissue; wherein the sample comprises a vimentin nucleotide sequence; wherein methylation of said nucleotide sequence is indicative of a neoplasia of the upper gastrointestinal tract; wherein said neoplasia of the upper gastrointestinal tract is selected from the group consisting of: Barrett's esophagus, Barrett's esophagus with high grade dysplasia, esophageal neoplasia, adenocarcinoma of the gastroesophageal junction, and adenocarcinoma of the stomach.
1848493-0002-020-CH2	METHODS AND COMPOSITIONS FOR DETECTING GASTROINTESTINAL AND OTHER CANCERS	Switzerland	Issued	12802150.8	EP2724154	1. A method for detecting neoplasia of the upper gastrointestinal tract, comprising: assaying a sample which has been obtained from a human for the presence of methylation within a nucleotide sequence as set forth in SEQ ID NO: 2; wherein methylation of said nucleotide sequence is indicative of a neoplasia of the upper gastrointestinal tract; wherein said neoplasia of the upper gastrointestinal tract is selected from the group consisting of: Barrett's esophagus, Barrett's esophagus with high grade dysplasia, esophageal neoplasia, and adenocarcinoma of the gastroesophageal junction.
1848493-0002-020-DE1	METHODS AND COMPOSITIONS FOR DETECTING COLON CANCERS	Germany	Issued	4781201.1	EP1660683	15. An oligonucleotide primer pair for detecting methylation of a vimentin nucleotide sequence, selected from the group consisting of [numerous primer pair sequences].
1848493-0002-020-DE2	METHODS AND COMPOSITIONS FOR DETECTING GASTROINTESTINAL AND OTHER CANCERS	Germany	Issued	12802150.8	EP2724154	A method for detecting neoplasia of the upper gastrointestinal tract, comprising: assaying a sample which has been obtained from a human for the presence of methylation within a nucleotide sequence as set forth in SEQ ID NO: 2; wherein methylation of said nucleotide sequence is indicative of a neoplasia of the upper gastrointestinal tract; wherein said neoplasia of the upper gastrointestinal tract is selected from the group consisting of: Barrett's esophagus, Barrett's esophagus with high grade dysplasia, esophageal neoplasia, and adenocarcinoma of the gastroesophageal junction.
1848493-0002-020-EP2	METHODS AND COMPOSITIONS FOR DETECTING COLON CANCERS	European Patent Office	Issued	4781201.1	EP1660683	15. An oligonucleotide primer pair for detecting methylation of a vimentin nucleotide sequence, selected from the group consisting of [numerous primer pair sequences].
1848493-0002-020-EP2	METHODS AND COMPOSITIONS FOR DETECTING GASTROINTESTINAL AND OTHER CANCERS	European Patent Office	Issued	12802150.8	EP2724154	1. A method for detecting neoplasia of the upper gastrointestinal tract, comprising: assaying a sample which has been obtained from a human for the presence of methylation within a nucleotide sequence as set forth in SEQ ID NO: 2; wherein methylation of said nucleotide sequence is indicative of a neoplasia of the upper gastrointestinal tract; wherein said neoplasia of the upper gastrointestinal tract is selected from the group consisting of: Barrett's esophagus, Barrett's esophagus with high grade dysplasia, esophageal neoplasia, and adenocarcinoma of the gastroesophageal junction.

[Case Western Reserve University – Lucid – EsoGuard Patents]

1848493-0002-020-ES2	METHODS AND COMPOSITIONS FOR DETECTING GASTROINTESTINAL AND OTHER CANCERS	Spain	issued	12802150.8	EP2724154	1. A method for detecting neoplasia of the upper gastrointestinal tract, comprising: assaying a sample which has been obtained from a human for the presence of methylation within a nucleotide sequence as set forth in SEQ ID NO:2; wherein methylation of said nucleotide sequence is indicative of a neoplasia of the upper gastrointestinal tract; wherein said neoplasia of the upper gastrointestinal tract is selected from the group consisting of: Barrett's esophagus, Barrett's esophagus with high grade dysplasia, esophageal neoplasia, and adenocarcinoma of the gastroesophageal junction.
1848493-0002-020-FR1	METHODS AND COMPOSITIONS FOR DETECTING COLON CANCERS	France	issued	04781201.1	EP1660683	15. An oligonucleotide primer pair for detecting methylation of a vimentin nucleotide sequence, selected from the group consisting of [numerous primer pair sequences].
1848493-0002-020-FR2	METHODS AND COMPOSITIONS FOR DETECTING GASTROINTESTINAL AND OTHER CANCERS	France	issued	12802150.8	EP2724154	1. A method for detecting neoplasia of the upper gastrointestinal tract, comprising: assaying a sample which has been obtained from a human for the presence of methylation within a nucleotide sequence as set forth in SEQ ID NO:2; wherein methylation of said nucleotide sequence is indicative of a neoplasia of the upper gastrointestinal tract; wherein said neoplasia of the upper gastrointestinal tract is selected from the group consisting of: Barrett's esophagus, Barrett's esophagus with high grade dysplasia, esophageal neoplasia, and adenocarcinoma of the gastroesophageal junction.
1848493-0002-020-GB1	METHODS AND COMPOSITIONS FOR DETECTING COLON CANCERS	United Kingdom	issued	04781201.1	EP1660683	15. An oligonucleotide primer pair for detecting methylation of a vimentin nucleotide sequence, selected from the group consisting of [numerous primer pair sequences].
1848493-0002-020-GB2	METHODS AND COMPOSITIONS FOR DETECTING GASTROINTESTINAL AND OTHER CANCERS	United Kingdom	issued	12802150.8	EP2724154	1. A method for detecting neoplasia of the upper gastrointestinal tract, comprising: assaying a sample which has been obtained from a human for the presence of methylation within a nucleotide sequence as set forth in SEQ ID NO:2; wherein methylation of said nucleotide sequence is indicative of a neoplasia of the upper gastrointestinal tract; wherein said neoplasia of the upper gastrointestinal tract is selected from the group consisting of: Barrett's esophagus, Barrett's esophagus with high grade dysplasia, esophageal neoplasia, and adenocarcinoma of the gastroesophageal junction.
1848493-0002-020-IE2	METHODS AND COMPOSITIONS FOR DETECTING GASTROINTESTINAL AND OTHER CANCERS	Ireland	issued	12802150.8	EP2724154	1. A method for detecting neoplasia of the upper gastrointestinal tract, comprising: assaying a sample which has been obtained from a human for the presence of methylation within a nucleotide sequence as set forth in SEQ ID NO:2; wherein methylation of said nucleotide sequence is indicative of a neoplasia of the upper gastrointestinal tract; wherein said neoplasia of the upper gastrointestinal tract is selected from the group consisting of: Barrett's esophagus, Barrett's esophagus with high grade dysplasia, esophageal neoplasia, and adenocarcinoma of the gastroesophageal junction.
1848493-0002-020-NL2	METHODS AND COMPOSITIONS FOR DETECTING GASTROINTESTINAL AND OTHER CANCERS	Netherlands	issued	12802150.8	EP2724154	1. A method for detecting neoplasia of the upper gastrointestinal tract, comprising: assaying a sample which has been obtained from a human for the presence of methylation within a nucleotide sequence as set forth in SEQ ID NO:2; wherein methylation of said nucleotide sequence is indicative of a neoplasia of the upper gastrointestinal tract; wherein said neoplasia of the upper gastrointestinal tract is selected from the group consisting of: Barrett's esophagus, Barrett's esophagus with high grade dysplasia, esophageal neoplasia, and adenocarcinoma of the gastroesophageal junction.
1848493-0002-020-SE2	METHODS AND COMPOSITIONS FOR DETECTING GASTROINTESTINAL AND OTHER CANCERS	Sweden	issued	12802150.8	EP2724154	1. A method for detecting neoplasia of the upper gastrointestinal tract, comprising: assaying a sample which has been obtained from a human for the presence of methylation within a nucleotide sequence as set forth in SEQ ID NO:2; wherein methylation of said nucleotide sequence is indicative of a neoplasia of the upper gastrointestinal tract; wherein said neoplasia of the upper gastrointestinal tract is selected from the group consisting of: Barrett's esophagus, Barrett's esophagus with high grade dysplasia, esophageal neoplasia, and adenocarcinoma of the gastroesophageal junction.
1848493-0002-096-301	METHODS AND COMPOSITIONS FOR DETECTING ESOPHAGEAL NEOPLASIAS AND/OR METAPLASIA	United States of America	Pending	15/540,956		A DNA molecule comprising a nucleotide sequence that is at least 80%, 85%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99% or 100% identical to any of the following sequences: SEQ ID NOs: 8234, 8276, 8318, 8360, 8248, 8290, 8332 or 8374 or a reverse complement or fragment thereof, wherein the DNA molecule is at least 50 nucleotides in length; and wherein the DNA molecule comprises a polynucleotide that is derived from a bisulfite treated Sq8E18 DNA molecule comprising more than nine methylated cytosines and at least one unmethylated cytosine.

[Case Western Reserve University – Lucid – EsoGuard Patents]

1848493-0002-096-AU1	METHODS AND COMPOSITIONS FOR DETECTING ESOPHAGEAL NEOPLASIAS AND/OR METAPLASIA	Australia	Pending	2015374019	A method of detecting the presence of an esophageal neoplasia or metaplasia in the esophagus in a human subject, comprising: a) obtaining a human sample; and b) assaying said sample for the presence of methylation within a nucleotide sequence spanning one or more of any of the chromosomal loci having a sequence that is at least 90% identical to the sequence of any one or more of: SEQ ID NOs: 1-856, 2569-3424, 5137-5926, 7507-7558, 7663-7714, 7819-7866, 7963-7990, 8047-8074, 8131-8156, 8209-8222, 8251-8264, 8293-8306, 8335-8348, 8405-8409, or 8420-8424, or complements or fragments thereof; wherein methylation of said nucleotide sequence is indicative of an esophageal neoplasia or metaplasia in the esophagus.
1848493-0002-096-CA1	METHOD AND COMPOSITIONS FOR DETECTING ESOPHAGEAL NEOPLASIAS IN THE ESOPHAGUS	Canada	Pending	2,972,782	A method of detecting the presence of an esophageal neoplasia or metaplasia in the esophagus in a human subject, comprising: a) obtaining a human sample; and b) assaying said sample for the presence of methylation within a nucleotide sequence spanning one or more of any of the chromosomal loci having a sequence that is at least 90% identical to the sequence of any one or more of: SEQ ID NOs: 1-856, 2569-3424, 5137-5926, 7507-7558, 7663-7714, 7819-7866, 7963-7990, 8047-8074, 8131-8156, 8209-8222, 8251-8264, 8293-8306, 8335-8348, 8405-8409, or 8420-8424, or complements or fragments thereof; wherein methylation of said nucleotide sequence is indicative of an esophageal neoplasia or metaplasia in the esophagus.
1848493-0002-096-EPT1	METHODS AND COMPOSITIONS FOR DETECTING ESOPHAGEAL NEOPLASIAS AND/OR METAPLASIA	European Patent Office	Pending	15876289.8	A bisulfite converted sequence comprising the bisulfite-converted nucleotide sequence of SqBE18 or a fragment or reverse complement thereof; wherein the bisulfite-converted nucleotide sequence comprises a nucleotide sequence that is at least 80%, 85%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99% or 100% identical to any of the following sequences: SEQ ID NOs: 8234, 8276, 8318, 8360, 8248, 8290, 8332 or 8374 or a fragment thereof, wherein the bisulfite-converted nucleotide sequence or reverse complement or fragment thereof is between 50 and 1000 nucleotides in length.
1848493-0002-098-301	METHODS AND COMPOSITIONS FOR DETECTING ESOPHAGEAL NEOPLASIAS AND/OR METAPLASIA	United States of America	Pending	16/315,405	A method of diagnosing whether a subject has an esophageal neoplasia or metaplasia, comprising: obtaining a sample from a subject; measuring the amount of methylated cytosines in CpG dinucleotides in a vimentin nucleic acid sequence, or portion thereof, obtained from the sample; wherein if at least 80% of the cytosines in CpG dinucleotides in the vimentin nucleic acid sequence, or portion thereof, are methylated, then the vimentin nucleic acid sequence, or portion thereof, is considered a methylated read; and measuring the number of methylated reads present in the sample; wherein if at least 1% of the vimentin nucleic acid sequences, or portions thereof, in the sample are methylated reads, then the subject is determined to have an esophageal neoplasia or metaplasia.
1848493-0002-098-AU1	METHODS AND COMPOSITIONS FOR DETECTING ESOPHAGEAL NEOPLASIAS AND/OR METAPLASIA	Australia	Pending	2017292668	A method of diagnosing whether a subject has an esophageal neoplasia or metaplasia, comprising: obtaining a sample from a subject; measuring the amount of methylated cytosines in CpG dinucleotides in a vimentin nucleic acid sequence, or portion thereof, obtained from the sample; wherein if at least 80% of the cytosines in CpG dinucleotides in the vimentin nucleic acid sequence, or portion thereof, are methylated, then the vimentin nucleic acid sequence, or portion thereof, is considered a methylated read; and measuring the number of methylated reads present in the sample; wherein if at least 1% of the vimentin nucleic acid sequences, or portions thereof, in the sample are methylated reads, then the subject is determined to have an esophageal neoplasia or metaplasia.
1848493-0002-098-CA1	METHODS AND COMPOSITIONS FOR DETECTING ESOPHAGEAL NEOPLASIAS AND/OR METAPLASIA	Canada	Pending	3,029,866	A method of diagnosing whether a subject has an esophageal neoplasia or metaplasia, comprising: obtaining a sample from a subject; measuring the amount of methylated cytosines in CpG dinucleotides in a vimentin nucleic acid sequence, or portion thereof, obtained from the sample; wherein if at least 80% of the cytosines in CpG dinucleotides in the vimentin nucleic acid sequence, or portion thereof, are methylated, then the vimentin nucleic acid sequence, or portion thereof, is considered a methylated read; and measuring the number of methylated reads present in the sample; wherein if at least 1% of the vimentin nucleic acid sequences, or portions thereof, in the sample are methylated reads, then the subject is determined to have an esophageal neoplasia or metaplasia.
1848493-0002-098-CN1	METHODS AND COMPOSITIONS FOR DETECTING ESOPHAGEAL NEOPLASIAS AND/OR METAPLASIA	China	Pending	201780054668.6	A method of diagnosing whether a subject has an esophageal neoplasia or metaplasia, comprising: obtaining a sample from a subject; measuring the amount of methylated cytosines in CpG dinucleotides in a vimentin nucleic acid sequence, or portion thereof, obtained from the sample; wherein if at least 80% of the cytosines in CpG dinucleotides in the vimentin nucleic acid sequence, or portion thereof, are methylated, then the vimentin nucleic acid sequence, or portion thereof, is considered a methylated read; and measuring the number of methylated reads present in the sample; wherein if at least 1% of the vimentin nucleic acid sequences, or portions thereof, in the sample are methylated reads, then the subject is determined to have an esophageal neoplasia or metaplasia.
1848493-0002-098-EPT1	METHODS AND COMPOSITIONS FOR DETECTING ESOPHAGEAL NEOPLASIAS AND/OR METAPLASIA	European Patent Office	Pending	17824802.7	A method of diagnosing whether a subject has an esophageal neoplasia or metaplasia, comprising: a) measuring the amount of methylated cytosines in CpG dinucleotides in a vimentin nucleic acid sequence, or portion thereof, obtained from the sample, said sample being obtained from a subject; wherein if at least 80% of the cytosines in CpG dinucleotides in the vimentin nucleic acid sequence, or portion thereof, are methylated, then the vimentin nucleic acid sequence, or portion thereof, is considered a methylated read; and ii) measuring the number of methylated reads present in the sample; wherein if at least 1% of the vimentin nucleic acid sequences, or portions thereof, in the sample are methylated reads, then the subject is determined to have an esophageal neoplasia or metaplasia.
1848493-0002-098-JP1	METHODS AND COMPOSITIONS FOR DETECTING ESOPHAGEAL NEOPLASIAS AND/OR METAPLASIA	Japan	Pending	2019-500232	A method of diagnosing whether a subject has an esophageal neoplasia or metaplasia, comprising: obtaining a sample from a subject; measuring the amount of methylated cytosines in CpG dinucleotides in a vimentin nucleic acid sequence, or portion thereof, obtained from the sample; wherein if at least 80% of the cytosines in CpG dinucleotides in the vimentin nucleic acid sequence, or portion thereof, are methylated, then the vimentin nucleic acid sequence, or portion thereof, is considered a methylated read; and measuring the number of methylated reads present in the sample; wherein if at least 1% of the vimentin nucleic acid sequences, or portions thereof, in the sample are methylated reads, then the subject is determined to have an esophageal neoplasia or metaplasia.
1848493-0002-099-WO2	COMPOSITIONS AND METHODS FOR PRESERVING DNA METHYLATION	PCT	Pending	PCT/US2020/034890	1. A composition comprising: a biological sample comprising a methylated DNA sequence, and a storage solution comprising methanol, wherein methylation patterns of the methylated DNA sequence are preserved.



[Solys Patent Status Chart as of 7/13/2020]

Solys Patent Status Chart as of 7/13/2020								
Matter No.	Country	Title	Status	Application Number and Date	Publication Number and Date	Patent Number	Comments	Due Dates
190535-050101/US	US	Reduction of scattering noise when using NDIR with a liquid sample	Granted	15/358,873 11/22/2016		9606053 3/28/2017		
190535-050102/CON	US	Reduction of scattering noise when using NDIR with a liquid sample	Granted	15/444,136 2/27/2017		9678000 6/13/2017		
190535-050103/CON	US	NDIR interference control in liquids	Granted	15/594,418 5/12/2017		9726601 8/8/2017		
190535-050104/CON	US	NDIR reflection sampling in liquids	Granted	15/644,775 7/8/2017		9823185 11/21/2017		
190535-050105/CON	US	NDIR Glucose Detection in Liquids	Granted	15/785,829 10/17/2017	2018-0153134 5/24/2018	10041881 8/7/2018		
190535-050106/PCT	PCT	NDIR Glucose Detection in Liquids	Expired	PCT/US2017/062475 11/20/2017	WO2018/098058 5/31/2018			
190535-050107/AU	AU	NDIR Glucose Detection in Liquids	Pending Published	2017366580 11/20/2017	2017366580 7/4/2019			Request for Examination 11/20/2022
190535-050108/CA	CA	NDIR Glucose Detection in Liquids	Pending	3041447 11/20/2017				Examination Request 11/20/2022
190535-050109/CN	CN	NDIR Glucose Detection in Liquids	Pending Published	201780082179.1 11/20/2017	CN110178006 8/27/2019			
190535-050110/EP	EP	NDIR Glucose Detection in Liquids	Pending Published	17873140.2 11/20/2017	3545273 10/2/2019			Response to Search Report 12/25/2020
190535-050111/IN	IN	NDIR Glucose Detection in Liquids	Pending	2019-17023554 11/20/2017				
190535-050112/JP	JP	NDIR Glucose Detection in Liquids	Pending	2019-547585 11/20/2017				Examination Request Deadline 11/20/2020
190535-050113/KR	KR	NDIR Glucose Detection in Liquids	Pending Published	2019-7017792 11/20/2017	1020190085993 7/19/2019			Examination Request Deadline 11/20/2020
190535-050114/CON	US	NDIR Glucose Detection in Liquids	Granted	16/056,531 8/7/2018	2019-0025207 1/24/2019	10241044 3/26/2019		Request for Reissue 3/26/2021
190535-050115/CON	US	Enhanced Optical Data Capture Using NDIR for Liquids	Granted	16/359,350 3/20/2019	2019-0219500 7/18/2019	10,473,586 11/12/2019		Request for Reissue 11/12/2021
190535-050116/CON	US	Enhanced Optical Data Capture Using NDIR for Liquids	Pending Published	16/600,466 10/12/2019	2020-0150033 5/14/2020			Response to Office Action 8/12/2020, ext. to 11/12/2020
190535-050117/PCT	PCT	Enhanced Optical Data Capture Using NDIR for Liquids	Pending	PCT/US2020/023914 3/20/2020				20 Month National Phase Deadline 11/20/2020

[PAVMED (155848) Master Trademark Status Chart]

PAVMED (155848) Master Trademark Status Chart								
Matter #	Country	Title	Application No. Application Date	Registration No. Issue Date	Status	Inventor(s) Applicant(s)	Action Due	Comments
030190	US	PORTIO	869464.255 11/21/2018		Abandoned	PAVmed, Inc.		
030200/1	US	PAVMED	88/202.914 11/21/2018		Pending Application	PAVmed, Inc.	Response to Office Action 4/2/2020	
030200/US	US	PAVMED	86643698 4/23/2018		Lapsed	PAVmed, Inc.		
030300/1	US	PAVILION	88/202.918 11/21/2018		Pending Allowed	PAVmed, Inc.	Statement of Use due 6/3/2020, ext. to 12/3/2022	
030300/US	US	PAVILION	86903801 4/23/2018		Lapsed	PAVmed, Inc.		
030400/1	US	PAVILION MEDICAL	88/202.925 11/21/2018		Pending Allowed	PAVmed, Inc.	Statement of Use due 6/3/2020, ext. to 12/3/2022	
030400/US	US	PAVILION MEDICAL	86692804 4/23/2018		Lapsed	PAVmed, Inc.		
030500/1	US	PAVmed (caps and small letters)	88/202.913 11/21/2018		Pending Application	PAVmed, Inc.	Response to Office Action 4/2/2020	
030500/US	US	PAVmed (caps and small letters)	86903807 4/23/2018		Lapsed	PAVmed, Inc.		
030700/1	US	PAVMED (logo) 	88/202.911 11/21/2018		Pending Allowed	PAVmed, Inc.	Statement of Use due 5/26/2020, ext. to 11/26/2022	
030700/US	US	PAVMED (logo) 	86643698 4/23/2018		Lapsed	PAVmed, Inc.		
030800/1	US	INNOVATING AT THE SPEED OF LIFE	88/202.927 11/21/2018		Pending Allowed	PAVmed, Inc.	Statement of Use due 5/26/2020, ext. to 11/26/2022	
030800/US	US	INNOVATING AT THE SPEED OF LIFE	867041196 5/26/2018		Lapsed	PAVmed, Inc.		
030900	US	CARPX	87/828.085 3/9/2018		Pending Allowed	PAVmed, Inc.	Response to Office Action due 4/21/2020	
030901	EU	CARPX	17885979 4/10/2018	017885978 8/20/2018	Registered	PAVmed, Inc.	Renewal Deadline 4/10/2028; Grace Period Ends 10/10/2028	
030902	UK	CARPX	UK00003302860 4/10/2018	UK00003302860 7/13/2018	Registered	PAVmed, Inc.	Renewal Deadline 4/10/2028; Grace Period Ends 10/10/2028	
030903	Brazil	CARPX	915801930 9/4/2018	915801930 7/30/2019	Registered	PAVmed, Inc.	Renewal Deadline 7/30/2029; Grace Period Ends 1/30/2030	
030904	Japan	CARPX	2018-95208 7/25/2018	6104949 12/7/2018	Registered	PAVmed, Inc.	Renewal Deadline 12/7/2028; Grace Period Ends 6/7/2029	
030905	Canada	CARPX	1913149 8/2/2018		Pending Application	PAVmed, Inc.		
030906	Australia	CARPX	1998007 3/22/2019	1998007 12/2/2019	Registered	PAVmed, Inc.	Renewal Deadline 3/22/2029; Grace Period Ends 9/22/2029	
031100	US	DEFY GRAVITY	87/828.083 3/9/2018		Abandoned	PAVmed, Inc.		Allowing to lapse per R Yurbeck, 3/23/19
031100	US	DEFY GRAVITY	88602470 9/3/2019		Pending Published	PAVmed, Inc.	Foreign Filings Deadline 3/3/2020	

[Lucid Diagnostics, Inc. (182338) Master Trademark Status Chart]

Lucid Diagnostics, Inc. (182338) Master Trademark Status Chart								
Matter #	Country	Title	Application No. Application Date	Registration No. Issue Date	Status	Inventor(s) (Applicant)	Action Due	Comments
031101	US	ESOCHEK	867991114 8/23/2018		Abandoned	Lucid Diagnostics		Allowing to lapse per R. Yarbeck, 3/21/19
031102	US	ESOCHECK CCD	18/274,813 1/24/19		Abandoned	Lucid Diagnostics		
031103	US	ESOCHECK DX	18/274,816 1/24/19		Abandoned	Lucid Diagnostics		Allowing to lapse per R. Yarbeck, 3/21/19
031104	Brazil	ESOCHECK CCD	918804383 2/22/19		Withdrawn	Lucid Diagnostics		Instructed 11/13/19 to abandon
031104	Brazil	ESOCHECK CCD	918804372 2/22/19		Withdrawn	Lucid Diagnostics		Instructed 11/13/19 to abandon
031105	Canada	ESOCHECK CCD	1947670 2/26/19		Pending Application	Lucid Diagnostics		
031106	Europe	ESOCHECK CCD	018027207 2/26/19		Withdrawn	Lucid Diagnostics		Instructed 8/5/19 to abandon
031107	Japan	ESOCHECK CCD	2019-25627 2/22/19		Withdrawn	Lucid Diagnostics		Instructed 11/13/19 to abandon, 18/2338- 021108
031108	Brazil	ESOCHECK DX	918804437 2/22/19		Abandoned	Lucid Diagnostics		Allowing to lapse per R. Yarbeck, 3/21/19
031108	Brazil	ESOCHECK DX	918804445 2/22/19		Abandoned	Lucid Diagnostics		Allowing to lapse per R. Yarbeck, 3/21/19
031109	Canada	ESOCHECK DX	1947671 2/26/19		Abandoned	Lucid Diagnostics		Allowing to lapse per R. Yarbeck, 3/21/19
031110	Europe	ESOCHECK DX	018027204 2/26/19		Abandoned	Lucid Diagnostics		Allowing to lapse per R. Yarbeck, 3/21/19
031111	Japan	ESOCHECK DX	2019-25635 2/22/19		Abandoned	Lucid Diagnostics		Allowing to lapse per R. Yarbeck, 3/21/19
031112	UK	ESOCHECK CCD	UK00003391816 4/12/19	UK00003391816 6/28/2019	Registered	Lucid Diagnostics	Renewal Deadline 4/12/2029; Renewal Grace Period Ends 10/12/2029	
031300	US	ESOGUARD	88/347,269 3/19/19		Allowed	Lucid Diagnostics	Statement of Use 9/3/2020, ext. to 3/3/2023	
031301	AU	ESOGUARD	2005586 4/26/19	2005586 10/28/2019	Registered	Lucid Diagnostics	Renewal Deadline 4/26/2029; Renewal Grace Period Ends 10/26/2029	
031302	CA	ESOGUARD	1959088 4/24/19		Pending Application	Lucid Diagnostics		
031303	EU	ESOGUARD	18055629 4/24/19	018055629 8/30/2019	Registered	Lucid Diagnostics	Renewal Deadline 4/24/2029; Grace Period Ends 10/24/2029	
031304	JP	ESOGUARD	2019-61214 4/25/19	6220664 1/29/2020	Registered	Lucid Diagnostics	Renewal Deadline 1/29/2030; Grace Period Ends 7/29/2030	
031305	UK	ESOGUARD	UK00003394519 4/24/2019	UK00003394519 7/19/2019	Registered	Lucid Diagnostics	Renewal Deadline 4/24/2029; Grace Period Ends 10/24/2029	
031400	US	ESOSCREEN	88/361,927 3/28/19		Allowed	Lucid Diagnostics	Statement of Use 9/3/2020, ext. to 3/3/2023	
031401	AU	ESOSCREEN	2005585 4/26/19	2005585 11/5/2019	Registered	Lucid Diagnostics	Renewal Deadline 4/26/2029; Grace Periods Ends 10/26/2029	
031402	CA	ESOSCREEN	1959087 4/24/19		Pending Application	Lucid Diagnostics		

[Lucid Diagnostics, Inc. (182338) Master Trademark Status Chart]

Lucid Diagnostics, Inc. (182338) Master Trademark Status Chart								
Matter #	Country	Title	Application No. Application Date	Registration No. Issue Date	Status	Inventor(s) /Applicant(s)	Action Due	Comments
031403	EU	ESOSCREEN	18055630 4/24/19	018055630 8/30/2019	Registered	Lucid Diagnostics	Renewal Deadline 4/24/2029; Grace Period Ends 10/24/2029	
031404	JP	ESOSCREEN	2019-61211 4/25/19	6220663 1/29/2020	Registered	Lucid Diagnostics	Renewal Deadline 1/29/2030; Grace Period Ends 7/29/2030	
031405	UK	ESOSCREEN	UK00003394523 4/24/19	UK00003394523 7/19/2019	Registered	Lucid Diagnostics	Renewal Deadline 4/24/2029; Grace Period Ends 10/24/2029	
031500	US	ESOCHECK	88/090,111 8/23/2018	5909679 11/12/2019	Registered	Lucid Diagnostics	Section 8 and 15 Deadline 11/12/2025, ext. to 5/12/2026; Renewal Deadline 11/12/2029, ext. to 5/12/2030	
031501	AU	ESOCHECK	1998006 3/22/19	1998006 12/2/2019	Registered	Lucid Diagnostics	Renewal Deadline 3/22/2029; Renewal Grace Period Ends 9/22/2029	
031502	CA	ESOCHECK	1952856 3/21/19		Pending Application	Lucid Diagnostics		
031503	EU	ESOCHECK	018051805 4/12/19	018051805 8/30/2019	Registered	Lucid Diagnostics	Renewal Deadline 4/12/2029; Renewal Grace Period Ends 10/12/2029	
031504	JP	ESOCHECK	2019-41505 3/22/19	6221462 1/29/2020	Registered	Lucid Diagnostics	Renewal Deadline 1/29/2030; Grace Period Ends 7/29/2030	
031505	UK	ESOCHECK	UK00003391819 4/12/2019	UK00003391819 6/28/2019	Registered	Lucid Diagnostics	Renewal Deadline 4/12/2029; Renewal Grace Period Ends 10/12/2029	
031660	US	ESOCHECK	88/489,556 6/26/2019		Pending Application	Lucid Diagnostics		client abandonment
031661	US	ESOCHECK	88/489,562 6/26/2019		Pending Application	Lucid Diagnostics		client abandonment
031900	US	COLLECT+PROTECT	88/489,566 6/26/2019		Allowed	Lucid Diagnostics	Statement of Use 12/23/2020, ext. to 6/23/2023	
031901	US	COLLECT+PROTECT	88/489,564 6/26/2019		Allowed	Lucid Diagnostics	Statement of Use 12/23/2020, ext. to 6/23/2023	
031902	AU	COLLECT+PROTECT	2059720 12/25/2019		Pending Published	Lucid Diagnostics		
031903	CA	COLLECT+PROTECT	2003199 12/24/2019		Pending Application	Lucid Diagnostics		
031904	EU	COLLECT+PROTECT	018171542 12/27/2019		Pending Application	Lucid Diagnostics		
031905	JP	COLLECT+PROTECT	2019-166751 12/25/2019		Pending Published	Lucid Diagnostics		
031906	UK	COLLECT+PROTECT	UK00003454281 12/27/2019		Pending Application	Lucid Diagnostics		

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Docket Number	Country/Name	CaseType	Status	Client Ref.	AppNumber	FilingDate	Title	Publication Number	Publication Date	Patent Number	Issue Date	ActionDue	DueDate	Notes
0026	CA	PCT	Granted	T001212 CA/PT/9796	2915964	28-Jun-2003	SKR BIOMATERIALS AND METHODS OF USE THEREOF			622994	16-Oct-2003			
0065	Germany	IPP	Granted	T001212 DE/PT/9796	1876286.4	28-Jun-2003	SKR BIOMATERIALS AND METHODS OF USE THEREOF	1876286	05-Aug-2003	609569.3	23-Sep-2003			
0061	EP	PCT	Granted	T001212 EP/PT/9796	1876286.4	28-Jun-2003	SKR BIOMATERIALS AND METHODS OF USE THEREOF	1876286	05-Aug-2003	609644	23-Sep-2003			
0066	EP	IPP	Granted	T001212 EP/PT/9796	1876286.4	28-Jun-2003	SKR BIOMATERIALS AND METHODS OF USE THEREOF	1876286	05-Aug-2003	609644	23-Sep-2003			
0067	UK	IPP	Granted	T001212 GB/PT/9796	0376286.4	28-Jun-2003	SKR BIOMATERIALS AND METHODS OF USE THEREOF	1876286	05-Aug-2003	625844	22-Sep-2003			
0069	EP	IPV1	Granted	T001212 EP/PT/9796	1876286.4	28-Jun-2003	SKR BIOMATERIALS AND METHODS OF USE THEREOF	1876286	05-Aug-2003	644205	19-Jun-2017			Continued in UK, DE, EP, Belgium & Hong Kong
	EP	IPV1	Published	T001212 EP	1876286.4	04-Dec-2002	SKR BIOMATERIALS AND METHODS OF USE THEREOF	1876286	15-Jul-2003					
0086	HongKong	PCT	Granted	T001212 HK/PT/9796	1876286.4	28-Jun-2003	SKR BIOMATERIALS AND METHODS OF USE THEREOF	1876286	07-Sep-2003					
0034	JP	PCT	Granted	T001212 JP/PT/9796	2004-290773	28-Jun-2003	SKR BIOMATERIALS AND METHODS OF USE THEREOF			603733	4-Jun-2003			
0031	JP	IPP	Granted	T001212 JP/PT/9796	0914-04408	24-Jun-2003	SKR BIOMATERIALS AND METHODS OF USE THEREOF	2004-138977	31-Jul-2004	600620	28-Jun-2003			
0039	US	PCT	Granted	T001212 US/PT/9796	14,090,070	23-Jul-2004	SKR BIOMATERIALS AND METHODS OF USE THEREOF	US 2005/026706 A1	24-Mar-2005	707660	24-Mar-2005			
0088	ACT	ORD	Refused	T001212 ACT/PT/9796	115015968	28-Jun-2003	SKR BIOMATERIALS AND METHODS OF USE THEREOF	WO 2004/026815	20-Dec-2003					
0039	US	CON	Granted	T001212 US/PT/9796	14,090,070	15-Jun-2004	SKR BIOMATERIALS AND METHODS OF USE THEREOF	US 2005/026644 A1	09-Aug-2004	601222	02-Jun-2004			
0039	US	PRO	Converted	T001212 US/PT/9796	0939929	23-Jun-2002	SKR BIOMATERIALS AND METHODS OF USE THEREOF							
0036	ACT	ORD	Expired	T001212 ACT/PT/9796	115015968	28-Jun-2003	SKR BIOMATERIALS AND METHODS OF USE THEREOF	WO 2004/026815	21-Dec-2003					
0090	US	PRD	Converted	T001212 US/PT/9796	0940079	12-Aug-2002	PROCEDURE FOR PRODUCING SKR BLENDED FILM							
0087	US	PRD	Converted	T001212 US/PT/9796	0843021	02-Oct-2002	MECHANISM FOR ELECTROSPINNING SKR AND SYNTHETIC FIBERS PRODUCED THEREFROM							
0022	CA	PCT	Granted	T001274 CA	2808862	13-Jun-2005	SKR BASED DRUG DELIVERY SYSTEM			608863	5-May-2006			
	CA	IPP	Pending	T001274 CA/IPP	3075150	10-Mar-2006	SKR BASED DRUG DELIVERY SYSTEM							
0021	EP	PCT	Granted	T001274 EP	08780270.9	13-Jun-2005	SKR BASED DRUG DELIVERY SYSTEM	1773840	10-Apr-2007	1773840	20-Nov-2009			Validation Patent Germany, UK
0026	JP	IPP	Terminated	T001274	2012-050344	15-Jun-2008	SKR BASED DRUG DELIVERY SYSTEM							
0019	JP	IPP	Granted	T001274 JP/IPP	2014-09804	13-Jun-2005	SKR BASED DRUG DELIVERY SYSTEM	2014-09804	29-May-2014	5342001	27-May-2010			
0020	US	PRO	Converted	T001274	04/578005	11-Jun-2004	SKR BASED DRUG DELIVERY SYSTEM							
0025	US	PCT	Granted	T001274	11,628,030	23-Oct-2007	SKR BASED DRUG DELIVERY SYSTEM	US 2008/005172 A1	10-Apr-2008	617866	15-May-2012			
0021	PCT	ORD	Refused	T001274	US05/20084	13-Jun-2005	SKR BASED DRUG DELIVERY SYSTEM	WO 2005/121114	29-Dec-2005					
0027	US	CON	Granted	T001274	13/443264	10-Apr-2012	SKR BASED DRUG DELIVERY SYSTEM	US 2012/019887 A1	02-Aug-2012	6538025	10-Sep-2013			
0030	US	CON	Granted	T001274	14/095206	03-Dec-2013	SKR BASED DRUG DELIVERY SYSTEM	US 2014/009490 A1	03-Apr-2014	60340301	4-Feb-2016			
0443	AU	IPP	Pending	T001593 AU/IPP	2012067528	18-Nov-2010	SKR FIBROIN SYSTEMS FOR ANTIBIOTIC DELIVERY							
0443	CA	IPP	Granted	T001593 CA	2791580	04-Mar-2010	SKR FIBROIN SYSTEMS FOR ANTIBIOTIC DELIVERY	2791580	9-Dec-10	2791580	5-Dec-2013			Non-extendable
0444	EP	PCT	Pending	T001593 EP	1076378.5	04-Mar-2010	SKR FIBROIN SYSTEMS FOR ANTIBIOTIC DELIVERY							
	EP	IPP	Pending	T001593 EP			SKR FIBROIN SYSTEMS FOR ANTIBIOTIC DELIVERY							
0445	JP	PCT	Granted	T001593 JP	2011-553104	04-Mar-2010	SKR FIBROIN SYSTEMS FOR ANTIBIOTIC DELIVERY	2012519660	30-Aug-12	5309362	26-Apr-2015			
0442	JP	IPP	Granted	T001593 JP/IPP	2015-222744	04-Mar-2010	SKR FIBROIN SYSTEMS FOR ANTIBIOTIC DELIVERY	2016-104794	09-Jun-2016	6302096	28-Mar-2018			
	JP	IPP	Published	T001593 JP/IPP	2017-216418	05-Mar-2010	SKR FIBROIN SYSTEMS FOR ANTIBIOTIC DELIVERY	2018-021342	22-Feb-2018					
0415	US	PRD	Converted	T001593 US/PRD	61/157366	04-Mar-2009	SKR FIBROIN SCAFFOLD FOR ANTIBIOTIC DELIVERY							
0417	PCT	ORD	Refused	T001593 PCT	US10/28196	04-Mar-2010	SKR FIBROIN SYSTEMS FOR ANTIBIOTIC DELIVERY	WO 2010/141133	09-Dec-2010					
	US	CON	Pending	T001593 CON-2	16/031456	12-Jul-2016	SKR FIBROIN SYSTEMS FOR ANTIBIOTIC DELIVERY	US 2016/017595	13-Jun-2016			Response to Final Office Action	8/15/2020, ext to 11/15/2020	

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CaseNumber	Docket Number	CountryName	CaseType	Status	Client Ref.	AppNumber	Filing Date	Title	Publication Number	Publication Date	Patent Number	Issue Date	ActionDue	DueDate	Notes
200255-0000	0830	US	PRO	Converted	T002017	62/184423	26-Jul-2015	BIODEGRADABLE SILK EAR TUBES							
200255-0000	0874	PCT	ORD	National	T002017 PCT	15135/43425	20-Jul-2015	BIODEGRADABLE SILK EAR TUBES	WO/2017/019387	26-Jan-2017					
200255-0073		US	PCT	Pending	T002063 US/45970	35/748,101	18-Jan-2018	BIODEGRADABLE SILK EAR TUBES	US 2018/067648	12-Mar-2018			PDA, Small Entity Statement	Earliest Intervention	7/20/2020
200255-0077		EU	PCT	Pending	T002063 EU/13176	301629034	18-Feb-2018	BIODEGRADABLE SILK EAR TUBES							
200255-0078		CA	PCT	Pending	T002063 CA	2295211	06-Feb-2018	BIODEGRADABLE SILK EAR TUBES							Request for Examination 7/20/2021
200255-0079		CN	PCT	Pending	T002063 CN/13070	20168861661.1		BIODEGRADABLE SILK EAR TUBES							Office Action Response 8/19/2021, due to 10/18
200255-0080		EP	PCT	Allowed	T002063 EP	1683883.4	20-Feb-2018	BIODEGRADABLE SILK EAR TUBES	EP 3322813	30-May-2018					claims have been amended to broaden the scope of the length and diameter of the silk ear tube to match those in the issued allowed cases for this family
200255-0075		JP	PCT	Pending	T002017 JP/29270	2016-260479	28-Jul-2016	BIODEGRADABLE SILK EAR TUBES							
		US	PRO	Converted	T002017	62/197,659	28-Jul-15	Water-Based Silk Monoliths							
		PCT	ORD	National	T002017	PCT/US2016/044413	28-Jul-16	Water-Based Silk Monoliths	WO/US2017/019844	3-Feb-17					
		CN	PCT	Published	T002017 CN	201660040610.1	28-Jul-16	Water-Based Silk Monoliths	109028082	11-May-18					
		EP	PCT	Published	T002017 EP	16831335.1	28-Jul-16	Water-Based Silk Monoliths	EP3322832	8-Jun-18					
		JP	PCT	Published	T002017 JP	2016-504796	28-Jul-16	Water-Based Silk Monoliths	2018217976	27-Sep-18					
		US	PCT	Published	T002017 US	15/747,663		Water-Based Silk Monoliths	US 2020-0054792	20-Feb-20					
		US	PRO	Converted	T002273	62/743,975	30-Oct-18	Compression and Heat-Assisted Production of Silk-Based Materials							
		PCT	PCT	Pending	T002273 PCT	PCT/US2019/055736	10/10/2019	Compression and Heat-Assisted Production of Silk-Based Materials	WO 2020/117368	11-Jun-20					

Group 1 - Manufacturing Chemical Processing of Silk-Based Ear Tubes and Earplugs  
 Group 2 - Creation of Resorbable Polymeric Ear Tube  
 Group 3 - Use of Silk Material for Drug Delivery

[Tufts PAVmed Case List 7/13/20 - Applications]

CaseNumber	DocketNumber	CountryName	CaseType	Status	Client Ref.	AppNumber	Filing Date	Title	Publication Number	Publication Date	Patent Number	Issue Date	ActionDue	DueDate
2002458-0285PR1	0586	Patent Cooperation Treaty	ORD	Expired	T001196 PCT/MIT9799	U503/19893	24-Jun-2003	SILK BIOMATERIALS AND METHODS OF USE THEREOF	WO 2004/001103	31-Dec-2003				
2002458-0285	0230	Canada	PCT	Granted	T001219 CA/MIT9799	25-25994	24-Jun-2003	SILK BIOMATERIALS AND METHODS OF USE THEREOF			25-25994	16-Oct-2012		
2002458-0285	0905	Germany	EPP	Granted	T001218 DE/MIT9799	03761306.4	24-Jun-2003	SILK BIOMATERIALS AND METHODS OF USE THEREOF	1884444	03-Aug-2005	60349424.2	21-Sep-2018		
2002458-0285	0231	European Patent Convention	PCT	Granted	T001219 EP/MIT9799	03761306.4	24-Jun-2003	SILK BIOMATERIALS AND METHODS OF USE THEREOF	1558444	09-Aug-2005	1558444	21-Sep-2018		
2002458-0285	0235	European Patent Convention	DIV	Granted	T001219 EP/MIT9799	12152178.5	24-Jun-2003	SILK BIOMATERIALS AND METHODS OF USE THEREOF	2447655	02-May-2012	2447655	6-Dec-2017		
2002458-0285	0237	European Patent Convention	DIV	Abandoned	T001219 EP/MIT9799	13166547.3	24-Jun-2003	SILK BIOMATERIALS AND METHODS OF USE THEREOF	2662211	13-Nov-2013				
2002458-0285	0906	France	EPP	Granted	T001219 FR/MIT9799	03761306.4	24-Jun-2003	SILK BIOMATERIALS AND METHODS OF USE THEREOF	1558444	03-Aug-2005	1558444	21-Sep-2018		
2002458-0285	0907	United Kingdom	EPP	Granted	T001219 GB/MIT9799	03761306.4	24-Jun-2003	SILK BIOMATERIALS AND METHODS OF USE THEREOF	1558444	03-Aug-2005	1558444	21-Sep-2018		
2002458-0285	0236	Hong Kong	PCK	Published	T001219/HK/9799	12108262.0	24-Jun-2003	SILK BIOMATERIALS AND METHODS OF USE THEREOF	1167929	07-Dec-2012			Annuity Due FINAL	24-Jun-2018
2002458-0285	0232	Japan	PCT	Granted	T001219/JIT9799	2004-530973	24-Jun-2003	SILK BIOMATERIALS AND METHODS OF USE THEREOF			4638735	3-Dec-2010		
2002458-0285	0234	Japan	DIV	Withdrawn	T001219/JIT9799	2010-183530	24-Jun-2003	SILK BIOMATERIALS AND METHODS OF USE THEREOF						
2002458-0285	0289	United States of America	PCT	Granted	T001219/JIT9799	11702050	23-Dec-2004	SILK BIOMATERIALS AND METHODS OF USE THEREOF	US 2005-0260706 A1	24-Nov-2005	7674802	9-Mar-2010		
2002458-0285	0288	Patent Cooperation Treaty	ORD	National	T001219/JIT9799	U503/19968	24-Jun-2003	SILK BIOMATERIALS AND METHODS OF USE THEREOF	WO 2004/000818	31-Dec-2003				
2002458-0285CN1	0233	United States of America	CON	Granted	T001219/JIT9799	121688014	15-Jun-2010	SILK BIOMATERIALS AND METHODS OF USE THEREOF	US 2010-0196447 A1	05-Aug-2010	8071732	6-Dec-2011		
2002458-0285PR1	0285	United States of America	PRO	Converted	T001219/JIT9799	60730929	24-Jun-2002	SILK BIOMATERIALS AND METHODS OF USE THEREOF						
2002458-0285PR2	0286	United States of America	PRO	Converted	T001219/JIT9799	607402738	12-Aug-2002	PROCESS FOR PRODUCING SILK BLEND FILM						
2002458-0285PR3	0287	United States of America	PRG	Converted	T001219/JIT9799	607430291	02-Dec-2002	METHODS FOR ELECTROSPINNING SILK AND SYNTHETIC FIBERS PRODUCED THEREFROM						
2002458-0285	0624	Japan	DIV	Granted	T001219/JPDIV2/JIT9799	2014-043805	24-Jun-2003	SILK BIOMATERIALS AND METHODS OF USE THEREOF	2014-136677	31-Jul-2014	3855151	18-Dec-2015	Annuity due	18-Dec-2018
2002458-0320	0324	Japan	PCT	Abandoned	T001274	2007-527900	13-Jun-2005	SILK BASED DRUG DELIVERY SYSTEM						
2002458-0320	0326	Japan	DIV	To Abandon	T001274	2012-058344	13-Jun-2005	SILK BASED DRUG DELIVERY SYSTEM						
2002458-0320	0320	United States of America	PRG	Converted	T001274	607579066	11-Jun-2004	SILK BASED DRUG DELIVERY SYSTEM						
2002458-0320	0325	United States of America	PCT	Granted	T001274	117628930	23-Oct-2007	SILK BASED DRUG DELIVERY SYSTEM	US 2008-0065279 A1	10-Apr-2008	6178656	15-May-2012		
2002458-0320	0321	Patent Cooperation Treaty	ORD	National	T001274	U505/20844	13-Jun-2005	SILK BASED DRUG DELIVERY SYSTEM	WO 2005/103114	29-Dec-2005				

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Case Number	Docket Number	Country Name	Case Type	Status	Client Ref.	App Number	Filing Date	Title	Publication Number	Publication Date	Patent Number	Issue Date	Action Due	Due Date
2002458-0320CN1	0327	United States of America	CON	Granted	T001274	13/443264	19 Apr 2012	SILK BASED DRUG DELIVERY SYSTEM	US 2012 0195962 A1	02 Aug 2012	8530625	10 Sep 2013		
2002458-0320CN2	0328	US	CON	To Abandon	T001274	13/783485	04 Mar 2013	SILK BASED DRUG DELIVERY SYSTEM	US 2013 0177611 A1	11 Jul 2013				
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