## 504357650 05/09/2017

# PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE: NEW ASSIGNMENT

NATURE OF CONVEYANCE: ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
DENISE SABATINO	04/05/2017
LIRON ELKOUBY	04/25/2017
KATHERINE HIGH	04/25/2017

#### **RECEIVING PARTY DATA**

Name:	The Children's Hospital of Philadelphia	
Street Address:	34th & Civic Center Boulevard	
City:	Philadelphia	
State/Country:	PENNSYLVANIA	
Postal Code:	19104	

#### **PROPERTY NUMBERS Total: 1**

Property Type	Number
PCT Number:	US2015045142

#### **CORRESPONDENCE DATA**

**Fax Number:** (215)590-5484

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.

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Correspondent Name: STEPHANIE LASTE

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Address Line 4: PHILADELPHIA, PENNSYLVANIA 19104

ATTORNEY DOCKET NUMBER: 0746PCT

NAME OF SUBMITTER: STEPHANIE LASTE

SIGNATURE: /STEPHANIE LASTE/

DATE SIGNED: 05/09/2017

### **Total Attachments: 7**

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PATENT 504357650 REEL: 042294 FRAME: 0778

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> PATENT REEL: 042294 FRAME: 0779

#### ASSIGNMENT OF INVENTION

WHEREAS, WE, Denise Sabatino, Liron Elkouby, and Katherine High, hereafter referred to as INVENTORS, have made a certain new and useful invention in An Improved Expression Cassette for Packaging and Expression of Variant Factor for the Treatment of Hemostasis Disorders and have filed an application Serial No. PCT/US2015/045142 for Letters Patent of the United States based thereon on 8/13/2015.

WHEREAS, WE, the INVENTORS, are associated with THE CHILDREN'S HOSPITAL OF PHILADELPHIA as employees of THE CHILDREN'S HOSPITAL OF PHILADELPHIA or were employees at the time of the conceived invention at THE CHILDREN'S HOSPITAL OF PHILADELPHIA.

WHEREAS, THE CHILDREN'S HOSPITAL OF PHILADELPHIA, a non-profit Corporation, organized and existing under the laws of the Commonwealth of Pennsylvania and having an office and place of business at 3401 Civic Center Boulevard, Philadelphia, Pennsylvania 19104, is desirous of acquiring the entire right, title and interest in and to the invention and all improvements thereon which may be made, conceived or acquired by INVENTORS, during the course of their association with THE CHILDREN'S HOSPITAL OF PHILADELPHIA, aforesaid and for one year thereafter, in and throughout the United States, its territories and all countries foreign thereto, and in and to said application for Letters Patent, and in and to any and all utility patent applications and Letters Patents of the United States and all countries foreign thereto which have been granted or may be granted on said invention or any part thereof, including the right to claim priority and assignment of all rights under the provisions of the International Convention.

NOW, THEREFORE, IN CONSIDERATION of one or more of the following: (i) my continued employment at THE CHILDREN'S HOSPITAL OF PHILADELPHIA including its Research Institute (collectively, "THE CHILDREN'S HOSPITAL OF PHILADELPHIA"); (ii) my continued participation in research at THE CHILDREN'S HOSPITAL OF PHILADELPHIA; (iii) my continued access to THE CHILDREN'S HOSPITAL OF PHILADELPHIA facilities, funds, and other resources; and/or (iv) my continued opportunity to share in royalties and other inventor/author rights outlined in THE CHILDREN'S HOSPITAL OF PHILADELPHIA's current "Patent Policy" (the "Patent Policy), and intending to be legally bound, hereby agree to be legally bound by the Patent Policy and all of its terms conditions, wherein the receipt of such consideration is hereby acknowledged; INVENTORS, by these presents do hereby sell, assign and transfer unto the said THE CHILDREN'S HOSPITAL OF PHILADELPHIA the entire right, title, and interest in and throughout the United States, its territories and all countries foreign thereto in and to said invention, in and to said application for Letters Patent and any and all utility patent applications and Letters Patents and extensions thereof, of the United States and countries foreign thereto which have been or may be granted on said invention or any part thereof and any international priority rights associated therewith; including the right to claim priority and assignment of all rights under the provisions of the International Convention.

TO BE HELD AND ENJOYED by the said THE CHILDREN'S HOSPITAL OF PHILADELPHIA and its legal representatives and assigns to the full ends of the terms United States Patent Application No. PCT/US2015/045142 for which said Letters Patent, or any of them, have been granted as fully and entirely as the same would have been held and enjoyed by INVENTORS, had no sale and assignment of said interest been made; and INVENTORS, do hereby authorize and request the Commissioner of

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Patents and Trademarks to issue any and all Letters Patents which may be granted upon the said application above referred to, or any of them or upon said invention or any part thereof, to THE CHILDREN'S HOSPITAL OF PHILADELPHIA, and INVENTORS, hereby agree for myself, my heirs, executors and administrators, to execute without further consideration, any further legal documents and any further assignments and any releases, reissues, renewals or other application for Letters Patents that may be deemed necessary by THE CHILDREN'S HOSPITAL OF PHILADELPHIA, to fully secure to THE CHILDREN'S HOSPITAL OF PHILADELPHIA, its interest as aforesaid in and to said invention or any part thereof and in and to several Letters Patent or any of them.

INVENTORS, do hereby covenant for their self and their legal representatives, and agree with THE CHILDREN'S HOSPITAL OF PHILADELPHIA and its legal representatives, that INVENTORS, has granted no license to make or sell the said invention, that prior to the execution of this deed our right, title and interest in the said invention has not been encumbered, that INVENTORS, then had good right and title in and to the invention and that INVENTORS, have not executed and will not execute any instrument in conflict therewith.

IN WITNESS WHEREOF, I, Denise Sabatino intending to be legally bound, have hereunto affixed my hand

and seal this day 5 of April 2016. 2	0/7
Denise S	risel, dilati-
Semse 2	abatiiio
STATE OF PENNSYLVANIA	
SS.	
CITY OF PHILADELPHIA	
Before me personally appeared said Denis Sibi	
foregoing instrument to be his free act and deed this day	51 of 000 2018.7
Huminderte (SEAL)	
	COMMONWEALTH OF PENNSYLVANIA
Notafy Public	NOTARIAL SEAL STEPHANIE LASTE, Notary Public City of Philadelphia Phila County

My Commission Expires December 23, 2018

IN WITNESS WHEREOF, I, Liron Elkouby intending to be legally bound, have hereunto affixed my hand and seal this day 25 of April 2018.7
Wan Elterby
Liron Elkouby
ETATE ME DEBINEWLIANIA
STATE OF PENNSYLVANIA  SS.
CITY OF PHILADELPHIA
Before me personally appeared said <u>Luran Elkoupy</u> and acknowledged the foregoing instrument to be his free act and deed this day 25 of <u>April</u> 2018. 7
COMMONWEALTH OF PENNSYLVANIA
TOLINA (SEAL) NOTABISE SEAL
Notary Public  JOANNE ANITA JONES Notary Public
THE DYFFRIN TWP, CHESTER COUNTY My Commission Expires Oct 18, 2017
IN WITNESS WHEREOF, I, Katherine High, intending to be legally bound, have hereunto affixed my hand
and seal this day 25 of April 2016.7.  Rothern 14/4
Katherine High
STATE OF PENNSYLVANIA
SS. CITY OF PHILADELPHIA
Before me personally appeared said Katherine Grow and acknowledged the
Before me personally appeared said Katherine Green and acknowledged the foregoing instrument to be his free act and deed this day 25 of April 2016. 7
Notary Public Anita Joves (SEAL)
COMMONWEALTH OF PENNSYLVANIA  NOTARIAL SEAL  JOANNE ANITA JONES  NOTATY Public  TREDYFFRIN TWP, CHESTER COUNTY  My Commission Expires Oct 10, 2017

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March 18, 2016

Ms. Stephanie Laste Children's Hospital of Philadelphia Office of Technology Transfer Division of Intellectual Property CTRB, 2nd Floor, Room 2200-12 3501 Civic Center Boulevard Philadelphia, PA 19104

Dear Ms. Laste:

As you may know, the normal practice of the Howard Hughes Medical Institute ("HHMI") for assigning its rights in inventions developed in the laboratories of its investigators at The Children's Hospital of Philadelphia ("Institution") is to appoint the inventing investigator as its agent for the assignment of rights, so that when that individual signs an assignment to Institution, he or she can sign for himself or herself and on behalf of HHMI.

In certain cases, such as when the inventing investigator is no longer an HHMI employee, HHMI's normal procedures may not be appropriate. For this reason, in these cases, we assign its rights directly to Institution. Accordingly, attached is a direct assignment by HHMI to The Children's Hospital of Philadelphia of HHMI's rights in "A Potentially Less Immunogenic Cassette for AAV-Mediated Transgene Expression" by Katherine High, M.D..

If you have any questions about this, please do not hesitate to call me.

Sincerely,

Marina Kitzmiller

Enclosure

cc: Katherine High, M.D.

# <u>ASSIGNMENT</u>

Assignment made by the Howard Hughes Medical Institute, a Delaware corporation ("HHMI"), to The Children's Hospital of Philadelphia ("Institution").

WHEREAS, HHMI and Institution collaborate in the active conduct of medical research pursuant to an agreement between them dated as of March 3, 2003 (the "Agreement");

WHEREAS, pursuant to the Agreement, HHMI has agreed to assign to Institution HHMI's rights in Subject Property (as defined in the Agreement), in accordance with and subject to the conditions of the Agreement; and

WHEREAS, research conducted pursuant to the Agreement by Katherine High, M.D. while employed by HHMI at Institution has resulted in an invention entitled "A Potentially Less Immunogenic Cassette for AAV-Mediated Transgene Expression" (the "Invention"), (including, without limitation, the patent application entitled "Modified Factor IX, and Compositions, Methods and Uses for Gene Transfer to Cells, Organs and Tissues" filed in the U.S. Patent and Trademark Office on June 23, 2015 with Serial Number 62/183,599), and the Invention is a Subject Property;

NOW, THEREFORE, in consideration of the promises contained in and the acts performed and to be performed pursuant to the Agreement, HHMI hereby assigns to Institution the entire right, title, and interest that HHMI has in the Invention, in accordance with and subject to the terms and conditions of the Agreement.

Executed: March 18, 2016

HOWARD HUGHES MEDICAL INSTITUTE

By:

Erin K. O'Shea, PhD

Vice President and Chief Scientific Officer

ATTESTED:

Heidi E. Henning

Vice President and General Counsel

0775-15 HHMI 06186

### CONFIRMATION OF ASSIGNMENT

Confirmation of Assignment made /// /// , 20 //, by Katherine A. High, M.D. ("Inventor") to the Howard Hughes Medical Institute, a Delaware corporation ("HHMI").

### Recitals

WHEREAS, Inventor was an employee of HHMI and, as a condition of her employment, has signed the Intellectual Property Assignment Agreement (the "Intellectual Property Agreement");

WHEREAS, pursuant to the Intellectual Property Agreement, Inventor (a) assigned to HHMI all rights she had in any intellectual property resulting from research by HHMI employees, alone or with others, whether or not patentable or copyrightable, and whether funded in whole or in part by HHMI (each a "Subject Property") and (b) agreed to execute any agreements that may be desired by HHMI in connection with such assignment;

WHEREAS, Inventor has, alone or with others invented "A Potentially Less Immunogenic Cassette for AAV-Mediated Transgene Expression" which may be the subject of a patent application (the "Invention"), and the Invention is a Subject Property; and

WHEREAS, Inventor seeks to confirm the assignment of her interest in the Invention to HHMI, and HHMI desires the execution of a confirmatory assignment of all of Inventor's right, title, and interest in the Invention.

NOW, THEREFORE, in consideration of the promises contained in and the acts performed and to be performed pursuant to the Intellectual Property Agreement and of other good and valuable consideration, the receipt of which is hereby acknowledged by Inventor, Inventor agrees as follows:

- l. Assignment. Inventor hereby confirms the assignment to HHMI of her entire right, title, and interest in the Invention; any United States patent applications and all corresponding foreign patent applications which are directed to the Invention including, without limitation, the patent application entitled "Modified Factor IX, and Compositions, Methods and Uses for Gene Transfer to Cells, Organs and Tissues" filed in the United States Patent and Trademark Office on June 23, 2015 with Serial Number 62/183,599 and any and all patents issued therefrom; all United States or foreign division and continuation applications based on any of the foregoing, and any and all patents issued therefrom; and all claims which are directed to the Invention and which may be contained in continuation-in-part applications or in patents which issue therefrom.
- 2. <u>Cooperation</u>. Inventor further confirms that Inventor agreed to execute upon request such further confirmatory assignments, documents, and other instruments as may be requested by HHMI in connection with the Invention and to assist HHMI (or others at the

PATENT REEL: 042294 FRAME: 0785 direction of HHMI) in applying for, obtaining, and enforcing patents, copyrights, or other rights in the United States and in any foreign country with respect to the Invention.

- 3. Parties. The terms and provisions of the Assignment shall inure to the benefit of HHMI and its successors and assigns and shall be binding on the Inventor and her heirs, personal representatives, successors and assigns.
- Warranty. Inventor warrants and represents that she has not entered into any assignment, contract, or understanding in conflict herewith.

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Witness:

Witness:

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RECORDED: 05/09/2017