504478770 07/28/2017

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4525472

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
Scott Sternson	07/27/2017
Peter Lee	07/26/2017
Christopher Magnus	07/10/2017

RECEIVING PARTY DATA

Name:	Howard Hughes Medical Institute	
Street Address:	4000 Jones Bridge Road	
City:	Chevy Chase	
State/Country:	MARYLAND	
Postal Code:	20815-6789	

PROPERTY NUMBERS Total: 3

Property Type	Number
Application Number:	15644295
Application Number:	62359534
PCT Number:	US2017041147

CORRESPONDENCE DATA

Fax Number: (877)769-7945

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: (612) 278-4506 **Email:** apsi@fr.com

Correspondent Name: MARGARET S. WILLIS **Address Line 1:** FISH & RICHARDSON P.C.

Address Line 2: P.O.BOX 1022

Address Line 4: MINNEAPOLIS, MINNESOTA 55440-1022

ATTORNEY DOCKET NUMBER:	30872-0014001
NAME OF SUBMITTER:	JILL A. WRIGHT
SIGNATURE:	/Jill A. Wright/
DATE SIGNED:	07/28/2017
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Total Attachments: 5

PATENT REEL: 043127 FRAME: 0647

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> PATENT REEL: 043127 FRAME: 0648

ASSIGNMENT

For valuable consideration, the receipt of which we acknowledge, and intending to be bound legally, we, SCOTT STERNSON, PETER LEE, and CHRISTOPHER MAGNUS, each individually assign to HOWARD HUGHES MEDICAL INSTITUTE, a corporation formed under the laws of Maryland and having a principal place of business at 4000 Jones Bridge Road, Chevy Chase, MD 20815-6789, and its successors, transferees, and assignees (collectively the "Assignee"), all of our individual and joint right, title, and interest throughout the world in the subject matter (the "Subject Matter") of a patent application that names us as inventors, is titled "MODIFIED LIGAND-GATED ION CHANNELS AND METHODS OF USE," and was filed in the United States Patent and Trademark Office on April 18, 2017, as application 62/359,534, U.S. Application No. 15/644,295, filed July 7, 2017 and International Application No. PCT/US2017/041147, filed July 7, 2017 (the "Application").

This Assignment assigns (a) the Application and all other applications that may be made for, and all patents, utility models, design registrations, and other rights of exclusion and inventors' certificates for, any of the Subject Matter (collectively the "Applications and Granted Rights") in every country or region, (b) the right to claim priority based on and the benefit of the filing date of any of the Applications and Granted Rights under the International Convention for the Protection of Industrial Property, the Patent Cooperation Treaty, the European Patent Convention, and all other applicable treaties or conventions, and (c) the right to pursue, collect, and retain in the Assignee's name or otherwise, damages and any other remedies arising from any past, present, or future infringement of the Subject Matter, the Applications and Granted Rights, and any other rights assigned by this Assignment.

We authorize the Assignee to apply for and pursue protection for any or all of the Subject Matter, the Applications and Granted Rights, and any other rights assigned by this Assignment in all countries, regions, and territories of the world, in our names or in the Assignee's name.

We represent and warrant that we have the right and power to make this Assignment and that we have not made and will not make any other assignment that conflicts with this Assignment.

We will communicate to the Assignee (or at the request of the Assignee to other parties) all known facts in any form relating to the Subject Matter, will execute and provide all oaths and

Assignment Page 1 of 5

PATENT REEL: 043127 FRAME: 0649 declarations, statements, testimony, assignments, powers of attorney, applications, and documents, and will perform all other lawful acts necessary or desirable to secure fully to the Assignee the rights, titles, and interests assigned by this Assignment.

City/County of Ashborn Londonn

Commonwealth of Virginia

The foregoing instrument was acknowledged before me this 27th day of July, 20 17 by

Scott Sternson

Oanette Elise spruston
Notary Public
Notary registration number:

Reg. #7559593

COMMONWEALTH OF VIRGINIA
My commission expires:

My commission expires:

My commission expires:

My commission expires:

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	Attorney Docket No.: 30872-0014WO1; -0014001 / 2016-038-01		
Flo 4 L	DATE: 5214 26, 2017, 3		
Peter Lee City/County of Ashburn Loudo			
Commonwealth of Virginia			
The foregoing instrument was acknowled Peter H. Lee	lged before me this 26th day of July, 20 17 by		
Carette & Som	A		
Notary Public			
Notary registration number:	BANETTE ELISE SPRUSTON NOTARY PUBLIC		
My commission expires:	COMMONWELL MYRSOSS COMMONWELL MYRSOSS AND COMMONWELL		

City/County of Ashbern, Louden
Commonwealth of Virginia
The foregoing instrument was acknowledged before me this 10 th day of Tuly, 20 17 by

Canc the Commonwealth of Virginia

The foregoing instrument was acknowledged before me this 10 th day of Tuly, 20 17 by

DANETTE ELISE SPRUSTON NOTARY PUBLIC REG. #7559593
COMMONWEALTH OF VIRGINIA MY COMMISSION EXPIRES MARCH 31, 2021

My commission expires:

Attorney Docket No.: 30872-0014WO1; -0014001 / 2016-038-01

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Attorney Docket No.: 30872-0014WO1; -0014001 / 2016-038-01

Assignee: HOWARD HUGHES MEDICAL INSTITUTE	
Signature:	Date: July 27,2017
Name: Gerald R. Rubin, HHMI Vice T	president and
•	
Title: Executive Director, Janelia	<u>Research Campus</u>
City/County of Ashburn, Loudour	
Commonwealth of Virginia	
The foregoing instrument was acknowledged before me this 27	down of July 2017 by
The foregoing instrument was acknowledged before the this was	day or <u>vary</u> , 20 11 0,
Gerald M. Rubin	A Committee of the Comm
	SARAH-JANE MOOREHEAD
DOZUM MODILLOW .	NO (ANT PUDLIC ** ALCTE ATION # 358490
Quanting careers.	COMMONWEALTH OF VIRGINIA MY COMMISSION EXPIRES
Notary Public	PEBRUARY 28, 2021
Notary registration number: 358490	Account to the second s
My commission expires: 2128/2021	

The Assignee hereby acknowledges and accepts the foregoing assignment.

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