# PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

## **CONVEYING PARTY DATA**

Name	Execution Date
TAKASHI NAKAI	06/03/2016
JOEL MOORE	08/12/2016
NICHOLAS ROBERT PERL	06/06/2016
RAJESH R. IYENGAR	06/10/2016
ARA MERMERIAN	08/10/2016
G-YOON JAMIE IM	08/10/2016
THOMAS WAI-HO LEE	06/10/2016
COLLEEN HUDSON	08/09/2016
GLEN ROBERT RENNIE	06/08/2016
PAUL ALLAN RENHOWE	06/07/2016
JOON JUNG	08/10/2016
XIANG Y. YU	08/15/2016
JAMES EDWARD SHEPPECK	06/09/2016
KARTHIK IYER	06/09/2016
GEORGE TODD MILNE	06/06/2016
KIMBERLY KAFADAR LONG	06/10/2016
MARK G. CURRIE	07/11/2016
TIMOTHY CLAUDE BARDEN	08/10/2016

## **RECEIVING PARTY DATA**

Name:	IRONWOOD PHARMACEUTICALS, INC.
Street Address:	301 BINNEY STREET
City:	CAMBRIDGE
State/Country:	MASSACHUSETTS
Postal Code:	02142

## **PROPERTY NUMBERS Total: 1**

Property Type	Number
Application Number:	16817830

## **CORRESPONDENCE DATA**

PATENT REEL: 053603 FRAME: 0780

506221983

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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: MCCARTER & ENGLISH, LLP

Address Line 1: 265 FRANKLIN STREET

Address Line 4: BOSTON, MASSACHUSETTS 02110

ATTORNEY DOCKET NUMBER:	127553-01610
NAME OF SUBMITTER:	ZHONGYU WANG
SIGNATURE:	/Zhongyu Wang, #71771/
DATE SIGNED:	08/26/2020

#### **Total Attachments: 13**

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PATENT REEL: 053603 FRAME: 0781

#### ASSIGNMENT

WHEREAS, We,

Takashi NAKAI, a citizen of Japan, residing at 7 Gardner Street, Newton, MA 02458;

Joel MOORE, a citizen of the United States, residing at 4 Cherry Street, Lexington, MA 02421;

Nicholas Robert PERL, a citizen of the United States, residing at 7 Gibbens Street, Somerville, MA 02143;

Rajesh R. IYENGAR, a citizen of the United States, residing at 23 Stratford Road, West Newton, MA 02465;

Ara MERMERIAN, a citizen of the United States, residing at 50 Milton Street, Waltham, MA 02453;

G-Yoon Jamie IM, a citizen of Korea, residing at 931 Massachusetts Avenue, Apt. 604, Cambridge, MA 02139;

**Thomas Wai-Ho LEE**, a citizen of the United States, residing at 665 Lowell Street, Unit 60, Lexington, MA 02420;

Collect HUDSON, a citizen of the United States, residing at 146 Clifton St. #7, Malden, MA 02148;

Glen Robert RENNIE, a citizen of the United States, residing at 46 Elmwood Street #2, Somerville, MA 02144;

James JIA, a citizen of the United States, residing at 4 Jeanette Avenue, Belmont, MA 02478;

Paul Allan RENHOWE, a citizen of the United States, residing at 19 Skyview Road, Sudbury, MA 01776;

Joon JUNG, a citizen of the United States, residing at 111 Wendell Road, Newton, MA 02459:

**Timothy Claude BARDEN**, a citizen of the United States, residing at 19 Intervale Road, Salem, MA 01970;

**Xiang Y. YU**, a citizen of the United States, residing at 2 Whispering Way, Acton, MA 01720;

James Edward SHEPPECK II, a citizen of the United States, residing at 356 Crittenden Drive, Newtown, PA 18940;

**Karthik IYER**, a citizen of India, residing at 30 Cambridge Park Drive, Apt. 6121, Cambridge, MA 02140;

George Todd MILNE, a citizen of the United States, residing at 169 Mason Terrace, Brookline, MA 02446;

Kimberly Kafadar LONG, a citizen of the United States, residing at 2 Jamaica Place, Unit 2, Boston, MA 02130; and

Mark G. CURRIE, a citizen of the United States, residing at 197 8th Street, Boston, MA 02129.

(collectively INVENTORS) have invented certain new and useful improvements in sGC STIMULATORS, for which We have executed an application for Letters Patent of the United States, U.S. Serial No. 14/775,954, filed on September 14, 2015; and

WHEREAS, IRONWOOD PHARMACEUTICALS, INC., having offices at 301 Binney Street, Cambridge, MA 02142, is desirous of obtaining the entire right, title and interest in, to and under said improvements and said application;

NOW, THEREFORE, in exchange for good and valuable consideration, the receipt of which We hereby acknowledge, We, INVENTORS, do hereby assign, transfer and set over to said IRONWOOD PHARMACEUTICALS, INC., its successors, legal representatives and assigns, the entire right, title and interest in, to and under the said improvements, and the said applications, including the right to claim priority to said applications, and all divisions, continuations and continuations-in-part thereof, and all Letters Patent which may be granted thereon and all reexaminations, reissues, renewals and extensions thereof, and all applications for Letters Patent which may hereafter be filed for said improvements in any country or countries foreign to the United States, and all Letters Patent which may be granted for said improvements in any country or countries foreign to the United States and all reexaminations, reissues, renewals and extensions thereof; and We hereby authorize and request the Commissioner of Patents of the United States, and any Official of any country or countries foreign to the United States, whose duty it is to issue patents on applications as aforesaid, to issue all Letters Patent for said improvements to the said IRONWOOD PHARMACEUTICALS, INC., its successors, legal representatives and assigns, in accordance with the terms of this instrument.

AND WE HEREBY covenant that We have full right to convey the entire interest herein assigned, and that We have not executed, and will not execute, any agreement in conflict herewith:

AND WE HEREBY further covenant and agree that We and our heirs, representatives and successors, if any, will communicate to the said IRONWOOD PHARMACEUTICALS, INC., its successors, legal representatives and assigns, any facts known to us respecting said improvements, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuing and reissue applications, make all rightful oaths and generally do everything possible to aid the said IRONWOOD PHARMACEUTICALS, INC., its successors, legal representatives and assigns, to obtain and enforce proper patent protection for said improvements in all countries.

AND WE HEREBY grant Heslin Rothenberg Farley & Mesiti P.C. the power to insert on this assignment any further indication which may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

IN TESTIMONY WHEREOF, I hereunto set my hand and seal this 20 day of, 2016.
Takashi NAKAI
STATE OF MASSACHUSETIS ) SS.: Middlesex COUNTY OF <chick &="" inter<="" td=""></chick>
On this <sup>22</sup> day of <u>lune</u> , 2016, before me personally came <b>Takashi NAKAI</b> , to me known and known to me to be the person of that name, who signed and sealed the foregoing instrument, and he acknowledged the same to be his free act and deed.
CLIFTON D. MUELLER Notary Public COMMONWEALTH OF MASSACHUSETTS My Commission Expires July 25, 2019  Notary Public  Notary Public
IN TESTIMONY WHEREOF, I hereunto set my hand and seal this 12th day of August 1, 2016.  Joel My ORE
STATE OF MASSACHUSETTS )  COUNTY OF <click &="" enter=""> Middlespx</click>
On this ( day of Agus, 2016, before me personally came <b>Joel MOORE</b> , to me known and known to me to be the person of that name, who signed and sealed the foregoing instrument, and he acknowledged the same to be his free act and leed.
Carpenne softin of Mussachusetts Notary Public Notary Public Notary Public Notary Public

and the second of the second o
IN TESTIMONY WHEREOF, I hereunto set my hand and seal this GE day of 2016.
Nicholas Robert PERL
STATE OF MASSACHUSETTS )
COUNTY OF <glick &="" delleg-1x<="" enter="" m:="" td=""></glick>
On this 6 day of June 2016, before me personally came Nicholas Robert PERL,
to me known and known to me to be the person of that name, who signed and sealed the
foregoing instruction and a substitution of the same to be his free act and deed.
Noisity Public  Noisity Public  AND DE WASSACHUSETTS  AND DE WASSACHUSETTS
My Commission Expres July 25, 2019 Notary Public
A. A. C.
NTESTIMONY WHEREOF, I hereunto set my hand and seal this 10 day of
<u>June</u> , 2016.
Rajesh R. IYENGAR
Kajesti K. XI E. WYAK
STATE OF MASSACHUSETTS  ) ss.: Middle 51-X  COUNTY OF SEATH & SERVERS
COUNTY OF CHICK & ENTER )
On this (o day of June, 2016, before me personally came Rajesh R. IYENGAR, to
me known and known to me to be the person of that name, who signed and sealed the foregoing
instrument, and he acknowledged the same to be his free act and deed.
ON DE DOM 11
Chille Dillecte
CLIFTON D. MUELLER Notary Public
Notary Public
My Commission Expires July 25, 2019

IN TESTIMONY WHEREOF, I hereunto set my hand and seal this 10 day of August
1/2 Mermerian
Ara MERMERIAN
STATE OF MASSACHUSETTS )  (SS.: Hiddlesex
COUNTY OF <click &="" enter=""> )</click>
On this 10 day of 100 to be the person of that name, who signed and sealed the foregoing instrument, and he acknowledged the same to be his free acknowledged.
LAURA A. RYAN Notary Public  LAURA A. RYAN Notary Public
Commonwealth of Massachusetts Notary Public My Commission Expires October 14, 2016
IN TESTIMONY WHEREOF, I hereunto set my hand and seal this 10 day of 14 14 ft . 2016.
21-2-00 Jamie IM
G-Yoon Jamie IM
STATE OF MASSACHUSETTS ) ) ss.: Hiddlesex
COUNTY OF <click &="" enter=""> )</click>
On this $10^9$ day of $A_{\text{NSO}}$ , 2016, before me personally came G-Yoon Jamie IM, to me known and known to me to be the person of that name, who signed and sealed the foregoing
instrument, and he acknowledged the same to be his free act and deed.
LAURA A. RYAN Notary Public Commonwealth of Massachusetts My Commission Expires October 14, 2016

IN TESTIMONY WHEREOF, I hereunt	o set my hand and seal this <u>lot</u> day of
	Jan Di Ho Comme
	Thomas Wai-Ho LEE
STATE OF MASSACHUSETTS ) SS. MANGE COUNTY OF CLICK & ENFERS	<b>X</b> ,
On this fray of chan, 2016, before to me known and known to me to be the person foregoing instrument, and he acknowledged the	re me personally came Thomas Wai-Ho LEE, of that name, who signed and sealed the same to be his free act and deed.
CUFTON D. MUELLER Notary Public COMMONWEALTH OF MASSACHUSETTS My Commission Expires July 25, 2019	Clifton D. Mulla
IN TESTIMONY WHEREOF, I hereunt	o set my hand and seal this day of
	Colleen HUDSON
STATE OF MASSACHUSETTS ) ) ss.;	
COUNTY OF <click &="" enter=""> )</click>	
On thisday of, 2016, before known and known to me to be the person of that instrument, and he acknowledged the same to be	
	- *** - *** - * * * * * * * * * * * * *
	Notary Public

IN TESTIMONY WHEREOF, I here . 2016.	unto set my hanc	l and scal this	_day of
		£	
	Thomas Wa	i-Ho LEE	····
STATE OF MASSACHUSETTS )			
COUNTY OF <click &="" enter=""></click>	).		
On thisday of, 2016, b to me known and known to me to be the pers foregoing instrument, and he acknowledged to	ion of that name,	who signed and se	raled the
	Notary Publi	C .	
IN TESTIMONY WHEREOF, I here  August, 2016.  Colorado  STATE OF MASSACHUSETTS )  SS.:  COUNTY OF <click &="" enter=""> Adam</click>	College III	l and seal this <u>q</u>	_day of
On this day of high St, 2016, be known and known to me to be the person of instrument, and he acknowledged the same to	that name, who s	iigned and sealed t	HUDSON, to me he foregoing
	Dallie Sistery Publ	1 N Juga	<u> </u>
	BRITTAI STAI NOTA WY COMMISSIO	NY NICOLE JOYCE OTARY PUBLIC E OF COLORADO RY ID 281541M5286 N EXPIRES NOVEMBER 19.23	119

and the second s
, IN TESTIMONY WHEREOF, I hereunto set my hand and scal this <u>f</u> day of
June , 2016.
- Ling townsource
Patil Allan RENHOWE
STATE OF MASSACHUSETTS )
) 88 m. Adlaser
) ss.: Middlesex COUNTY OF < CHICK WENTER )
Affi
On this Z day of June, 2016, before me personally came Paul Allan RENHOWE,
to me known and known to me to be the person of that name, who signed and sealed the
foregoing instrument, and he acknowledged the same to be his free act and deed.
CLIFTON D. MUELLER Notary Public Notary Indic
My Commission Expires July 25, 2019
IN TESTIMONY WHEREOF, I hereunto set my hand and seal this / day of August., 2016.
Joga HING 7/
STATE OF MASSACHUSETTS ), a
) ss.: Hiddlesex
COUNTY OF <click &="" enter=""> )</click>
On this 1 day of fugs +, 2016, before me personally came Joon JUNG, to me
known and known to me to be the person of that name, who signed and sealed the foregoing instrument, and he acknowledged the same to be his free act and deed.
LAURA A. RYAN Notary Public Commonwealth of Massachusetts NEL D. Line No. 1990
My Commission Expires Notary Public October 14, 2016

IN TESTIMONY WHEREOF, I hereum	to set my hand and seal this <u>lex</u> day of
	Timothy Claude BARDEN
STATE OF MASSACHUSETTS ) ss.: Hiddlese	<b>*</b>
On this 10 day of 100 to be the foregoing instrument, and he acknowledged	ore me personally came <b>Timothy Claude</b> e the person of that name, who signed and sealed  the same to be lis free act and deed.
LAURA A. RYAN  Notary Public  Commonwealth of Massachusetts  My Commission Expires  October 14, 2016	Noterry Public Ja
IN TESTIMONY WHEREOF, I hereum , 2016.	to set my hand and seal this day of
	Xiang Y. YU
STATE OF MASSACHUSETTS ) ) ss.: COUNTY OF <click &="" enter=""> )</click>	
On thisday of, 2016, before known and known to me to be the person of that instrument, and he acknowledged the same to be	
	Notary Public

IN TESTIMONY WHEREOF, I hereum , 2016.	to set my hand and seal this day of
	* * * * * * * * * * * * * * * * * * * *
	Timothy Claude BARDEN
STATE OF MASSACHUSETTS )	
COUNTY OF <click &="" enter=""></click>	
On thisday of, 2016, before BARDEN, to me known and known to me to be the foregoing instrument, and he acknowledged	re me personally came <b>Timothy Claude</b> e the person of that name, who signed and sealed the same to be his free act and deed.
	Notary Public
IN TESTIMONY WHEREOF, I hereun Aag, 2016.	to set my hand and seal this 15 <sup>th</sup> day of  Xiang V. YU
STATE OF MASSACHUSETTS ) ) ss.:	
On this day of August, 2016, before known and known to me to be the person of that instrument, and he acknowledged the same to be	

Ashley M.G. Steele
NOTARY PUBLIC
Commonwealth of Massachusetts
My Commission Expires April 23, 2021

$\circ$
IN TESTIMONY WHEREOF, I hereunto set my hand and seal this $\frac{\sqrt{20}}{200}$ day of
June, , 2016.
James Edward SHEPPECK II
James Edward SHEPPECK II
200 A 200 - 200 TOTA TOTA TOTA A 200 A
) ss.: Middlesex
STATE OF PENNSYLVANIA  ) ss.: Middlesex  COUNTY OF <click &="" laster=""> )</click>
On this $g^{t_1}$ day of $\mathcal{J}_{aut}$ , 2016, before me personally came James Edward
SHEPPECK II, to me known and known to me to be the person of that name, who signed and
sealed the foregoing instrument, and he acknowledged the same to be his free act and deed.
CLIFTON D. MUELLER Notary Public COMMINING ALTH OF MASSACHUSETTS  CLIFTON D. MUELLER Notary Public COMMINING ALTH OF MASSACHUSETTS
My Commission Expires NOTATY PUPILC  July 25, 2019
IN TESTIMONY WHEREOF, I hereunto set my hand and seal this 6th day of
$-\sqrt{une}$ , $2016$
$\mathcal{O}(\mathcal{A}_{0},\mathcal{A}_{0})$
KartiikAVER
STATE OF MASSACHUSETTS )
COUNTY OF < CHICK & INTER
On this Can of June, 2016, before me personally came Karthik IVER, to me
known and known to me to be the person of that name, who signed and sealed the foregoing
instrument, and he acknowledged the same to be his free act and deed.
CLIFTON D. MUELLER CLIFTON D. MUELLER CLIFTON D. MUELLER
My Commission Expires Notary Public  My Commission Expires
Guly 25, 2019

IN TESTIMONY WHEREOF, I hereunto set my hand and seal this 6 day of
He-y Lodd L. George Fodd MILNE
STATE OF MASSACHUSETTS )
COUNTY OF <click &="" )="" dollesex<="" finter="" m.="" ss.:="" td=""></click>
On this day of 2016, before me personally came George Todd MILNE, to me known and known to me to be the person of that name, who signed and sealed the foregoing instrument, and he acknowledged the same to be his free act and deed.
CLIFTON D. MUELLER  Notary Public  COMMONWEALTH OF MASSACHUSETTS  My Commission Expires  July 25, 2019  Notary Public
IN TESTIMONY WHEREOF, I hereunto set my hand and seal this 10th day of 100 mg. 100 mg.
Kimberly Kafadar LONG
STATE OF MASSACHUSETTS )
COUNTY OF < CHICK & FATHER: 4: ddlesex
On this 10 day of June, 2016, before me personally came <b>Kimberly Kafadar</b> LONG
, to me known and known to me to be the person of that name, who signed and sealed the foregoing instrument, and he acknowledged the same to be his fixe act and deed.
CLIFTON D. MUELLER Notary Public

IN TESTIMONY WHEREOF, I hereunto set my hand and seal this 11th day of 2016.
Mark G. CURRIE
Mark G. CURRIE
STATE OF MASSACHUSETTS ) ss.: Mildlesex COUNTY OF CLICK &CINTERS )
On this Lay of Lay 2016, before me personally came Mark G. CURRIE, to me known and known to me to be the person of that name, who signed and scaled the foregoing
instrument, and he acknowledged the same to be his free act and dexd.
Chitta Mulle
CUFTON D. MUELLER Notary Public