504396772 06/05/2017

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4443469

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
PHIENG SILIPHAIVANH	12/17/2015
DAVID L. SLOMAN	12/17/2015
DAVID WITTER	12/17/2015
UMAR FARUK MANSOOR	12/17/2015
JOSEPH KOZLOWSKI	12/10/2015
XIANHAI HUANG	11/18/2015
PHARMARON BEIJING CO., LTD.	09/02/2016

RECEIVING PARTY DATA

Name:	MERCK SHARP & DOHME CORP.
Street Address:	126 EAST LINCOLN AVENUE
Internal Address:	RY86-2011A
City:	RAHWAY
State/Country:	NEW JERSEY
Postal Code:	07065

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15531771

CORRESPONDENCE DATA

Fax Number: (732)594-4720

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: 7325944958

Email: us_efs@merck.com

Correspondent Name: MERCK SHARP & DOHME CORP.
Address Line 1: 126 EAST LINCOLN AVENUE

Address Line 2: RY86-2011A

Address Line 4: RAHWAY, NEW JERSEY 07065

ATTORNEY DOCKET NUMBER:	23875-US-PCT
NAME OF SUBMITTER:	STEPHANIE RICARDO
SIGNATURE:	/Stephanie Ricardo/

504396772 PATENT REEL: 042588 FRAME: 0359

DATE SIGNED:

Total Attachments: 11

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PATENT REEL: 042588 FRAME: 0360

WORLDWIDE ASSIGNMENT

WHEREAS, I/WE,

Phieng Siliphaivanh, located at Newton, MA 02461,
 David L. Sloman, located at Brookline, MA 02446,

(3) David Witter, located at Norfolk, MA 02056,

(4) Umar Faruk Mansoor, located at Framingham, MA 01702,

(5) Joseph Kozlowski, located at Princeton, NJ 08540,
 (6) Xianhai Huang, located at Warren, NJ 07059,

(hereinafter ASSIGNOR(S)), together with **Ziping Liu**, located at Beijing 100176, China, **Jianmin Fu**, located at Beijing 100176, China, **Zhilong Wan**, located at Beijing 102400, China, **Wei Liu**, located at Beijing 100176, China, and **Yimin Qian**, located at Plainsboro, NJ 08536, are the inventors of the invention described in an application for Patents having the Attorney Docket Number indicated above and the following Title of the Invention:

ERK INHIBITORS

and in the following application(s):

PCT International Application No. PCT/CN2014/093858 having a filing date of December 15, 2014

WHEREAS I/WE covenant that the rights and property herein conveyed are free and clear of any encumbrance, and that I/we have the full right to convey the same as herein expressed.

WHEREAS, Merck Sharp & Dohme Corp., a corporation organized under the laws of the State of New Jersey, having an office at 126 East Lincoln Avenue, Rahway, New Jersey 07065, and its successors, assigns and legal representatives (hereinafter **ASSIGNEE**), is desirous of obtaining the entire right, title and interest in, to and under the invention disclosed in said application or applications;

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, I/we, said ASSIGNOR(S), do each hereby sell, assign and transfer or confirm the grant and assignment to said ASSIGNEE my/our entire right, title and interest in all countries of the world in and to my/our invention described in said application for Patents, in and to the right to file patent applications in the name of ASSIGNEE, its designee, or in any or all of our names, at its election, on the aforesaid invention in all countries of the world, together with all rights of priority in the aforesaid countries deriving from the above-identified application for Patents under the International Convention for the Protection of Industrial Property, under the Inter-American Convention relating to Inventions, Patents, Designs and Industrial Models and under any other international arrangement relating to patents or intellectual property, in and to any and all Letters Patent that are granted from the aforesaid application for Patents, in and to any applications claiming priority benefits to a provisional patent application or other applications filed on said invention, and in and to any continuations, divisions, reexaminations, reissues, renewals and extensions thereof of any of said Letters Patent, the same to be held and enjoyed by said ASSIGNEE, to the full ends of the terms for which all Letters Patent therefore may be granted, as fully and entirely as the same would have been held and enjoyed by us if this assignment and sale had not been made.

AND I/WE HEREBY covenant and agree that we will at any time, upon the request and at the expense of ASSIGNEE, without further compensation or charge to said ASSIGNEE, execute and deliver any and all documents that may be necessary or desirable to perfect the title to the foregoing invention, patent applications, and Letters Patent and continuations, divisions, reexaminations, reissues, renewals and extensions thereof in the name of ASSIGNEE, including the execution and procurement of any and all further documents evidencing this assignment and sale as may be necessary or desirable for recording the same in the Patent Office of any country concerned, and will make all rightful oaths and declarations and do all lawful acts requisite for procuring the same or for aiding therein.

I/WE HEREBY authorize **ASSIGNEE** to insert in this instrument the Application Number(s) and the filing date(s) of said application for Patents when officially notified thereof.

This document may be executed in any number of counterparts, each of which so executed shall be deemed to be an original, but all such components shall together constitute but one and the same document.

Executed this 11 day of DELEMASS.	20 <u>/5</u>
Phieng Sijiphaivanh	
ACKNOWLEDGEMENT	
Commonwealth of Massachusetts)) s.s.:
County of Suffolk)
known, and known by me to be the same perso	20 1 personally appeared before me Phieng Siliphaivanh , to me on(s) described in and who executed the foregoing instrument, and e, of his (her) own free will for the purpose set forth.
(Seal)	Khonel Januton
	My Commission Expires March 18, 2022
Executed this // day of December,	201
F. L.	
David L. Sloman	
ACKNOWLEDGEMENT	
Commonwealth of Massachusetts	
County of Suffolk) s.s.:)
On this day of (\(\sigma \cong \sigma \cong\	2, 2015, personally appeared before me David L. Sloman, to me known scribed in and who executed the foregoing instrument, and acknowledged wn free will for the purpose set forth.
	Annela Yanana
(Seal)	INNULA YOUNG

Page 2 of 4

Computer Generated Template "Assignment-Merck Sharp & Dohme, Multiple Assignees Worldwide"

RHONDA/YANOVITCH
NOTARY Public
SCOMMONWEALTH OF MASSACHUSETTS
My Commission Expires
My Commission Expires
Maccil Shed MSSilve Bor 2 Bros 2010

Notary Public

REEL: 042588 FRAME: 0362

Executed this 17 day of Decanhe.	2015.
Donald With	
David Witter	
ACKNOWLEDGEMENT	
Commonwealth of Massachusetts)) s.s.:
County of Suffolk)
On this day of Cowd are known by me to be the same person(s) describ (she) executed the same, of his (her) own free	, 20 <u>15</u> , personally appeared before me David Witter , to me known, and led in and who executed the foregoing instrument, and acknowledged that he will for the purpose set forth.
(Seal)	Charle Jannitan
	Notary Public COMMONWEARTH OF MASSACHUSETTS My Commission Expires March 18, 2022
Executed this <u>Mansøor</u> day of <u>December</u> ,	20 <u>(\$</u> ".
ACKNOWLEDGEMENT	
Commonwealth of Massachusetts County of Suffolk)) s.s.:)
known, and known by me to be the same perso	. 20 (\$\sigma\$), personally appeared before me Umar Faruk Mansoor , to me on(s) described in and who executed the foregoing instrument, and e, of his (her) own free will for the purpose set forth.
(Seal)	RHONDW VWNOVITCH Notary Public Cossissonseath of Massachusetts My Commission Expires

Page 3 of 4
Computer Generated Template "Assignment-Merck Sharp & Dohme, Multiple Assignees Worldwide" (Assignment) Merck Sharp & Dohme Corp. PATENT

Executed this	day of	_ , 2015.
Joseph Kozlowski		_
ACKNOWLEDGEN	IENT	
State of New Jerse	y	
County of Union) s.s.:)
and known by me to	o be the same person(s) d	, 2015, personally appeared before me Joseph Kozlowski, to me known, lescribed in and who executed the foregoing instrument, and acknowledged own free will for the purpose set forth.
(Seal)		
		Notary Public
Executed this	day of	_ , 2015
Xianhai Huang		
ACKNOWLEDGEN	IENT	
State of New Jerse	y	
County of Union) s.s.:)
and known by me to	be the same person(s) d	, 2015, personally appeared before me Xianhai Huang , to me known, lescribed in and who executed the foregoing instrument, and acknowledged own free will for the purpose set forth.
(Seal)		
		Notary Public

WORLDWIDE ASSIGNMENT

WHEREAS, I/WE,

(1) Phieng Siliphaivanh, located at Newton, MA 02461,(2) David L. Sloman. located at Brookline. MA 02446.

(3) David Witter, located at Norfolk, MA 02056,

(4) Umar Faruk Mansoor, located at Framingham, MA 01702,

(5) Joseph Kozlowski, located at Princeton, NJ 08540,(6) Xianhai Huang, located at Warren, NJ 07059,

(hereinafter ASSIGNOR(S)), together with **Ziping Liu**, located at Beijing 100176, China, **Jianmin Fu**, located at Beijing 100176, China, **Zhilong Wan**, located at Beijing 102400, China, **Wei Liu**, located at Beijing 100176, China, and **Yimin Qian**, located at Plainsboro, NJ 08536, are the inventors of the invention described in an application for Patents having the Attorney Docket Number indicated above and the following Title of the Invention:

ERK INHIBITORS

and in the following application(s):

PCT International Application No. PCT/CN2014/093858 having a filing date of December 15, 2014

WHEREAS I/WE covenant that the rights and property herein conveyed are free and clear of any encumbrance, and that I/we have the full right to convey the same as herein expressed.

WHEREAS, Merck Sharp & Dohme Corp., a corporation organized under the laws of the State of New Jersey, having an office at 126 East Lincoln Avenue, Rahway, New Jersey 07065, and its successors, assigns and legal representatives (hereinafter **ASSIGNEE**), is desirous of obtaining the entire right, title and interest in, to and under the invention disclosed in said application or applications;

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, I/we, said ASSIGNOR(S), do each hereby sell, assign and transfer or confirm the grant and assignment to said ASSIGNEE my/our entire right, title and interest in all countries of the world in and to my/our invention described in said application for Patents, in and to the right to file patent applications in the name of ASSIGNEE, its designee, or in any or all of our names, at its election, on the aforesaid invention in all countries of the world, together with all rights of priority in the aforesaid countries deriving from the above-identified application for Patents under the International Convention for the Protection of Industrial Property, under the Inter-American Convention relating to Inventions, Patents, Designs and Industrial Models and under any other international arrangement relating to patents or intellectual property, in and to any and all Letters Patent that are granted from the aforesaid application for Patents, in and to any applications claiming priority benefits to a provisional patent application or other applications filed on said invention, and in and to any continuations, divisions, reexaminations, reissues, renewals and extensions thereof of any of said Letters Patent, the same to be held and enjoyed by said ASSIGNEE, to the full ends of the terms for which all Letters Patent therefore may be granted, as fully and entirely as the same would have been held and enjoyed by us if this assignment and sale had not been made.

AND I/WE HEREBY covenant and agree that we will at any time, upon the request and at the expense of **ASSIGNEE**, without further compensation or charge to said **ASSIGNEE**, execute and deliver any and all documents that may be necessary or desirable to perfect the title to the foregoing invention, patent applications, and Letters Patent and continuations, divisions, reexaminations, reissues, renewals and extensions thereof in the name of **ASSIGNEE**, including the execution and procurement of any and all further documents evidencing this assignment and sale as may be necessary or desirable for recording the same in the Patent Office of any country concerned, and will make all rightful oaths and declarations and do all lawful acts requisite for procuring the same or for aiding therein.

I/WE HEREBY authorize ASSIGNEE to insert in this instrument the Application Number(s) and the filing date(s) of said application for Patents when officially notified thereof.

This document may be executed in any number of counterparts, each of which so executed shall be deemed to be an original, but all such components shall together constitute but one and the same document.

Executed this	day of	, 2015
Phieng Siliphai	vanh	
ACKNOWLEDG	EMENT	
Commonwealth of County of Suffolk	of Massachusetts)) s.s.:)
On this known, and know acknowledged th	day of vn by me to be the sam at he (she) executed th	, 2015, personally appeared before me Phieng Siliphaivanh , to me e person(s) described in and who executed the foregoing instrument, and he same, of his (her) own free will for the purpose set forth.
(Seal)		
		Notary Public
Executed this	day of	, 2015
David L. Slomar	າ	
ACKNOWLEDG	EMENT	
Commonwealth of County of Suffolk	of Massachusetts)) s.s.:)
and known by me	e to be the same persor	, 2015, personally appeared before me David L. Sloman, to me known n(s) described in and who executed the foregoing instrument, and acknowledged (her) own free will for the purpose set forth.
(Seal)		
		Notary Public

Executed this day of	, 2015.
David Witter	
David Witter	
ACKNOWLEDGEMENT	
Commonwealth of Massachusetts)) s.s.:
County of Suffolk) 5.5
On this day of known by me to be the same person(s) o (she) executed the same, of his (her) ow	, 2015, personally appeared before me David Witter , to me known, and described in and who executed the foregoing instrument, and acknowledged that he n free will for the purpose set forth.
(Seal)	
	Notary Public
Executed this day of	, 2015.
Umar Faruk Mansoor	
ACKNOWLEDGEMENT	
Commonwealth of Massachusetts)
County of Suffolk) s.s.:)
	, 2015, personally appeared before me Umar Faruk Mansoor , to me person(s) described in and who executed the foregoing instrument, and e same, of his (her) own free will for the purpose set forth.
(Seal)	
	Notary Public

Executed this 20th day of Oecember	
Joseph Kozlowski July -	.
ACKNOWLEDGEMENT	
State of New Jersey	Na.
County of Union) s.s.:)
On this 10th day of 10th cember and known by me to be the same person(s) de that he (she) executed the same, of his (her) o	, 2015, personally appeared before me Joseph Kozlowski , to me known, scribed in and who executed the foregoing instrument, and acknowledged wn free will for the purpose set forth.
(Seal)	Notary Public
Executed this 18 th day of November,	BARBARA MULLER Notary Public of New Jersey My Commission Expires on June 13, 2016 2015
ACKNOWLEDGEMENT	
State of New Jersey County of Union) s.s.:)
On this 18th day of November and known by me to be the same person(s) de that he (she) executed the same, of his (her) or	, 2015, personally appeared before me Xianhai Huang , to me known, scribed in and who executed the foregoing instrument, and acknowledged wn free will for the purpose set forth.
(Seal)	Balvara Muller Notary Public
	BARBARA MULLER Notary Public of New Jersey No. Complesion Express on June 13, 2016

CONFIRMATORY ASSIGNMENT

WHEREAS,

Pharmaron Beijing Co., Ltd., a Chinese corporation with offices at 6 Tai-He Road, BDA, Beijing, 100176 P. R. China, ("Assignor") under the terms of Amendment No. 7 of Master Full Time Equivalents Agreement For Services between Assignor's parent company Pharmaron, Inc., a Kentucky corporation with offices at 201 East Jefferson Street, Louisville, KY 40202 and Merck Sharp & Dohme Corp., formerly known as Merck & Co., Inc., ("Assignee") with an effective date of Aug. 1, 2012 ("Agreement") did assign to Assignee all of its rights in any and all inventions set forth and described in an application for patent having the attorney docket number indicated above and the following Title of Invention:

ERK INHIBITIORS

and/or in the following application(s):		
U.S. Provisional Application No.	having a filing date of	
U.S. Application No. <u>15/531,771</u>	having a filing date of 5/31/17	; and
PCT International Application No. PC	CT/CN2014/093858 having a filing date o	f 15 December
2014; ("Inventions").		

AND WHEREAS, to confirm the assignment, Assignor has agreed to execute and deliver this assignment;

NOW THEREFORE, in consideration of the good and valuable consideration provided under the Agreement, the receipt and sufficiency of which are hereby acknowledged, Assignor hereby confirms that it has assigned to Assignee its entire right, title, interest, property and benefit in and to the Inventions and the associated patent application(s), including any and all rights relating thereto that may arise at law, all rights of action resulting from prior infringement or other unauthorized use thereof, any and all applications corresponding to the Inventions worldwide, whether in the form of divisions, continuations, re-examinations, re-issues and extensions thereof, any and all letters patent and like industrial property registrations that may issue, be granted or result from said corresponding applications for the Inventions worldwide (hereinafter referred to as the Patents), and any and all rights of priority exercisable in any jurisdiction resulting from the filing of the patent application(s) associated with Inventions, the said corresponding applications and any previously filed applications in respect of the Inventions under international conventions, treaties or otherwise, the same to be held and enjoyed as fully and exclusively as the same would have been held and enjoyed by Assignor had this assignment not been made;

AND ASSIGNOR, on behalf of itself and its successors, assigns, nominees, or other legal representatives, does hereby covenant and agree to perform all lawful acts and duties and to execute and deliver without further consideration such further lawful assignments, instruments, assurances, applications and other documents as may reasonably be required by said Assignee, or by its successors, assigns, nominees, or other legal representatives, to file patent application(s) associated with Inventions, obtain said Patents and vest or secure the same in Assignee, and in Assignee's successors, assigns, nominees or other legal representatives.

AND ASSIGNOR does hereby authorize any official whose duty it is to grant patents or industrial property registrations, to grant said Patents to the Assignee, and to Assignee's successors, assigns, nominees or other legal representatives.

AND ASSIGNOR, on behalf of itself and its successors, assigns, nominees, or other legal representatives, does hereby authorize said Assignee, its successors, assigns, nominees or other legal representatives, including its patent agents, to amend the present assignment document to insert or correct the filing date, serial number or other identifying information of the associated patent application(s) and/or Patents as may be needed to record same.

IN WITNESS WHEREOF, Assignor has by its authorized signing officer executed this confirmatory assignment, and Assignee has by its authorized officer accepted this confirmatory assignment.

Assignor: Pharmaron Beijing Co., Ltd.

Executed th	nis <u>2nd</u> day of <u>September</u> , 20 <u>16</u>	?
Signature:	2f8d8	_
Name:	JANE T. ZHANG	
Title:	C.Q.0	
be the perso	on who executed the foregoing instrument and this 2nd day of September, 20	when J. zhang to me known and known to me to and acknowledged said instrument to be his/her free old. Witness 2: Signature: Name: 9/2/2016

Assignee: Merck Sharp & Dohme Corp.			
Executed this 2 day of MCh, 2017			
Signature: Catherine D. Fitch			
Title: Managing Counsel, Patents			
Personally appeared before me the above named () to me known and known to me to be the person who executed the foregoing instrument and acknowledged said instrument to be his/her free act and deed this day of , 20			
Witness 1:	Witness 2:		
Signature: Michilla L. S. 180	Signature: Stochario accido		
Name: Michelle A. Sisko	Name: Stephanie Ricardo		
Date: $\frac{3/21/2017}{}$	Date: _3/21/17		