

<b>PATENT ASSIGNMENT COVER SHEET</b>
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Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT4687275

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
DONG-MING SHEN	04/07/2016
XIAOXIA QIAN	04/13/2016
BART HARPER	04/07/2016
MENG YANG	04/07/2016
DEPING WANG	04/13/2016
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	MERCK SHARP & DOHME CORP.
<b>Street Address:</b>	126 EAST LINCOLN AVENUE
<b>Internal Address:</b>	RY86 2011A
<b>City:</b>	RAHWAY
<b>State/Country:</b>	NEW JERSEY
<b>Postal Code:</b>	07065
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	15573858
<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 using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.</i>	
<b>Phone:</b>	732-594-4909
<b>Email:</b>	us_efs@merck.com
<b>Correspondent Name:</b>	MERCK
<b>Address Line 1:</b>	P O BOX 2000
<b>Address Line 2:</b>	RY862011A
<b>Address Line 4:</b>	RAHWAY, NEW JERSEY 07065-0907
<b>ATTORNEY DOCKET NUMBER:</b>	24078-MSDCORP
<b>NAME OF SUBMITTER:</b>	CHRISTINE KANELIDIS
<b>SIGNATURE:</b>	/christinekanellidis/
<b>DATE SIGNED:</b>	11/14/2017

**Total Attachments: 6**

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**WORLDWIDE ASSIGNMENT**

WHEREAS, I/WE,  
(1) Dong-Ming Shen, located at Edison, NJ,  
(2) XiaoXia Qian, located at New York, NY,  
(3) Bart Harper, located at New, York, NY,  
(4) Meng Yang, located at Westfield, NJ,  
(5) Deping Wang, located at Furlong, PA,

(hereinafter ASSIGNOR(S)), together with Yingjian Bo, located at Beijing, China,  
\_\_\_\_\_, located at \_\_\_\_\_, and  
\_\_\_\_\_, located at \_\_\_\_\_, 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:

**PYRIMIDINONE AMIDE COMPOUNDS AS PDE2 INHIBITORS**

and in the following application(s):

U.S. Provisional Application No. \_\_\_\_\_ filed on \_\_\_\_\_ ;  
U.S. Application No. \_\_\_\_\_ having a filing date of \_\_\_\_\_ ; and  
PCT International Application No. PCT/USCN2015/079091 having a filing date of May 15, 2015.

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 7<sup>th</sup> day of April, 2016.

[Signature]  
Dong-Ming Shen

[Signature]  
Bart Harper

[Signature]  
Meng Yang

[Signature]  
Deping Wang

ACKNOWLEDGEMENT

State of New Jersey  
County of Union ) s.s.:

On this 7<sup>th</sup> day of April, 2016, personally appeared before me **Dong-Ming Shen, Bart Harper, Meng Yang, Deping Wang** to me known, and known by me to be the same person(s) described in and who executed the foregoing instrument, and acknowledged that he (she) executed the same, of his (her) own free will for the purpose set forth.

(Seal) **CHRISTINE M. KANELLIDIS**  
Notary Public of New Jersey  
I.D. # 2442057  
Commission Expires January 9, 2019

[Signature]  
Notary Public

Executed this \_\_\_ day of \_\_\_\_\_, 2016.

\_\_\_\_\_  
XiaoXia Qian

ACKNOWLEDGEMENT

\_\_\_\_\_ of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) s.s.:

On this \_\_\_ day of \_\_\_\_\_, 2016, personally appeared before me **XiaoXia Qian** to me known, and known by me to be the same person described in and who executed the foregoing instrument, and acknowledged that he (she) executed the same, of his (her) own free will for the purpose set forth.

(Seal) \_\_\_\_\_  
Notary Public

WORLDWIDE ASSIGNMENT

WHEREAS, I/WE,  
(1) Dong-Ming Shen, located at Edison, NJ,  
(2) XiaoXia Qian, located at New York, NY,  
(3) Bart Harper, located at New, York, NY,  
(4) Meng Yang, located at Westfield, NJ,  
(5) Deping Wang, located at Furlong, PA,

(hereinafter ASSIGNOR(S)), together with Yingjian Bo, located at Beijing, China,  
\_\_\_\_\_, located at \_\_\_\_\_, and  
\_\_\_\_\_, located at \_\_\_\_\_, 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:

PYRIMIDINONE AMIDE COMPOUNDS AS PDE2 INHIBITORS

and in the following application(s):

U.S. Provisional Application No. \_\_\_\_\_ filed on \_\_\_\_\_ ;  
U.S. Application No. \_\_\_\_\_ having a filing date of \_\_\_\_\_ ; and  
PCT International Application No. PCT/USCN2015/079091 having a filing date of May 15, 2015.

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 \_\_\_\_\_, 2016.

\_\_\_\_\_  
Dong-Ming Shen

\_\_\_\_\_  
Bart Harper

\_\_\_\_\_  
Meng Yang

\_\_\_\_\_  
Deping Wang

**ACKNOWLEDGEMENT**

\_\_\_\_\_ of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) s.s.:

On this \_\_\_\_ day of \_\_\_\_\_, 2016, personally appeared before me Dong-Ming Shen, Bart Harper, Meng Yang, Deping Wang to me known, and known by me to be the same person(s) described in and who executed the foregoing instrument, and acknowledged that he (she) executed the same, of his (her) own free will for the purpose set forth.

(Seal)

\_\_\_\_\_  
Notary Public

Executed this 13 day of April, 2016.

\_\_\_\_\_  
XiaoXia Qian

**ACKNOWLEDGEMENT**

State New Jersey of \_\_\_\_\_ )  
County of Union ) s.s.:

On this 13<sup>th</sup> day of April, 2016, personally appeared before me XiaoXia Qian to me known, and known by me to be the same person described in and who executed the foregoing instrument, and acknowledged that he (she) executed the same, of his (her) own free will for the purpose set forth.

(Seal)

\_\_\_\_\_  
Christine M. Kanelledis  
Notary Public

CHRISTINE M. KANELLEDIS  
Notary Public of New Jersey  
ID # 2442057  
Commission Expires January 9, 2019



**WORLDWIDE ASSIGNMENT**

WHEREAS, I/WE,

- (1) Dong-Ming Shen, located at Edison, NJ,
- (2) XiaoXia Qian, located at New York, NY,
- (3) Bart Harper, located at New, York, NY,
- (4) Meng Yang, located at Westfield, NJ,
- (5) Deping Wang, located at Furlong, PA,

(hereinafter ASSIGNOR(S)), together with Yingjian Bo, located at Beijing, China, \_\_\_\_\_, located at \_\_\_\_\_, and \_\_\_\_\_, located at \_\_\_\_\_, 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:

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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.

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Executed this 13 day of April, 2016.

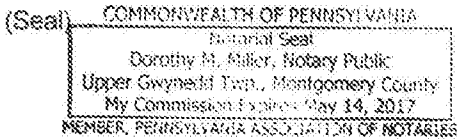
*[Handwritten Signature]*  
\_\_\_\_\_

Deping Wang

**ACKNOWLEDGEMENT**

Commonwealth \_\_\_\_\_ of Pennsylvania )  
County of MONTGOMERY ) s.s.:

On this 13 day of April, 2016, personally appeared before me Deping Wang to me known, and known by me to be the same person(s) described in and who executed the foregoing instrument, and acknowledged that he (she) executed the same, of his (her) own free will for the purpose set forth.



*[Handwritten Signature]*  
\_\_\_\_\_  
Notary Public

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 2016.

\_\_\_\_\_  
XiaoXia Qian

**ACKNOWLEDGEMENT**

\_\_\_\_\_ of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) s.s.:

On this \_\_\_\_\_ day of \_\_\_\_\_, 2016, personally appeared before me XiaoXia Qian to me known, and known by me to be the same person described in and who executed the foregoing instrument, and acknowledged that he (she) executed the same, of his (her) own free will for the purpose set forth.

(Seal)

\_\_\_\_\_  
Notary Public