

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT4581134

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
JIAN LIU	11/15/2016
JOSEPH A. KOZLOWSKI	11/15/2016
BRIAN M. ANDRESEN	11/17/2016
SOBHANA BABU BOGA	11/16/2016
XIAOLEI GAO	11/18/2016
DEODIAL GUY GUIADEEN	11/15/2016
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	MERCK SHARP & DOHME CORP.
<b>Street Address:</b>	126 EAST LINCOLN AVENUE
<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>
Application Number:	15538910
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(732)594-4720
<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>	732-594-1404
<b>Email:</b>	us_efs@merck.com
<b>Correspondent Name:</b>	MERCK
<b>Address Line 1:</b>	126 EAST LINCOLN AVENUE
<b>Address Line 2:</b>	RY86-2011A
<b>Address Line 4:</b>	RAHWAY, NEW JERSEY 07065
<b>ATTORNEY DOCKET NUMBER:</b>	23854
<b>NAME OF SUBMITTER:</b>	VIRGINIA M. FINNO-SORRENTINO
<b>SIGNATURE:</b>	/VIRGINIA M. FINNO-SORRENTINO/
<b>DATE SIGNED:</b>	09/06/2017

**Total Attachments: 12**

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## WORLDWIDE ASSIGNMENT

WHEREAS, I/WE,

1	JIAN LIU	located at	EDISON, NEW JERSEY
2	JOSEPH A. KOZLOWSKI	located at	PRINCETON, NEW JERSEY
3	BRIAN M. ANDRESEN	located at	SHARON, MASSACHUSETTS
4	SOBHANA BABU BOGA	located at	SCOTCH PLAINS, NEW JERSEY
5	XIAOLEI GAO	located at	BRIDGEWATER, NEW JERSEY
6	DEODIAL GUY GUIADEEN	located at	CHESTERFIELD, NEW JERSEY

(hereinafter ASSIGNOR(S)), together with

7	JIAQIANG CAI	located at	SHANGHAI, CN
8	SHILAN LIU	located at	SHANGHAI, CN
9	DAHAI WANG	located at	SHANGHAI, CN
10	HAO WU	located at	SHANGHAI, CN
11	CHUNDAO YANG	located at	SHANGHAI, CN

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:

## TERTIARY ALCOHOL IMIDAZOPYRAZINE BTK INHIBITORS

and in the following application(s):

U.S. Provisional Application No.		having a filing date of	
PCT International Application No.	PCT/US2015/066233	having a filing date of	DECEMBER 17, 2015
U.S. Application No.		having a filing date of	

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 15 day of November 2016

LIU LIU

ACKNOWLEDGEMENT

STATE OF NEW JERSEY )  
COUNTY OF Union ) ss:

On this 15<sup>th</sup> day of November, 2016, personally appeared before me LIU LIU 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 SIGNATURE  
NOTARY PUBLIC (Printed Name)

MY COMMISSION EXPIRES:

Dina A Kuster  
DINA A. KUSTER  
NOTARY PUBLIC OF NEW JERSEY  
My Commission Expires 8/7/2020

## WORLDWIDE ASSIGNMENT

WHEREAS, I/WE,

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2	JOSEPH A. KOZLOWSKI	located at	PRINCETON, NEW JERSEY
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5	XIAOLEI GAO	located at	BRIDGEWATER, NEW JERSEY
6	DEODIAL GUY GUIADEEN	located at	CHESTERFIELD, NEW JERSEY

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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.

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Executed this 15<sup>th</sup> day of November 2016

Joseph A. Kozlowski  
JOSEPH A. KOZLOWSKI

## ACKNOWLEDGEMENT

STATE OF NEW JERSEY )  
COUNTY OF Union ) ss:

On this 15<sup>th</sup> day of November, 2016, personally appeared before me JOSEPH A. KOZLOWSKI 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 SIGNATURE  
NOTARY PUBLIC (Printed Name)  
MY COMMISSION EXPIRES:

Dina A. Kuster

DINA A. KUSTER  
NOTARY PUBLIC OF NEW JERSEY  
My Commission Expires 8/7/2020

## WORLDWIDE ASSIGNMENT

WHEREAS, I/WE,

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2	JOSEPH A. KOZLOWSKI	located at	PRINCETON, NEW JERSEY
3	BRIAN M. ANDRESEN	located at	SHARON, MASSACHUSETTS
4	SOBHANA BABU BOGA	located at	SCOTCH PLAINS, NEW JERSEY
5	XIAOLEI GAO	located at	BRIDGEWATER, NEW JERSEY
6	DEODIAL GUY GUIADEEN	located at	CHESTERFIELD, NEW JERSEY


(hereinafter ASSIGNOR(S)), together with

7	JIAQIANG CAI	located at	SHANGHAI, CN
8	SHILAN LIU	located at	SHANGHAI, CN
9	DAHAI WANG	located at	SHANGHAI, CN
10	HAO WU	located at	SHANGHAI, CN
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Executed this 17 day of November 2016

Brian M. Andresen  
BRIAN M. ANDRESEN

## ACKNOWLEDGEMENT

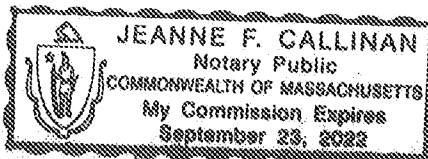
COMMONWEALTH OF MASSACHUSETTS )  
COUNTY OF Suffolk ) ss:

On this 17 day of Nov, 2015, before me, the undersigned notary public, personally appeared BRIAN M. ANDRESEN proved to me through satisfactory evidence of identification, which was Merck ID, to be the person whose name is signed on the preceding document, and acknowledged to me that he/she signed it voluntarily for its stated purpose.

(Seal)

NOTARY SIGNATURE  
NOTARY PUBLIC (Printed Name)  
MY COMMISSION EXPIRES:

Jeanne F. Callinan





## WORLDWIDE ASSIGNMENT

WHEREAS, I/WE,

1	JIAN LIU	located at	EDISON, NEW JERSEY
2	JOSEPH A. KOZLOWSKI	located at	PRINCETON, NEW JERSEY
3	BRIAN M. ANDRESEN	located at	SHARON, MASSACHUSETTS
4	SOBHANA BABU BOGA	located at	SCOTCH PLAINS, NEW JERSEY
5	XIAOLEI GAO	located at	BRIDGEWATER, NEW JERSEY
6	DEODIAL GUY GUIADEEN	located at	CHESTERFIELD, NEW JERSEY

(hereinafter ASSIGNOR(S)), together with

7	JIAQIANG CAI	located at	SHANGHAI, CN
8	SHILAN LIU	located at	SHANGHAI, CN
9	DAHAI WANG	located at	SHANGHAI, CN
10	HAO WU	located at	SHANGHAI, CN
11	CHUNDAO YANG	located at	SHANGHAI, CN

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.

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Executed this 16 day of NOVEMBER 2016

SOBHANA BABU BOGA

## ACKNOWLEDGEMENT

STATE OF NEW JERSEY )  
COUNTY OF UNION ) ss:

On this 16 day of NOVEMBER, 2016, personally appeared before me SOBHANA BABU BOGA 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 SIGNATURE  
NOTARY PUBLIC (Printed Name)  
MY COMMISSION EXPIRES:

Christine M. Kanellidis

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

## WORLDWIDE ASSIGNMENT

WHEREAS, I/WE,

1	JIAN LIU	located at	EDISON, NEW JERSEY
2	JOSEPH A. KOZLOWSKI	located at	PRINCETON, NEW JERSEY
3	BRIAN M. ANDRESEN	located at	SHARON, MASSACHUSETTS
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Executed this 18 day of November 2016

XIAOLEI GAO

## ACKNOWLEDGEMENT

STATE OF NEW JERSEY )  
COUNTY OF Somerset ) ss:

On this 18 day of Nov, 2016, personally appeared before me XIAOLEI GAO 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)

DONALD R ANDERSON  
Notary Public  
State of New jersey  
My Commission Expires Nov 7, 2020

NOTARY SIGNATURE  
NOTARY PUBLIC (Printed Name)

MY COMMISSION EXPIRES:

## WORLDWIDE ASSIGNMENT

WHEREAS, I/WE,

1	JIAN LIU	located at	EDISON, NEW JERSEY
2	JOSEPH A. KOZLOWSKI	located at	PRINCETON, NEW JERSEY
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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 15 day of November 2016

Deodial Guy Guidaeen  
DEODIAL GUY GUIADEEN

## ACKNOWLEDGEMENT

COMMONWEALTH OF PENNSYLVANIA )  
COUNTY OF Montgomery ) ss:

On this 15 day of November, 2016, personally appeared before me DEODIAL GUY GUIADEEN 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)

COMMONWEALTH OF PENNSYLVANIA  
NOTARIAL SEAL  
Ruth A. Culbreath, Notary Public  
Upper Gwynedd Twp., Montgomery County  
My Commission Expires Aug. 17, 2020  
MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

NOTARY SIGNATURE Ruth A Culbreath  
NOTARY PUBLIC (Printed Name) Ruth A Culbreath  
MY COMMISSION EXPIRES: 17-Aug-20 20