

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT3111025

| | |
|---|-------------------------------|
| SUBMISSION TYPE: | NEW ASSIGNMENT |
| NATURE OF CONVEYANCE: | ASSIGNMENT |
| CONVEYING PARTY DATA | |
| Name | Execution Date |
| CASEY C. MCCOMAS | 02/15/2013 |
| NIGEL J. LIVERTON | 02/15/2013 |
| ANANDAN PALANI | 02/15/2013 |
| XING DAI | 02/15/2013 |
| HONG LIU | 02/15/2013 |
| SHUWEN HE | 02/15/2013 |
| ZHONG LAI | 02/15/2013 |
| QUN DANG | 03/12/2013 |
| NICOLAS ZORN | 02/15/2013 |
| RECEIVING PARTY DATA | |
| Name: | MERCK SHARP & DOHME CORP. |
| Street Address: | 126 EAST LINCOLN AVENUE |
| City: | RAHWAY |
| State/Country: | NEW JERSEY |
| Postal Code: | 07065-0907 |
| PROPERTY NUMBERS Total: 1 | |
| Property Type | Number |
| Application Number: | 14343448 |
| CORRESPONDENCE DATA | |
| Fax Number: | (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> | |
| Phone: | 732-594-5312 |
| Email: | us_efs@merck.com |
| Correspondent Name: | MERCK SHARP & DOHME CORP. |
| Address Line 1: | 126 EAST LINCOLN AVENUE |
| Address Line 4: | RAHWAY, NEW JERSEY 07065-0907 |
| ATTORNEY DOCKET NUMBER: | 23112 |
| NAME OF SUBMITTER: | HENRY P. WU |
| SIGNATURE: | /HENRY P. WU, REG. # 44,412/ |

PATENT

| | |
|---|------------|
| DATE SIGNED: | 11/17/2014 |
| Total Attachments: 14 source=23112USPCT-ASSIGN-MSD-17NOV2014#page1.tif source=23112USPCT-ASSIGN-MSD-17NOV2014#page2.tif source=23112USPCT-ASSIGN-MSD-17NOV2014#page3.tif source=23112USPCT-ASSIGN-MSD-17NOV2014#page4.tif source=23112USPCT-ASSIGN-MSD-17NOV2014#page5.tif source=23112USPCT-ASSIGN-MSD-17NOV2014#page6.tif source=23112USPCT-ASSIGN-MSD-17NOV2014#page7.tif source=23112USPCT-ASSIGN-MSD-17NOV2014#page8.tif source=23112USPCT-ASSIGN-MSD-17NOV2014#page9.tif source=23112USPCT-ASSIGN-MSD-17NOV2014#page10.tif source=23112USPCT-ASSIGN-MSD-17NOV2014#page11.tif source=23112USPCT-ASSIGN-MSD-17NOV2014#page12.tif source=23112USPCT-ASSIGN-MSD-17NOV2014#page13.tif source=23112USPCT-ASSIGN-MSD-17NOV2014#page14.tif | |

WORLDWIDE ASSIGNMENT

WHEREAS, I/WE,

- (1) Casey C. McComas, located at Phoenixville, Pennsylvania,
- (2) Nigel J. Liverton, located at Harleysville, Pennsylvania,
- (3) Joerg Habermann, located at Rome, Italy,
- (4) Uwe Koch, located at Dortmund, Germany,
- (5) Frank Narjes, located at Lomma, Sweden,
- (6) Anandan Palani, located at Bridgewater, New Jersey,
- (7) Xing Dai, located at Cranford, New Jersey,
- (8) Hong Liu, located at Hillsborough, New Jersey,
- (9) Shuwen He, located at Edison, New Jersey,
- (10) Zhong Lai, located at East Brunswick, New Jersey,
- (11) Qun Dang, located at Westfield, New Jersey,
- (12) Nicholas Zorn, located at Fanwood, New Jersey,

(hereinafter ASSIGNOR(S)), together with **Peng Li**, located at Shanghai, China; **Xuanjia Peng**, located at Shanghai, China; **Richard Soll**, located at San Diego, California; and **Hao Wu**, located at Shanghai, China; 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:

HETEROCYCLIC-SUBSTITUTED BENZOFURAN DERIVATES AND METHODS OF USE THEREOF FOR THE TREATMENT OF VIRAL DISEASES

and/or 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 Nos: PCT/CN2012/080214 having a filing date of 8/16/2012; and PCT
International Application Nos: PCT/CN2011/079467 having a filing date of 9/8/2011.

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 February, 2013.



CASEY C. MCCOMAS

ACKNOWLEDGEMENT

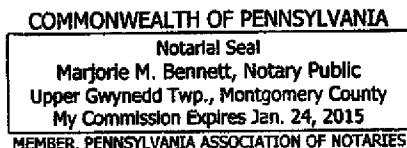
Commonwealth of Pennsylvania _____)
County of Montgomery _____) s.s.:

On this 15 day of February, 2013, personally appeared before me CASEY C. MCCOMAS 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.

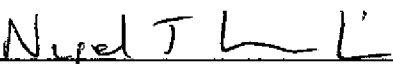
(Seal)



Marjorie M. Bennett



Executed this 15 day of February, 2013.



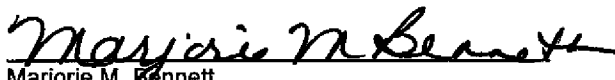
NIGEL J. LIVERTON

ACKNOWLEDGEMENT

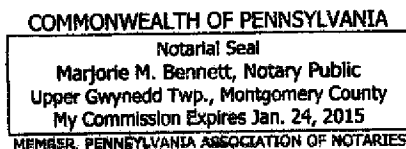
Commonwealth of Pennsylvania _____)
County of Montgomery _____) s.s.:

On this 15 day of February, 2013, personally appeared before me NIGEL J. LIVERTON 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)



Marjorie M. Bennett



Executed this ____ day of _____, 2013.

JOERG HABERMANN

ACKNOWLEDGEMENT

____ of _____)
County of _____) s.s.:
_____)

On this ____ day of _____, 2013, personally appeared before me **JOERG HABERMANN** 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

Executed this ____ day of _____, 2013.

UWE KOCH

ACKNOWLEDGEMENT

____ of _____)
County of _____) s.s.:
_____)

On this ____ day of _____, 2013, personally appeared before me **UWE KOCH** 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

Executed this ____ day of _____, 2013.

FRANK NARJES

ACKNOWLEDGEMENT

_____) of _____)
County of _____) s.s.:
_____)

On this ____ day of _____, 2013, personally appeared before me **FRANK NARJES** 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

Executed this 15th day of February, 2013.

Anand Palani

ANANDAN PALANI

ACKNOWLEDGEMENT

City of Rahway)
County of Union) s.s.:
_____)

On this 15 day of February, 2013, personally appeared before me **ANANDAN PALANI** 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.

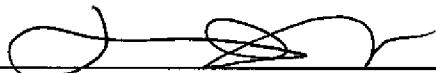
(Seal)

Kathleen A. Reynolds

Notary Public

KATHLEEN A. REYNOLDS
Notary Public of New Jersey
My Commission Expires August 3, 2016

Executed this 15 day of Feb, 2013.




XING DAI

ACKNOWLEDGEMENT

City of Rahway)
County of Union) s.s.:


On this 15 day of February, 2013, personally appeared before me XING DAI 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
KATHLEEN A. REYNOLDS
Notary Public of New Jersey
My Commission Expires August 3, 2016

Executed this 15 day of Feb, 2013.




HONG LIU

ACKNOWLEDGEMENT

City of Rahway)
County of Union) s.s.:

On this 15 day of February, 2013, personally appeared before me HONG 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 Public
KATHLEEN A. REYNOLDS
Notary Public of New Jersey
My Commission Expires August 3, 2016

Executed this 15 day of Feb, 2013.

[Signature]
SHUWEN HE

ACKNOWLEDGEMENT

City of Rahway) s.s.:
County of Union

On this 15 day of February, 2013, personally appeared before me SHUWEN HE 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)

[Signature]
Notary Public

KATHLEEN A. REYNOLDS
Notary Public of New Jersey
My Commission Expires August 3, 2016

Executed this 15 day of Feb, 2013.

[Signature]
ZHONG LAI

ACKNOWLEDGEMENT

City of Rahway) s.s.:
County of Union

On this 15 day of February, 2013, personally appeared before me ZHONG LAI 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)

[Signature]
Notary Public

KATHLEEN A. REYNOLDS
Notary Public of New Jersey
My Commission Expires August 3, 2016

Executed this ____ day of _____, 2013.

QUN DANG

ACKNOWLEDGEMENT

_____) of _____)
County of _____) s.s.:

On this ____ day of _____, 2013, personally appeared before me QUN DANG 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

Executed this 15 day of February, 2013.

NICHOLAS ZORN
Nicholas NZ

ACKNOWLEDGEMENT

City of Rahway)
County of Union) s.s.:

On this 15 day of February, 2013, personally appeared before me NICHOLAS ZORN 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)

Kathleen A Reynolds
Notary Public

KATHLEEN A. REYNOLDS
Notary Public of New Jersey
My Commission Expires August 3, 2016

WORLDWIDE ASSIGNMENT

WHEREAS, I/WE,

- (1) Casey C. McComas, located at Phoenixville, Pennsylvania,
- (2) Nigel J. Liverton, located at Harleysville, Pennsylvania,
- (3) Joerg Habermann, located at Rome, Italy,
- (4) Uwe Koch, located at Dortmund, Germany,
- (5) Frank Narjes, located at Lomma, Sweden,
- (6) Anandan Palani, located at Bridgewater, New Jersey,
- (7) Xing Dai, located at Cranford, New Jersey,
- (8) Hong Liu, located at Hillsborough, New Jersey,
- (9) Shuwen He, located at Edison, New Jersey,
- (10) Zhong Lai, located at East Brunswick, New Jersey,
- (11) Qun Dang, located at Westfield, New Jersey,
- (12) Nicholas Zorn, located at Farwood, New Jersey,

(hereinafter ASSIGNOR(S)), together with **Peng Li**, located at Shanghai, China; **Xuanjia Peng**, located at Shanghai, China; **Richard Soll**, located at San Diego, California; and **Hao Wu**, located at Shanghai, China; 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:

HETEROCYCLIC-SUBSTITUTED BENZOFURAN DERIVATES AND METHODS OF USE THEREOF FOR THE TREATMENT OF VIRAL DISEASES

and/or 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 Nos: PCT/CN2012/080214 having a filing date of 8/16/2012; and PCT
International Application Nos: PCT/CN2011/079467 having a filing date of 9/8/2011.

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.

Computer Generated Template "Assignment-Merck Sharp & Dohme, Multiple Assignees Worldwide" (Assignment) Merck Sharp & Dohme Corp. 11/04/2010

Attorney Docket No.: 23112

Executed this ____ day of _____, 2013.

CASEY C. MCCOMAS

ACKNOWLEDGEMENT

_____) of _____)
County of _____) s.s.:
_____)

On this ____ day of _____, 2013, personally appeared before me CASEY C. MCCOMAS 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

Executed this ____ day of _____, 2013.

NIGEL J. LIVERTON

ACKNOWLEDGEMENT

_____) of _____)
County of _____) s.s.:
_____)

On this ____ day of _____, 2013, personally appeared before me NIGEL J. LIVERTON 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

Executed this ____ day of _____, 2013.

JOERG HABERMANN

ACKNOWLEDGEMENT

_____) of _____)
County of _____) s.s.:
_____)

On this ____ day of _____, 2013, personally appeared before me **JOERG HABERMANN** 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

Executed this ____ day of _____, 2013.

UWE KOCH

ACKNOWLEDGEMENT

_____) of _____)
County of _____) s.s.:
_____)

On this ____ day of _____, 2013, personally appeared before me **UWE KOCH** 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

Executed this ____ day of _____, 2013.

FRANK NARJES

ACKNOWLEDGEMENT

_____ of _____)
County of _____) s.s.:

On this ____ day of _____, 2013, personally appeared before me **FRANK NARJES** 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

Executed this ____ day of _____, 2013.

ANANDAN PALANI

ACKNOWLEDGEMENT

_____ of _____)
County of _____) s.s.:

On this ____ day of _____, 2013, personally appeared before me **ANANDAN PALANI** 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

Executed this ____ day of _____, 2013.

XING DAI

ACKNOWLEDGEMENT

_____) of _____)
County of _____) s.s.:

On this ____ day of _____, 2013, personally appeared before me XING DAI 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

Executed this ____ day of _____, 2013.

HONG LIU

ACKNOWLEDGEMENT

_____) of _____)
County of _____) s.s.:

On this ____ day of _____, 2013, personally appeared before me HONG 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 Public

Executed this ____ day of _____, 2013.

SHUWEN HE

ACKNOWLEDGEMENT

_____) of _____)
County of _____) s.s.:
_____)

On this ____ day of _____, 2013, personally appeared before me **SHUWEN HE** 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

Executed this ____ day of _____, 2013.

ZHONG LAI

ACKNOWLEDGEMENT


_____) of _____)
County of _____) s.s.:
_____)

On this ____ day of _____, 2013, personally appeared before me **ZHONG LAI** 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

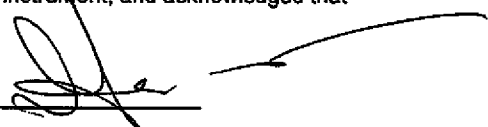
Executed this 12th day of March, 2013.



QUN DANG

ACKNOWLEDGEMENT

_____ of _____)
County of 12th) s.s.:

On this 12th day of March, 2013, personally appeared before me QUN DANG 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.

Yongxin Han 
Witness #1

Bowei Wang 
Witness #2

Executed this ____ day of _____, 2013.

NICHOLAS ZORN

ACKNOWLEDGEMENT

_____ of _____)
County of _____) s.s.:

On this ____ day of _____, 2013, personally appeared before me NICHOLAS ZORN 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