

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT4589857

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
XIAOLEI GAO	01/12/2017
SANDRA L. KNOWLES	01/13/2017
MICHAEL MAN-CHU LO	01/13/2017
ROBERT D. MAZZOLA JR.	01/11/2017
DEBRA L. ONDEYKA	01/11/2017
ANDREW W. STAMFORD	01/10/2017
FENGQI ZHANG	01/11/2017
RECEIVING PARTY DATA	
Name:	MERCK SHARP & DOHME CORP.
Street Address:	126 EAST LINCOLN AVENUE
City:	RAHWAY
State/Country:	NEW JERSEY
Postal Code:	07065
PROPERTY NUMBERS Total: 1	
Property Type	Number
Application Number:	15386009
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:	732-594-3904
Email:	US_EFS@MERCK.COM
Correspondent Name:	J. ERIC THIES
Address Line 1:	126 EAST LINCOLN AVENUE
Address Line 4:	RAHWAY, NEW JERSEY 07065
ATTORNEY DOCKET NUMBER:	24258-US-PCT
NAME OF SUBMITTER:	PIA PARAS-SANJURJO
SIGNATURE:	/PIA PARAS-SANJURJO/
DATE SIGNED:	09/12/2017

Total Attachments: 21

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WORLDWIDE ASSIGNMENT

WHEREAS, I/WE,

1	XIAOLEI GAO	located at	BRIDGEWATER, NJ
2	SANDRA L. KNOWLES	located at	PRINCETON, NJ
3	MICHAEL MAN-CHU LO	located at	BEDMINSTER, NJ
4	ROBERT D. MAZZOLA, JR.	located at	STEWARTSVILLE, NJ
5	DEBRA L. ONDEYKA	located at	FANWOOD, NJ
6	ANDREW W. STAMFORD	located at	CHATHAM, NJ
7	FENGQI ZHANG	located at	EDISON, NJ

(hereinafter ASSIGNOR(S)), together with

8	JIANMING BAO	located at	SHANGHAI, CHINA
9	CHUNSING LI	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:

6,7-DIHYDRO-5H-PYRROLO[3,4-B]PYRIDIN-5-ONE ALLOSTERIC MODULATORS OF THE M4 MUSCARINIC ACETYLCHOLINE RECEPTOR

and in the following application(s):

U.S. Provisional Application No.	<u>62/419630</u>	having a filing date of	<u>NOVEMBER 9, 2016</u>
PCT International Application No.	<u>PCT/CN2015/098382</u>	having a filing date of	<u>DECEMBER 23, 2015</u>
U.S. Application No.	<u>15/386,009</u>	having a filing date of	<u>DECEMBER 21, 2016</u>

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.

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Executed this 12 day of January 2017
2016



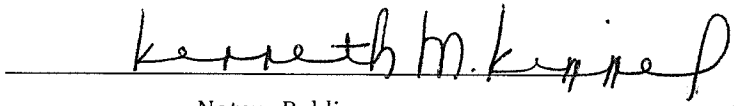
XIAOLEI GAO

ACKNOWLEDGEMENT

STATE OF NEW JERSEY)
COUNTY OF Somerset) ss:

On this 12th day of January, 2017, 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)



Notary Public

**Kenneth M Kimmel
Notary Public of N.J.
My Commission Expires
June 26, 2021**

WORLDWIDE ASSIGNMENT

WHEREAS, I/WE,

1	XIAOLEI GAO	located at	BRIDGEWATER, NJ
2	SANDRA L. KNOWLES	located at	PRINCETON, NJ
3	MICHAEL MAN-CHU LO	located at	BEDMINSTER, NJ
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5	DEBRA L. ONDEYKA	located at	FANWOOD, NJ
6	ANDREW W. STAMFORD	located at	CHATHAM, NJ
7	FENGQI ZHANG	located at	EDISON, NJ

(hereinafter ASSIGNOR(S)), together with

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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.

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 JANUARY 2017
2016

[Handwritten signature]

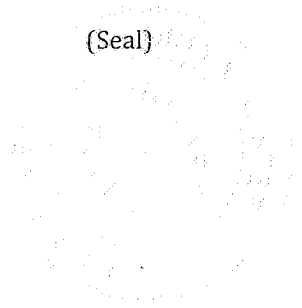
SANDRA L. KNOWLES

ACKNOWLEDGEMENT

STATE OF NEW JERSEY)
COUNTY OF Union) ss:
)

On this 13 day of January 2017, personally appeared before me SANDRA L. KNOWLES 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)



[Handwritten signature]

Notary Public

WORLDWIDE ASSIGNMENT

WHEREAS, I/WE,

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2	SANDRA L. KNOWLES	located at	PRINCETON, NJ
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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 10TH day of JANUARY 2017

Andrew W. Stamford
ANDREW W. STAMFORD

ACKNOWLEDGEMENT

STATE OF NEW JERSEY)
COUNTY OF UNION) ss:

On this 10th day of January, 2017, personally appeared before me ANDREW W. STAMFORD 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 J. Rapacki
Notary Public

CHRISTINE J. RAPACKI
NOTARY PUBLIC OF NEW JERSEY
My Commission Expires January 31, 2018

WORLDWIDE ASSIGNMENT

WHEREAS, I/WE,

1	XIAOLEI GAO	located at	BRIDGEWATER, NJ
2	SANDRA L. KNOWLES	located at	PRINCETON, NJ
3	MICHAEL MAN-CHU LO	located at	BEDMINSTER, NJ
4	ROBERT D. MAZZOLA, JR.	located at	STEWARTSVILLE, NJ
5	DEBRA L. ONDEYKA	located at	FANWOOD, NJ
6	ANDREW W. STAMFORD	located at	CHATHAM, NJ
7	FENGQI ZHANG	located at	EDISON, NJ

(hereinafter ASSIGNOR(S)), together with

8	JIANMING BAO	located at	SHANGHAI, CHINA
9	CHUNSING LI	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:

6,7-DIHYDRO-5H-PYRROLO[3,4-B]PYRIDIN-5-ONE ALLOSTERIC MODULATORS OF THE M4 MUSCARINIC
ACETYLCHOLINE RECEPTOR

and in the following application(s):

U.S. Provisional Application No.	<u>62/419630</u>	having a filing date of	<u>NOVEMBER 9, 2016</u>
PCT International Application No.	<u>PCT/CN2015/098382</u>	having a filing date of	<u>DECEMBER 23, 2015</u>
U.S. Application No.	<u>15/386,009</u>	having a filing date of	<u>DECEMBER 21, 2016</u>

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 Jan. 2017
~~2016~~

[Signature]
FENGQI ZHANG

ACKNOWLEDGEMENT

STATE OF NEW JERSEY)
COUNTY OF Union) ss:
)

On this 11 day of January, 2017, personally appeared before me FENGQI ZHANG 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

