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| PATENT ASSIGNMENT COVER SHEET |
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Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT5367163

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|---|---------------------------|
| SUBMISSION TYPE: | NEW ASSIGNMENT |
| NATURE OF CONVEYANCE: | ASSIGNMENT |
| CONVEYING PARTY DATA | |
| Name | Execution Date |
| ZHU CHEN | 12/21/2016 |
| KENNETH P. ELLSWORTH | 01/09/2017 |
| JAMES A. MILLIGAN | 12/20/2016 |
| ELIZABETH OLDHAM | 01/04/2017 |
| DIETMAR SEIFFERT | 12/19/2016 |
| VAISHNAVI GANTI | 01/04/2017 |
| MOHAMMAD TABRIZIFARD | 01/04/2017 |
| 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: | 16101861 |
| 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: | 7325946914 |
| Email: | US_EFS@MERCK.COM |
| Correspondent Name: | JOHN DAVID REILLY |
| Address Line 1: | 126 EAST LINCOLN AVENUE |
| Address Line 4: | RAHWAY, NEW JERSEY 07065 |
| ATTORNEY DOCKET NUMBER: | 23617 |
| NAME OF SUBMITTER: | JILL FILIPPONE |
| SIGNATURE: | /Jill Filippone/ |
| DATE SIGNED: | 02/08/2019 |

Total Attachments: 8

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WORLDWIDE ASSIGNMENT

WHEREAS, I/WE,

- (1) Zhu Chen, located at Warren, New Jersey,
- (2) Kenneth P. Ellsworth, located at Cranbury, New Jersey,
- (3) James A. Milligan, located at New Egypt, New Jersey,
- (4) Elizabeth Oldham, located at Palo Alto, California,
- (5) Dietmar Seiffert, located at Lawrenceville, New Jersey,
- (6) Vaishnavi Ganti, located at San Jose, California,
- (7) Mohammad Tabrizifard, located at Moraga, California

(hereinafter ASSIGNOR(S)), is/are the inventor(s) of the invention described in an application for Patents having the Attorney Docket Number indicated above and the following Title of the Invention:

ANTI-COAGULATION FACTOR XI ANTIBODIES

and/or in the following application(s):

- U.S. Provisional Application No. 62/281,842 filed on January 22, 2016;
- U.S. Application No. 16/101,861 having a filing date of August 13, 2018;
- U.S. Application No. 15/409,607 having a filing date of January 19, 2017; and
- PCT International Application No. PCT/US17/14007 having a filing date of January 19, 2017.

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 _____, 20__.

Zhu Chen

ACKNOWLEDGEMENT

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

On this ____ day of _____, 20__, personally appeared before me **Zhu Chen** 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 9 day of January, 2017.

Kenneth P. Ellsworth
Kenneth P. Ellsworth

ACKNOWLEDGEMENT

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

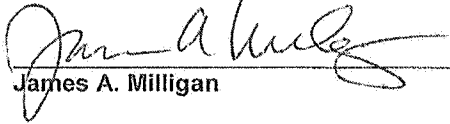
On this 7th day of January, 2017, personally appeared before me **Kenneth P. Ellsworth** to me known, and known by me to be the same person described in and who executed the foregoing instrument, and acknowledged that he (she) executed the same, of his (her) own free will for the purpose set forth.

(Seal)

Pia Rocel Paras-Sanjurjo
Notary Public

PIA ROCEL S. PARAS-SANJURJO
NOTARY PUBLIC OF NEW JERSEY
My Commission Expires September 14, 2017

Executed this 20 day of December, 2016

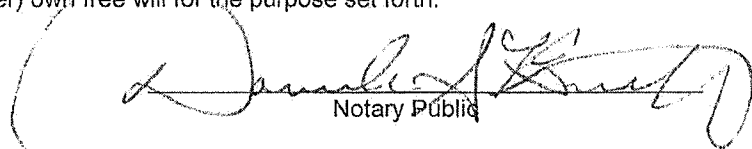

James A. Milligan

ACKNOWLEDGEMENT

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

On this 20th day of December, 2016, personally appeared before me **James A. Milligan** 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

DANIELLE S. BUTTERLY
NOTARY PUBLIC
STATE OF NEW JERSEY
MY COMMISSION EXPIRES DEC. 29, 2020

Executed this 4 day of January, 2017.

Elizabeth Oldham
Elizabeth Oldham

CALIFORNIA ALL PURPOSE ACKNOWLEDGEMENT

Civil Code § 1819

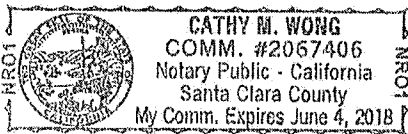
A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California }
County of Santa Clara }

On Jan. 4, 2017 before me, Cathy M. Wong, Notary Public
Date Here Insert Name and Title of the Officer

Personally appeared ELIZABETH OLDHAM
Name(s) of Signer(s)

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/~~she~~/they executed the same in his/~~her~~/their authorized capacity (ies), and that by his/~~her~~/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



Place Notary Seal Above

I certify under PENALTY OF PERJURY under the Laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature: [Signature]
Signature of Notary Public

Executed this 19 day of December, 2016

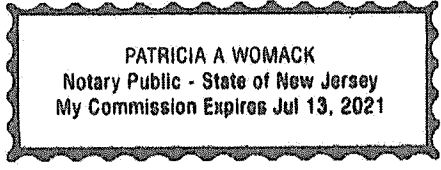
Dietmar Seiffert
Dietmar Seiffert

ACKNOWLEDGEMENT
December 19 of State of New Jersey)
County of Merce) s.s.:

On this 19 day of December, 2016, personally appeared before me **Dietmar Seiffert** 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)

Patricia A. Womack
Notary Public



Executed this 4 day of JANUARY, 2017.

[Signature]
Vaishnavi Ganti

CALIFORNIA ALL PURPOSE ACKNOWLEDGEMENT

Civil Code § 1819

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California

County of SANTA CLARA

On JAN. 4, 2017 before me, CATHY M. WONG, Notary Public
Date Here Insert Name and Title of the Officer

Personally appeared VAISHNAVI GANTI
Name(s) of Signer(s)

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/(she)/they executed the same in his/(her)/their authorized capacity (ies), and that by his/(her)/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the Laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.



Place Notary Seal Above

Signature: [Signature]
Signature of Notary Public

Executed this 4 day of January, 2017.

Mohammad Tabrizifard
Mohammad Tabrizifard

CALIFORNIA ALL PURPOSE ACKNOWLEDGEMENT

Civil Code § 1819

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California

County of Santa Clara

On Jan. 4, 2017 before me, Cathy M. Wong, Notary Public
Date Here Insert Name and Title of the Officer

Personally appeared Mohammad Tabrizifard
Name(s) of Signer(s)

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity (ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the Laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.



Place Notary Seal Above

Signature: Cathy M. Wong
Signature of Notary Public