

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT4106752

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
DAVID TELLERS	10/09/2013
STEVEN L. COLLETTI	10/10/2013
VADIM DUDKIN	10/09/2013
JEFFREY AARONSON	10/09/2013
AARON MOMOSE	10/09/2013
THOMAS JOSEPH TUCKER	10/09/2013
YU YUAN	10/02/2013
KATHLEEN B. CALATI	10/09/2013
LU TIAN	10/02/2013
RUBINA G. PARMAR	10/09/2013
ANTHONY W. SHAW	10/09/2013
WEIMIN WANG	10/09/2013
RACHEL ANNE STORR	10/09/2013
MARINA BUSUEK	10/09/2013
ROBERT A. KOWTONIUK	10/16/2013
<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: 2</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	61641741
<b>Application Number:</b>	14398369
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(703)684-8075
<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>	

PATENT

**Phone:** 7036475979  
**Email:** Elizabeth.George@leclairryan.com  
**Correspondent Name:** JEFFREY N. TOWNES  
**Address Line 1:** 2318 MILL ROAD  
**Address Line 2:** SUITE 1100  
**Address Line 4:** ALEXANDRIA, VIRGINIA 22314

<b>ATTORNEY DOCKET NUMBER:</b>	29520.1402
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<b>NAME OF SUBMITTER:</b>	JEFFREY N. TOWNES
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<b>SIGNATURE:</b>	/Jeffrey N. Townes, Reg. # 47,142/
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<b>DATE SIGNED:</b>	10/20/2016
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**Total Attachments: 12**

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source=29520\_1402\_Assignment\_for\_filing#page12.tif

## WORLDWIDE ASSIGNMENT

WHEREAS, I/WE,

- (1) David Tellers, located at Landsdale, PA,
- (2) Steven L. Colletti, located at Princeton Junction, NJ,
- (3) Vadim Dudkin, located at Chalfont, PA,
- (4) Jeffrey Aaronson, located at Philadelphia, PA,
- (5) Aaron Momose, located at Blue Bell, PA,
- (6) Thomas Joseph Tucker, located at North Wales, PA,
- (7) Yu Yuan, located at Oviedo, FL,
- (8) Kathleen B. Calati, located at Hamilton, NJ,
- (9) Lu Tian, located at Jamison, PA,
- (10) Rubina G. Parmar, located at Harleysville, PA,
- (11) Anthony W. Shaw, located at Harleysville, PA,
- (12) Weimin Wang, located at Churchville, PA,
- (13) Rachel Anne Storr, located at Philadelphia, PA,
- (14) Marina Busuek, located at Center Valley, PA,
- (15) Robert A. Kowtoniuk, located at Glenside, PA,

(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:

**NOVEL TETRAGALNAC AND PEPTIDE CONTAINING CONJUGATES AND METHODS FOR DELIVERY OF OLIGONUCLEOTIDES**

and/or in the following application(s):

U.S. Provisional Application No. 61/641,741 filed on May 2, 2012;

U.S. Application No. \_\_\_\_\_ having a filing date of \_\_\_\_\_; and

PCT International Application No. PCT/US13/039072 having a filing date of May 1, 2013.

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.

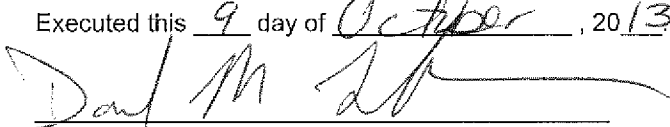
WHEREAS, Merck Sharp & Dohme Corp., a corporation organized under the laws of the State of New Jersey, having an office at 126 East Lincoln Avenue, Rahway, New Jersey 07065, and its successors, assigns and legal representatives (hereinafter **ASSIGNEE**), is desirous of obtaining the entire right, title 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.

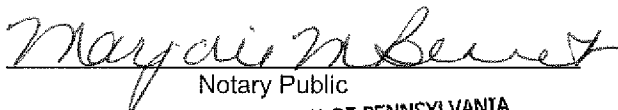
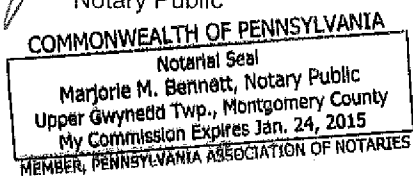
Executed this 9 day of October, 2013  
David Tellers

## ACKNOWLEDGEMENT

Commonwealth of Pennsylvania  
County of Montgomery ) S.S.:  
)

On this 13 day of October, 2013 personally appeared before me **David Tellers** 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 \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
Steven L. Colletti

## ACKNOWLEDGEMENT

Commonwealth of Pennsylvania  
County of Montgomery ) S.S.:  
)

On this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, personally appeared before me **Steven L. Colletti** 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 \_\_\_\_\_, 20\_\_\_\_.

David Tellers

## ACKNOWLEDGEMENT

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

On this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, personally appeared before me **David Tellers** 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)

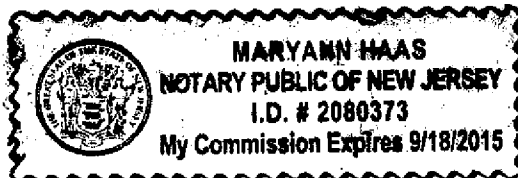
\_\_\_\_\_  
Notary PublicExecuted this 10 day of October, 2013  
Steven L. Colletti

## ACKNOWLEDGEMENT

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

On this 10<sup>th</sup> day of October, 2013, personally appeared before me **Steven L. Colletti** 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 October, 2013  
Vadim Dudkin

## ACKNOWLEDGEMENT

Commonwealth of PennsylvaniaCounty of Montgomery

) S.S.:

On this 9<sup>th</sup> day of October, 2013, personally appeared before me **Vadim Dudkin** 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)

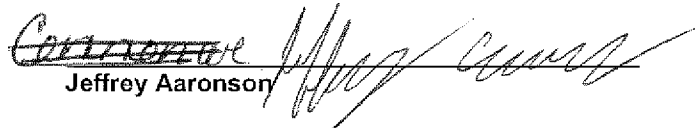
  
Notary Public

COMMONWEALTH OF PENNSYLVANIA

Notarial Seal

Marjorie M. Bennett, Notary Public  
Upper Gwynedd Twp., Montgomery County  
My Commission Expires Jan. 24, 2015

MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

Executed this 9 day of October, 2013  
Jeffrey Aaronson

## ACKNOWLEDGEMENT

Commonwealth of PennsylvaniaCounty of Montgomery

) S.S.:

On this 9 day of October, 2013, personally appeared before me **Jeffrey Aaronson** 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)

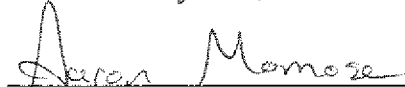
  
Notary Public

COMMONWEALTH OF PENNSYLVANIA

Notarial Seal

Marjorie M. Bennett, Notary Public  
Upper Gwynedd Twp., Montgomery County  
My Commission Expires Jan. 24, 2015

MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

Executed this 9 day of October, 2013

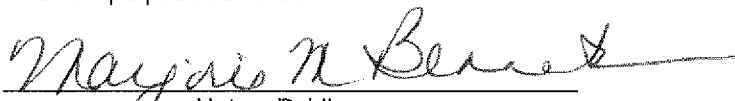
Aaron Momose

## ACKNOWLEDGEMENT

Commonwealth of PennsylvaniaCounty of Montgomery ) S.S.:  
)

On this 9 day of October, 2013, personally appeared before me **Aaron Momose** 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  
COMMONWEALTH OF PENNSYLVANIA

Notarial Seal

Marjorie M. Bennett, Notary Public  
Upper Gwynedd Twp., Montgomery County  
My Commission Expires Jan. 24, 2015

MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

Executed this 9 day of October, 2013

Thomas Joseph Tucker

## ACKNOWLEDGEMENT

Commonwealth of PennsylvaniaCounty of Montgomery ) S.S.:  
)

On this 9 day of October, 2013, personally appeared before me **Thomas Joseph Tucker** 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  
COMMONWEALTH OF PENNSYLVANIA

Notarial Seal

Marjorie M. Bennett, Notary Public  
Upper Gwynedd Twp., Montgomery County  
My Commission Expires Jan. 24, 2015

MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

Executed this 2 day of October, 2013.

Yu Yuan  
Yu Yuan

**ACKNOWLEDGEMENT**

State  
DRIVERS LICENSE of FLORIDA )  
 ) S.S.:  
 County of ORANGE )

On this 2 day of October, 2013, personally appeared before me Yu Yuan 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)



Lois Kay Nemecek  
 Notary Public

Executed this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
 Kathleen B. Calati

**ACKNOWLEDGEMENT**

\_\_\_\_\_ of \_\_\_\_\_ )  
 ) S.S.:  
 County of \_\_\_\_\_ )

On this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, personally appeared before me Kathleen B. Calati 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 \_\_\_\_\_, 20\_\_.

Yu Yuan**ACKNOWLEDGEMENT**

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

On this \_\_\_\_ day of \_\_\_\_\_, 20\_\_, personally appeared before me Yu Yuan 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 09 day of Oct, 2013.Kathleen B. Calati

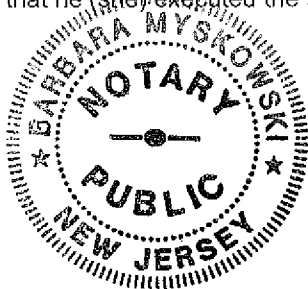
Kathleen B. Calati

**ACKNOWLEDGEMENT**

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

On this 9 day of October, 2013, personally appeared before me Kathleen B. Calati 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)



Barbara Myskowski  
Notary Public

Executed this 2<sup>nd</sup> day of October, 2013

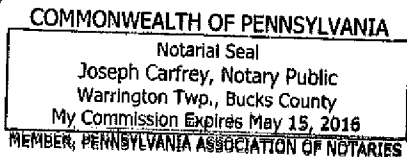
Lu Tian  
Lu Tian

**ACKNOWLEDGEMENT**

Commonwealth of Pennsylvania ) s.s.:  
County of Bucks )

On this 2<sup>nd</sup> day of October, 2013, personally appeared before me Lu Tian 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 \_\_\_\_\_, 20\_\_.

Rubina G. Parmar

**ACKNOWLEDGEMENT**

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

On this \_\_\_\_ day of \_\_\_\_\_, 20\_\_, personally appeared before me Rubina G. Parmar 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 \_\_\_\_\_, 20\_\_.

---

Lu Tian

## ACKNOWLEDGEMENT

Commonwealth of Pennsylvania  
County of Montgomery ) S.S.:  
)

On this \_\_\_\_ day of \_\_\_\_\_, 20\_\_, personally appeared before me Lu Tian 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)

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Notary PublicExecuted this 9 day of October, 2013.

Rubina G. Parmar  
Rubina G. Parmar

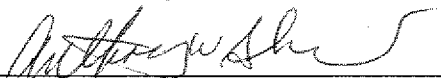
## ACKNOWLEDGEMENT

Commonwealth of Pennsylvania  
County of Montgomery ) S.S.:  
)

On this 9 day of October, 2013, personally appeared before me Rubina G. Parmar 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)

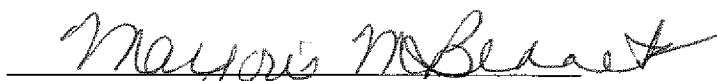
Marjorie M. Bennett  
COMMONWEALTH OF PENNSYLVANIA  
Notary Public  
Marjorie M. Bennett, Notary Public  
Upper Gwynedd Twp., Montgomery County  
My Commission Expires Jan. 24, 2015  
MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

Executed this 9 day of October, 20 13  
\_\_\_\_\_  
Anthony W. Shaw

## ACKNOWLEDGEMENT

Commonwealth of Pennsylvania  
County of Montgomery ) S.S.:  
)On this 9 day of October, 20 13, personally appeared before me Anthony W. Shaw 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  
COMMONWEALTH OF PENNSYLVANIA

Notarial Seal

Marjorie M. Bennett, Notary Public  
Upper Gwynedd Twp., Montgomery County  
My Commission Expires Jan. 24, 2015

MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

Executed this 9 day of October, 20 13  
\_\_\_\_\_  
Weimin Wang

## ACKNOWLEDGEMENT

Commonwealth of Pennsylvania  
County of Montgomery ) S.S.:  
)On this 9 day of October, 20 13, personally appeared before me Weimin Wang 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

Marjorie M. Bennett, Notary Public  
Upper Gwynedd Twp., Montgomery County  
My Commission Expires Jan. 24, 2015

MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

Executed this 9 day of October, 2013  
Rachel Anne Storr

## ACKNOWLEDGEMENT

Commonwealth of PennsylvaniaCounty of Montgomery ) S.S.:

On this 9 day of October, 2013, personally appeared before me Rachel Anne Storr 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  
Marjorie M. Bennett, Notary Public  
Upper Gwynedd Twp., Montgomery County  
My Commission Expires Jan. 24, 2015  
MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

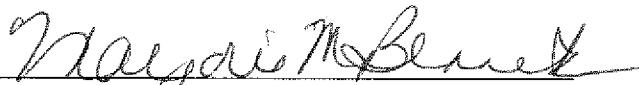
Executed this 9 day of October, 2013  
Marina Busuek

## ACKNOWLEDGEMENT

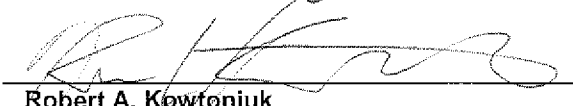
Commonwealth of PennsylvaniaCounty of Montgomery ) S.S.:

On this 9 day of October, 2013, personally appeared before me Marina Busuek 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  
Notary Public  
Notarial Seal  
Marjorie M. Bennett, Notary Public  
Upper Gwynedd Twp., Montgomery County  
My Commission Expires Jan. 24, 2015  
MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

Executed this 16 day of October, 2013  
Robert A. Kowtoniuk

## ACKNOWLEDGEMENT

Commonwealth of Pennsylvania  
County of Montgomery ) S.S.:

On this 16 day of October, 2013 personally appeared before me Robert A. Kowtoniuk 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  
COMMONWEALTH OF PENNSYLVANIA

Notarial Seal

Marjorie M. Bennett, Notary Public  
Upper Gwynedd Twp., Montgomery County  
My Commission Expires Jan. 24, 2015

MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES