

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT2813727

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
VINAY GIRIJAVALLABHAN	06/25/2012
F. GEORGE NJOROGÉ	06/14/2012
STEPHANE BOGEN	06/25/2012
VISHAL VERMA	06/12/2012
FRANK BENNETT	06/07/2012
ANGELA KEREKES	06/12/2012
ASHOK ARASAPPAN	06/12/2012
DMITRI PISSARNITSKI	06/12/2012
QUN DANG	06/12/2012
IAN DAVIES	06/12/2012
DAVID B. OLSEN	06/25/2012
ANDREW STAMFORD	06/13/2012
JOSEPH P. VACCA	06/12/2012

RECEIVING PARTY DATA

Name:	MERCK SHARP & DOHME CORP.
Street Address:	126 EAST LINCOLN AVENUE
Internal Address:	RY86-2011A
City:	RAHWAY
State/Country:	NEW JERSEY
Postal Code:	07065-0900

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	14111687

CORRESPONDENCE DATA

Fax Number: (732)594-4720

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent via US Mail.

Phone: 7325940994

Email: us_efs@merck.com

Correspondent Name: JEFFREY P. BERGMAN

PATENT

Address Line 1: 126 EAST LINCOLN AVENUE
Address Line 2: RY86-2011A
Address Line 4: RAHWAY, NEW JERSEY 07065-0900

ATTORNEY DOCKET NUMBER:	23064
NAME OF SUBMITTER:	KELLY A. PANNO
SIGNATURE:	/KELLY A. PANNO/
DATE SIGNED:	04/15/2014

Total Attachments: 23

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WORLDWIDE ASSIGNMENT

WHEREAS, I/WE,

- (1) Vinay Girijavallabhan, located at Denville, New Jersey,
- (2) F. George Njoroge, located at Carmel, Indiana,
- (3) Stephane Bogen, located at Somerset, New Jersey,
- (4) Vishal Verma, located at Jersey City, New Jersey,
- (5) Frank Bennett, located at Cranford, New Jersey,
- (6) Angela Kerekes, located at Plainfield, New Jersey,
- (7) Ashok Arasappan, located at Bridgewater, New Jersey,
- (8) Dmitri Pissarnitski, located at Scotch Plains, New Jersey,
- (9) Qun Dang, located at Westfield, New Jersey,
- (10) Ian Davies, located at Princeton, New Jersey,
- (11) David B. Olsen, located at Lansdale, PA,
- (12) Andrew Stamford, located at Chatham, New Jersey,
- (13) Joseph P. Vacca, located at Shanghai, Peoples Republic of China,

(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:

2'-SUBSTITUTED NUCLEOSIDE derivatives AND METHODS OF USE THEREOF FOR THE TREATMENT OF VIRAL DISEASES

and/or in the following application(s):

U.S. Provisional Application No. 61/475,068 filed on 4/13/2011;
U.S. Application No. 14/111,687 having a filing date of 04/11/2012, and
PCT International Application No. PCT/US12/33017 having a filing date of 4/11/2012

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.

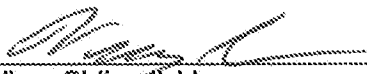
WHEREAS, Merck Sharp & Dohme Corp., a corporation organized under the laws of the State of New Jersey, having an office at 126 East Lincoln Avenue, Rahway, New Jersey 07065, and its successors, assigns and legal representatives (hereinafter **ASSIGNEE**), is desirous of obtaining the entire right, title 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 25 day of June, 2012.

Vinay Girijavallabhan


Stephanie Bogen_____
Vishal Verma_____
Frank Bennett

ACKNOWLEDGEMENT

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

On this 25 day of June, 2012, personally appeared before me **Vinay Girijavallabhan, Stephanie Bogen, Vishal Verma, Frank Bennett** to me known, and known by me to be the same person(s) 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, 2016Executed this 18 day of June, 2012._____
Angela Kerekes_____
Ashok Arasappan_____
Dmitri Pissarnitski


Qun Dang

ACKNOWLEDGEMENT

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

On this 18 day of June, 2012, personally appeared before me **Angela Kerekes, Ashok Arasappan, Dmitri Pissarnitski, Qun Dang** to me known, and known by me to be the same person(s) 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 ____ day of _____, 2012.

F. George Njoroge

ACKNOWLEDGEMENT

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

On this ____ day of _____, 2012, personally appeared before me **F. George Njoroge** 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 _____, 2012.

David B. Olsen

ACKNOWLEDGEMENT

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

On this ____ day of _____, 2012, personally appeared before me **David B. Olsen** 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 13 day of June, 2012.

Ian Davies

Andrew Stamford
Andrew Stamford

ACKNOWLEDGEMENT

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

On this 13 day of June, 2012, personally appeared before me Ian Davies, Andrew 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)

Kathleen A. Reynolds
Notary Public

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

Executed this ____ day of _____, 2012.

Joseph P. Vacca

ACKNOWLEDGEMENT

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

On this ____ day of _____, 2012, personally appeared before me Joseph P. Vacca 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

WORLDWIDE ASSIGNMENT

WHEREAS, I/WE,

- (1) Vinay Girjavalabhan, located at Denville, New Jersey,
- (2) F. George Njoroge, located at Carmel, Indiana,
- (3) Stephane Bogen, located at Somerset, New Jersey,
- (4) Vishal Verma, located at Jersey City, New Jersey,
- (5) Frank Bennett, located at Cranford, New Jersey,
- (6) Angela Kerekes, located at Plainfield, New Jersey,
- (7) Ashok Arasappan, located at Bridgewater, New Jersey,
- (8) Dmitri Pissarnitski, located at Scotch Plains, New Jersey,
- (9) Qun Dang, located at Westfield, New Jersey,
- (10) Ian Davies, located at Princeton, New Jersey,
- (11) David B. Olsen, located at Lansdale, PA,
- (12) Andrew Stamford, located at Chatham, New Jersey,
- (13) Joseph P. Vacca, located at Shanghai, Peoples Republic of China,

(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:

2'-SUBSTITUTED NUCLEOSIDE derivatives AND METHODS OF USE THEREOF FOR THE TREATMENT OF VIRAL DISEASES

and/or in the following application(s):

U.S. Provisional Application No. 61/475,068 filed on 4/13/2011;
U.S. Application No. 14/111,687 having a filing date of 04/11/2012 and
PCT International Application No. PCT/US12/33017 having a filing date of 4/11/2012

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 19th day of June, 2012.

F. George Njoroge
F. George Njoroge

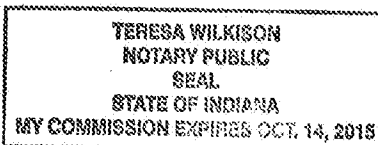
ACKNOWLEDGEMENT

CITY of INDIANAPOLIS
County of MARION) s.s.:
)

On this 19 day of JUNE, 2012, personally appeared before me F. George Njoroge 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)

Teresa Wilkison
Notary Public



Executed this _____ day of _____, 2012.

David B. Olsen

ACKNOWLEDGEMENT

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

On this _____ day of _____, 2012, personally appeared before me David B. Olsen 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 _____, 2012.

Ian Davies

Andrew Stamford

ACKNOWLEDGEMENT

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

On this ____ day of _____, 2012, personally appeared before me **Ian Davies, Andrew 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)

Notary Public

Executed this ____ day of _____, 2012.

Joseph P. Vacca

ACKNOWLEDGEMENT

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

On this ____ day of _____, 2012, personally appeared before me **Joseph P. Vacca** 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

WORLDWIDE ASSIGNMENT

WHEREAS, I/WE,

- (1) Vinay Girijavallabhan, located at Denville, New Jersey,
- (2) F. George Njoroge, located at Carmel, Indiana,
- (3) Stephane Bogen, located at Somerset, New Jersey,
- (4) Vishal Verma, located at Jersey City, New Jersey,
- (5) Frank Bennett, located at Cranford, New Jersey,
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- (7) Ashok Arasappan, located at Bridgewater, New Jersey,
- (8) Dmitri Pissarnitski, located at Scotch Plains, New Jersey,
- (9) Qun Dang, located at Westfield, New Jersey,
- (10) Ian Davies, located at Princeton, New Jersey,
- (11) David B. Olsen, located at Lansdale, PA,
- (12) Andrew Stamford, located at Chatham, New Jersey,
- (13) Joseph P. Vacca, located at Shanghai, Peoples Republic of China,

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and/or in the following application(s):

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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 12 day of June, 2012._____
Vinay Girijavallabhan_____
Stephane Bogen_____
Vishal Verma_____
Frank Bennett

ACKNOWLEDGEMENT

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

On this 12 day of June, 2012, personally appeared before me **Vinay Girijavallabhan, Stephanie Bogen, Vishal Verma, Frank Bennett** to me known, and known by me to be the same person(s) 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 12 day of June, 2012._____
Angela Kerekés_____
Ashok Arasappan_____
Dmitri Pissarnitski_____
Qun Dang

ACKNOWLEDGEMENT

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

On this 12 day of June, 2012, personally appeared before me **Angela Kerekés, Ashok Arasappan, Dmitri Pissarnitski, Qun Dang** to me known, and known by me to be the same person(s) 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 ____ day of _____, 2012.

F. George Njoroge

ACKNOWLEDGEMENT

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

On this ____ day of _____, 2012, personally appeared before me **F. George Njoroge** 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 _____, 2012.

David B. Olsen

ACKNOWLEDGEMENT

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

On this ____ day of _____, 2012, personally appeared before me **David B. Olsen** 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 12 day of June, 2012.

Ian Davies

Andrew Stamford

ACKNOWLEDGEMENT

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

On this 12 day of June, 2012, personally appeared before me **Ian Davies, Andrew 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)

Kathleen A Reynolds
Notary Public

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

Executed this ____ day of _____, 2012.

Joseph P. Vacca

ACKNOWLEDGEMENT

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

On this ____ day of _____, 2012, personally appeared before me **Joseph P. Vacca** 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

WORLDWIDE ASSIGNMENT

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- (3) Stephane Bogen, located at Somerset, New Jersey,
- (4) Vishal Verma, located at Jersey City, New Jersey,
- (5) Frank Bennett, located at Cranford, New Jersey,
- (6) Angela Kerekes, located at Plainfield, New Jersey,
- (7) Ashok Arasappan, located at Bridgewater, New Jersey,
- (8) Dmitri Pissarnitski, located at Scotch Plains, New Jersey,
- (9) Qun Dang, located at Westfield, New Jersey,
- (10) Ian Davies, located at Princeton, New Jersey,
- (11) David B. Olsen, located at Lansdale, PA,
- (12) Andrew Stamford, located at Chatham, New Jersey,
- (13) Joseph P. Vacca, located at Shanghai, Peoples Republic of China,

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2'-SUBSTITUTED NUCLEOSIDE derivativeS AND METHODS OF USE THEREOF FOR THE TREATMENT OF VIRAL DISEASES

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PCT International Application No. PCT/US12/33017 having a filing date of 4/11/2012

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Vinay Girijavallabhan

Stephane Bogen

Vishal Verma

Frank Bennett

ACKNOWLEDGEMENT

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

On this ____ day of _____, 2012, personally appeared before me **Vinay Girijavallabhan, Stephanie Bogen, Vishal Verma, Frank Bennett** to me known, and known by me to be the same person(s) 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 _____, 2012.

Angela Kerekes

Ashok Arasappan

Dmitri Pissarnitski

Qun Dang

ACKNOWLEDGEMENT

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

On this ____ day of _____, 2012, personally appeared before me **Angela Kerekes, Ashok Arasappan, Dmitri Pissarnitski, Qun Dang** to me known, and known by me to be the same person(s) 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 _____, 2012.

F. George Njoroge

ACKNOWLEDGEMENT

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

On this _____ day of _____, 2012, personally appeared before me **F. George Njoroge** 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 25 day of June, 2012.

David B. Olsen
David B. Olsen

ACKNOWLEDGEMENT

State of PA)
County of Montgomery) s.s.:

On this 25 day of June, 2012, personally appeared before me **David B. Olsen** 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)

Mayori M. Benoit
Notary Public

Executed this ____ day of _____, 2012.

Ian Davies

Andrew Stamford

ACKNOWLEDGEMENT

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

On this ____ day of _____, 2012, personally appeared before me **Ian Davies, Andrew 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)

Notary Public

Executed this ____ day of _____, 2012.

Joseph P. Vacca

ACKNOWLEDGEMENT

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

On this ____ day of _____, 2012, personally appeared before me **Joseph P. Vacca** 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

WORLDWIDE ASSIGNMENT

WHEREAS, I/WE,

- (1) Vinay Girijavallabhan, located at Denville, New Jersey,
- (2) F. George Njoroge, located at Carmel, Indiana,
- (3) Stephane Bogen, located at Somerset, New Jersey,
- (4) Vishal Verma, located at Jersey City, New Jersey,
- (5) Frank Bennett, located at Cranford, New Jersey,
- (6) Angela Kerekes, located at Plainfield, New Jersey,
- (7) Ashok Arasappan, located at Bridgewater, New Jersey,
- (8) Dmitri Pissarnitski, located at Scotch Plains, New Jersey,
- (9) Qun Dang, located at Westfield, New Jersey,
- (10) Ian Davies, located at Princeton, New Jersey,
- (11) David B. Olsen, located at Lansdale, PA,
- (12) Andrew Stamford, located at Chatham, New Jersey,
- (13) Joseph P. Vacca, located at Shanghai, Peoples Republic of China,

(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:

2'-SUBSTITUTED NUCLEOSIDE derivativeS AND METHODS OF USE THEREOF FOR THE TREATMENT OF VIRAL DISEASES

and/or in the following application(s):

U.S. Provisional Application No. 61/475,068 filed on 4/13/2011;
U.S. Application No. 14/111,687 having a filing date of 04/11/2012; and
PCT International Application No. PCT/US12/33017 having a filing date of 4/11/2012

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 _____, 2012.

Vinay Girjavallabhan

Stephane Bogen

Vishal Verma

Frank Bennett

ACKNOWLEDGEMENT

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

On this ____ day of _____, 2012, personally appeared before me **Vinay Girjavallabhan, Stephanie Bogen, Vishal Verma, Frank Bennett** to me known, and known by me to be the same person(s) 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 _____, 2012.

Angela Kerekes

Ashok Arasappan

Dmitri Pissarnitski

Qun Dang

ACKNOWLEDGEMENT

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

On this ____ day of _____, 2012, personally appeared before me **Angela Kerekes, Ashok Arasappan, Dmitri Pissarnitski, Qun Dang** to me known, and known by me to be the same person(s) 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 _____, 2012.

F. George Njoroge

ACKNOWLEDGEMENT

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

On this ____ day of _____, 2012, personally appeared before me **F. George Njoroge** 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 _____, 2012.

David B. Olsen

ACKNOWLEDGEMENT

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

On this ____ day of _____, 2012, personally appeared before me **David B. Olsen** 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 _____, 2012.

Ian Davies

Andrew Stamford

ACKNOWLEDGEMENT

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

On this ____ day of _____, 2012, personally appeared before me Ian Davies, Andrew 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)

Notary Public

Executed this 12 day of June, 2012.

Joseph P. Vacca
Joseph P. Vacca

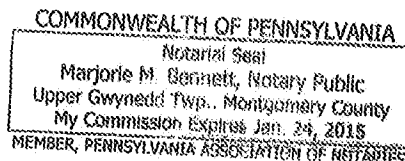
ACKNOWLEDGEMENT

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

On this 12 day of June, 2012, personally appeared before me Joseph P. Vacca 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
Notary Public



WORLDWIDE ASSIGNMENT

WHEREAS, I/WE,

- (1) Vinay Girijavallabhan, located at Denville, New Jersey,
- (2) F. George Njoroge, located at Carmel, Indiana,
- (3) Stephane Bogen, located at Somerset, New Jersey,
- (4) Vishal Verma, located at Jersey City, New Jersey,
- (5) Frank Bennett, located at Cranford, New Jersey,
- (6) Angela Kerekes, located at Plainfield, New Jersey,
- (7) Ashok Arasappan, located at Bridgewater, New Jersey,
- (8) Dmitri Pissarnitski, located at Scotch Plains, New Jersey,
- (9) Qun Dang, located at Westfield, New Jersey,
- (10) Ian Davies, located at Princeton, New Jersey,
- (11) David B. Olsen, located at Lansdale, PA,
- (12) Andrew Stamford, located at Chatham, New Jersey,
- (13) Joseph P. Vacca, located at Shanghai, Peoples Republic of China,

(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:

2'-SUBSTITUTED NUCLEOSIDE derivativeS AND METHODS OF USE THEREOF FOR THE TREATMENT OF VIRAL DISEASES

and/or in the following application(s):

U.S. Provisional Application No. 61/475,068 filed on 4/13/2011;
U.S. Application No. 14/111,687 having a filing date of 04/11/2012, and
PCT International Application No. PCT/US12/33017 having a filing date of 4/11/2012

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 7th day of June, 2012.

Vinay Girijavallabhan

Vishal Verma

Stephanie Bogen

Frank Bennett

ACKNOWLEDGEMENT

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

On this 7th day of June, 2012, personally appeared before me **Vinay Girijavallabhan, Stephanie Bogen, Vishal Verma, Frank Bennett** to me known, and known by me to be the same person(s) 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 ____ day of _____, 2012.

Angela Kerekes

Ashok Arasappan

Dmitri Pissarnitski

Qun Dang

ACKNOWLEDGEMENT

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

On this ____ day of _____, 2012, personally appeared before me **Angela Kerekes, Ashok Arasappan, Dmitri Pissarnitski, Qun Dang** to me known, and known by me to be the same person(s) 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 _____, 2012.

F. George Njoroge

ACKNOWLEDGEMENT

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

On this ____ day of _____, 2012, personally appeared before me **F. George Njoroge** 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 _____, 2012.

David B. Olsen

ACKNOWLEDGEMENT

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

On this ____ day of _____, 2012, personally appeared before me **David B. Olsen** 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 _____, 2012.

Ian Davies

Andrew Stamford

ACKNOWLEDGEMENT

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

On this ____ day of _____, 2012, personally appeared before me **Ian Davies, Andrew 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)

Notary Public

Executed this ____ day of _____, 2012.

Joseph P. Vacca

ACKNOWLEDGEMENT

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

On this ____ day of _____, 2012, personally appeared before me **Joseph P. Vacca** 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