

PATENT ASSIGNMENT COVER SHEET

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EPAS ID: PAT2941018

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
YOUNG SHIN CHO	10/11/2012
JULIAN ROY LEVELL	10/11/2012
BAKARY-BARRY TOURE	10/11/2012
FAN YANG	10/12/2012
THOMAS CAFERRO	10/11/2012
FRANCOIS LENOIR	10/11/2012
GANG LIU	10/11/2012
MARK G PALERMO	10/16/2012
TROY D SMITH	10/11/2012
HUANGSHU LEI	12/03/2012
MICHAEL DAVID SHULTZ	12/04/2012
RECEIVING PARTY DATA	
Name:	NOVARTIS INSTITUTES FOR BIOMEDICAL RESEARCH, INC.
Street Address:	250 MASSACHUSETTS AVENUE
City:	CAMBRIDGE
State/Country:	MASSACHUSETTS
Postal Code:	02139
PROPERTY NUMBERS Total: 2	
Property Type	Number
Application Number:	14347481
PCT Number:	IB2012055133
CORRESPONDENCE DATA	
Fax Number:	
<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>	
Email:	robert.sweeney@novartis.com
Correspondent Name:	ROBERT SWEENEY
Address Line 1:	220 MASSACHUSETTS AVENUE
Address Line 4:	CAMBRIDGE, MASSACHUSETTS 02139
ATTORNEY DOCKET NUMBER:	PAT054800-US-PCT

PATENT

NAME OF SUBMITTER:	ROBERT C. SWEENEY
SIGNATURE:	/Robert C. Sweeney/
DATE SIGNED:	07/16/2014
Total Attachments: 54 source=PAT054800_Inventors_to_NIBR#page1.tif source=PAT054800_Inventors_to_NIBR#page2.tif source=PAT054800_Inventors_to_NIBR#page3.tif source=PAT054800_Inventors_to_NIBR#page4.tif source=PAT054800_Inventors_to_NIBR#page5.tif source=PAT054800_Inventors_to_NIBR#page6.tif source=PAT054800_Inventors_to_NIBR#page7.tif source=PAT054800_Inventors_to_NIBR#page8.tif source=PAT054800_Inventors_to_NIBR#page9.tif source=PAT054800_Inventors_to_NIBR#page10.tif source=PAT054800_Inventors_to_NIBR#page11.tif source=PAT054800_Inventors_to_NIBR#page12.tif source=PAT054800_Inventors_to_NIBR#page13.tif source=PAT054800_Inventors_to_NIBR#page14.tif source=PAT054800_Inventors_to_NIBR#page15.tif source=PAT054800_Inventors_to_NIBR#page16.tif source=PAT054800_Inventors_to_NIBR#page17.tif source=PAT054800_Inventors_to_NIBR#page18.tif source=PAT054800_Inventors_to_NIBR#page19.tif source=PAT054800_Inventors_to_NIBR#page20.tif source=PAT054800_Inventors_to_NIBR#page21.tif source=PAT054800_Inventors_to_NIBR#page22.tif source=PAT054800_Inventors_to_NIBR#page23.tif source=PAT054800_Inventors_to_NIBR#page24.tif source=PAT054800_Inventors_to_NIBR#page25.tif source=PAT054800_Inventors_to_NIBR#page26.tif source=PAT054800_Inventors_to_NIBR#page27.tif source=PAT054800_Inventors_to_NIBR#page28.tif source=PAT054800_Inventors_to_NIBR#page29.tif source=PAT054800_Inventors_to_NIBR#page30.tif source=PAT054800_Inventors_to_NIBR#page31.tif source=PAT054800_Inventors_to_NIBR#page32.tif source=PAT054800_Inventors_to_NIBR#page33.tif source=PAT054800_Inventors_to_NIBR#page34.tif source=PAT054800_Inventors_to_NIBR#page35.tif source=PAT054800_Inventors_to_NIBR#page36.tif source=PAT054800_Inventors_to_NIBR#page37.tif source=PAT054800_Inventors_to_NIBR#page38.tif source=PAT054800_Inventors_to_NIBR#page39.tif source=PAT054800_Inventors_to_NIBR#page40.tif source=PAT054800_Inventors_to_NIBR#page41.tif source=PAT054800_Inventors_to_NIBR#page42.tif source=PAT054800_Inventors_to_NIBR#page43.tif source=PAT054800_Inventors_to_NIBR#page44.tif	

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ASSIGNMENT

This Assignment Agreement is entered into by and between

Young Shin CHO	citizen of South Korea / Republic of Korea	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 USA
Julian Roy LEVELL	citizen of United Kingdom	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 US
Bakary-Barry TOURE	citizen of Canada	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 US
Fan YANG	citizen of China	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 US
Thomas CAFERRO	citizen of United States of America	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 USA
Huangshu LEI	citizen of Canada	No.565, Tushan Rd., Nan'an District, Chongqing, P.R.China, 400061
Francois LENOIR	citizen of Canada	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 USA
Gang LIU	citizen of China	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 USA

Mark G. PALERMO	citizen of United States of America	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 US
Michael David SHULTZ	citizen of United States of America	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 USA
Troy D. SMITH	citizen of United States of America	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 USA

(hereinafter "Inventor(s)"), and **Novartis Institutes for Biomedical Research Inc.**, 250 Massachusetts Ave, Cambridge, MA 02139, USA, a company organized under the laws of Delaware.

For good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, I/We the Inventor(s) do hereby confirm and agree that, by operation of law and/or contract, and/or by the fulfillment of any and all legal requirements regarding the transfer of employee inventions in my/our country of employment, **Novartis Institutes for Biomedical Research Inc.**, is the true and lawful owner of all right, title and interest in all inventions, discoveries, patents/utility models, applications, and rights described in paragraphs (1) through (8) below.

If, however, under the laws of any country, I/We the Inventor(s) nevertheless have any ownership right, title or interest in any of the items described herein (which I/We do not believe to be the case and make no claim in or to), for good and valuable consideration, the receipt and adequacy of which is hereby acknowledged, I/We the Inventor(s) do hereby sell, assign and transfer to **Novartis Institutes for Biomedical Research Inc.**, and its successors, assigns and legal representatives (hereinafter referred to collectively as the "ASSIGNEE"), all of our right, title and interest for all countries of the world in and to

(1) all of our inventions and discoveries described in the provisional or non-provisional patent, utility model, or other application(s) entitled
3-PYRIMIDIN-4-YL-OXAZOLIDIN-2-ONES AS INHIBITORS OF MUTANT IDH
[Patent Application PAT054800]

and filed in the to be determined Office on to be determined, 20 to be determined and accorded Application Number to be determined and/or filed as a PCT International Application on September 26, 2012 and accorded International Patent Application Number

PCT/IB2012/055133; and/or filed in the United States Patent and Trademark Office on September 27, 2011 and accorded Application Number 61/539553;

(2) the application(s) identified in paragraph (1), and all applications claiming priority from such application(s), directly or indirectly, including all national stages of any international patent application(s);

(3) the right to file patent, utility model, or other applications on any invention or discovery disclosed in any of the applications identified in paragraphs (1) and (2), including the right to file such applications on said inventions and discoveries in the names of ASSIGNEE or their designees or in our/my name, at ASSIGNEE's election and in accordance with applicable law in all countries and regions; and the right to file all patent, utility model, or other applications in all countries and regions claiming the priority of any of the provisional or non-provisional application(s) identified in paragraphs (1) or (2);

(4) all rights to claim priority from any of the applications referred to in paragraphs (1), (2), and (3) or from any application from which any of the applications referred to in paragraphs (1), (2) and (3) claim priority in all countries and regions under the Paris Convention for the Protection of Industrial Property, the WTO GATT TRIPS Agreement, the Inter-American Convention relating to Inventions, Patents, Designs, and Industrial Models and all other international agreements to which the United States now is or hereafter becomes a signatory and, if the United States patent application is a provisional patent application, under 35 USC 119(e);

(5) all continuations, continuations-in-part, and divisionals of any United States patent application(s) or international patent application(s) designating the United States, any national stages of any international application(s), and any other patent application(s) described in paragraphs (1) through (4) hereof, including further continuations, continuations-in-part, and divisionals such as, but not limited to, continuations of continuations and continuations of divisionals;

(6) all patents, utility models, or other grants that issue from any of the applications referred to herein and all rights and remedies associated therewith including the right to sue for and recover past damages and to recover under 35 U.S.C. § 154 (d) or any other law permitting remedies for infringement prior to issuance of the patent;

(7) all registrations and confirmations of, and importation certificates based upon, one or more of said patents, utility models, or other grants, and applications for such registrations, confirmations and importation certificates and;

(8) all reissues, renewals and extensions of said patents, utility models, registrations, confirmations and importation certificates, reexamination certificates issued for said patents and supplementary protection certificates based upon said patents and applications for such reissues, renewals, extensions, reexamination certificates and supplementary protection certificates, the same to be held and enjoyed by said ASSIGNEE to the full ends of the terms for which said patents, utility models, registrations, confirmations, importation certificates, reexamination certificates, supplementary protection certificates, reissues, renewals and extensions may be

granted, as fully and entirely as the same would have been held and enjoyed by me/us if this sale, assignment and transfer had not been made.

I/We the Inventor(s) hereby authorize ASSIGNEE and their representatives to insert in paragraph (1) of this Assignment the filing date(s) and Application Number(s) of said patent, utility model, or other application(s) when notified thereof.

I/We the Inventor(s) hereby covenant and agree that I/We will, at any time, (i) upon the request, but at the expense, of ASSIGNEE, execute and deliver all documents that may be necessary or desirable to perfect the title to the foregoing inventions and discoveries, applications, patents, utility models, registrations, confirmations, importation certificates, reissues, renewals, extensions, reexamination certificates, supplementary protection certificates, and applications within the scope of (7) and (8), in ASSIGNEE, including the execution and procurement of all further documents evidencing this sale, assignment and transfer as may be necessary or desirable for recording the same in the patent office or other intellectual property office, agency or the like of any country or region, (ii) upon the request, but at the expense, of ASSIGNEE execute all additional applications within the scope of paragraphs (1) through (6) and all applications within the scope of (7) or (8), and (iii) make all rightful oaths and declarations and do all lawful acts requisite for procuring the same or for aiding therein, without further compensation, but at the expense of ASSIGNEE .

Should any provision of this Assignment be deemed invalid or unenforceable by reason of any law, statute, regulation or judgment, existing now or in the future in any jurisdiction, such provision shall be modified in such jurisdiction so as to nearly approximate the intent of the Parties. If this cannot be done, such invalid or unenforceable provision shall be divisible and be deleted in any such jurisdiction, and all other provisions shall remain in full force and effect. The modification or deletion of any provision in one jurisdiction shall have no effect on this Assignment in any other jurisdiction.

This Assignment shall be governed by the laws of Delaware.

This Assignment is effective as from the earliest priority date as stated above.

Executed this 10 day of October, 2010

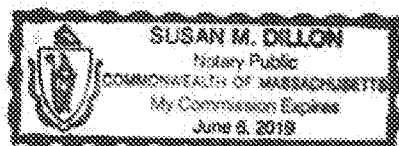
BY Y. Shin L.S.
Young Shin CHO

ACKNOWLEDGEMENT

State of Massachusetts)
) s.s.:
County of Middlesex)

On this 11th day of October, 2013, before me, the undersigned notary public, personally appeared Young Shin Cho (name of document signer), proved to me through satisfactory evidence of identification, which were Massachusetts license, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

Michael M. O'Connell, Notary Public

My commission expires 6/6/2019

Executed this 11th day of October, 2012

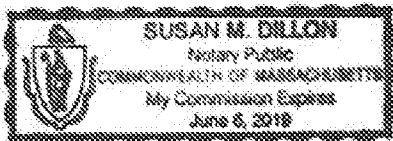
BY Julian Roy Levell L.S.
Julian Roy LEVELL

ACKNOWLEDGEMENT

State of Massachusetts)
County of Middlesex) s.s.:

On this 11th day of October, 2013, before me, the undersigned notary public, personally appeared Julian Roy Levell (name of document signer), proved to me through satisfactory evidence of identification, which were Hessiduself's driver's license, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

James M. Gillox, Notary Public

My commission expires 6/6/2019

Executed this 11 day of OCTOBER, 2012.

BY Bakary-Barry TOURE L.S.

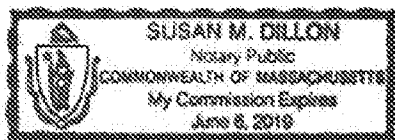
ACKNOWLEDGEMENT

State of Massachusetts)
) s.s.:
County of Middlesex)

On this 11th day of October, 20 , before me, the undersigned notary public, personally appeared Bakary Barry Toure (name of document signer), proved to me through satisfactory evidence of identification, which were Massachusetts drivers license, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

Susan M. Dillon, Notary Public

My commission expires 6/6/2019



Executed this 12 day of October, 2012.

BY [Signature] L.S.
Fan YANG

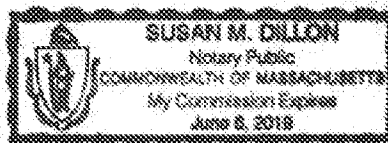
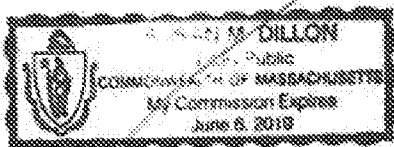
ACKNOWLEDGEMENT

State of Massachusetts)
) s.s.:
County of Middlesex)

On this 12th day of October, 2012, before me, the undersigned notary public, personally appeared Fan Yang (name of document signer), proved to me through satisfactory evidence of identification, which were Massachusetts driver's license, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

Susan M. Dillon, Notary Public

My commission expires 6/6/2019



Executed this 11 day of Oct, 2012.

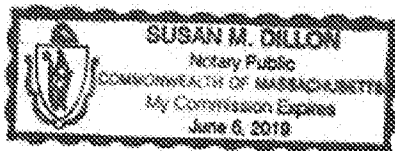
BY Thomas CAFERRO L.S.

ACKNOWLEDGEMENT

State of Massachusetts)
) s.s.:
County of Middlesex)

On this 11th day of October, 2012, before me, the undersigned notary public,
personally appeared Thomas Cafarro (name of document signer), proved to me
through satisfactory evidence of identification, which were
Massachusetts driver's license, to be the person whose name is signed on the
preceding or attached document, and acknowledged to me that (he) (she) signed it voluntarily for
its stated purpose.

Jessan M. Gellan, Notary Public

My commission expires 6/6/2017

Executed this 11 day of October, 2012.

BY *Francois Lenoir* L.S.
Francois LENOIR

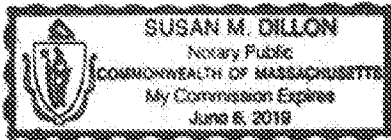
ACKNOWLEDGEMENT

State of Massachusetts)
) s.s.:
County of Middlesex)

On this 11th day of October, 2022, before me, the undersigned notary public, personally appeared Francis Lenoir (name of document signer), proved to me through satisfactory evidence of identification, which were Massachusetts driver's license, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

Alison M. Butler, Notary Public

My commission expires 6/6/30/9



Executed this 11 day of October, 2012

BY [Signature] L.S.
Gang LIU

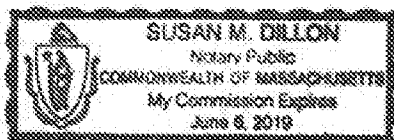
ACKNOWLEDGEMENT

State of Massachusetts)
) s.s.:
County of Middlesex)

On this 11th day of October, 2012, before me, the undersigned notary public, personally appeared _____ (name of document signer), proved to me through satisfactory evidence of identification, which were (Massachusetts Drivers license), to be the person whose name is signed on the preceding or attached document, and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

Susan M. Dillon, Notary Public

My commission expires 6/6/2019



Executed this 16 day of October, 2018.

BY Mark G. Palermo L.S.
Mark G. PALERMO

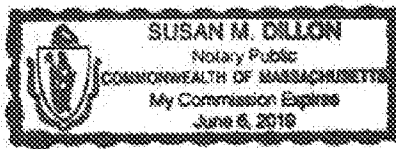
ACKNOWLEDGEMENT

State of Massachusetts)
) s.s.:
County of Middlesex)

On this 16th day of October, 2018, before me, the undersigned notary public, personally appeared Mark G. Palermo (name of document signer), proved to me through satisfactory evidence of identification, which were New Hampshire driver's license, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

Susan M. Dillon, Notary Public

My commission expires 10/06/2019



Executed this 11th day of October, 2012.

BY Troy D. Smith L.S.
Troy D. SMITH

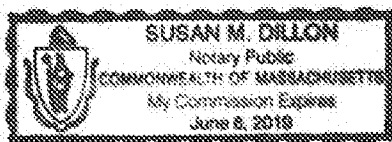
ACKNOWLEDGEMENT

State of Massachusetts)
) s.s.:
County of Middlesex)

On this 11th day of October, 2012, before me, the undersigned notary public, personally appeared Troy D. Smith (name of document signer), proved to me through satisfactory evidence of identification, which were New Hampshire driver's license, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

Susan M. Dillon, Notary Public

My commission expires 6/6/2019



Executed this 4th day of December, 2012.

Novartis Institutes for Biomedical Research Inc.

BY *Laura Madden* L.S.
Name: Laura Madden
Authorized Signatory and Power of Attorney

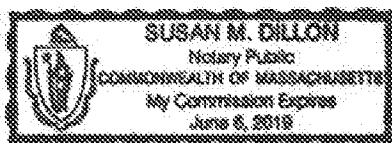
ACKNOWLEDGEMENT

State of Massachusetts)
) s.s.:
County of Middlesex)

On this 4th day of December, 2012, before me, the undersigned notary public, personally appeared Laura Madden (name of document signer), proved to me through satisfactory evidence of identification, which were license, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

Susan M. Dillon, Notary Public

My commission expires 6/6/2019



公 证 书

中华人民共和国
重 庆 市 公 证 处

Patent Family Number PAT054800

ASSIGNMENT

This Assignment Agreement is entered into by and between

Young Seoh CHO	citizen of South Korea / Republic of Korea	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 USA
Roy LEVELL	citizen of United Kingdom	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 US
Bakary-Barry TOURE	citizen of Canada	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 US
Fan YANG	citizen of China	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 US
Thomas CAFERRO	citizen of United States of America	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 USA
Huangshu LEI	citizen of United States of America	No. 665, Tushan Rd., Nan'an District, Chongqing, P.R. China, 400061
Francois LENOIR	citizen of Canada	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 USA
	citizen of China	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 USA

Mark G. PALERMO	citizen of United States of America	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 US
Moses David SHULTZ	citizen of United States of America	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 USA
David D. SMITH	citizen of United States of America	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 USA

(hereinafter "Inventor(s)"), and Novartis Institutes for Biomedical Research Inc., 250 Massachusetts Ave, Cambridge, MA 02139, USA, a company organized under the laws of Delaware.

For good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, I/We the Inventor(s) do hereby confirm and agree that, by operation of law and/or contract, and/or by the fulfillment of any and all legal requirements regarding the transfer of employee inventions in my/our country of employment, Novartis Institutes for Biomedical Research Inc., is the true and lawful owner of all right, title and interest in all inventions, discoveries, patents/utility models, applications, and rights described in paragraphs (1) through (8) below.

If, however, under the laws of any country, I/We the Inventor(s) nevertheless have any ownership right, title or interest in any of the items described herein (which I/We do not believe to be the case and make no claim in or to), for good and valuable consideration, the receipt and adequacy of which is hereby acknowledged, I/We the Inventor(s) do hereby sell, assign and transfer to Novartis Institutes for Biomedical Research Inc., and its successors, assigns and legal representatives (hereinafter referred to collectively as the "ASSIGNEE"), all of our right, title and interest for all countries of the world in and to

(1) all of our inventions and discoveries described in the provisional or non-provisional patent, utility model, or other application(s) entitled
3-PYRIMIDIN-4-YL-OXAZOLIDIN-2-ONES AS INHIBITORS OF MUTANT IDH
 [Patent Application PAT054800]

and filed in the to be determined Office on to be determined, 20 to be determined and accorded Application Number to be determined and/or filed as a PCT International Application on September 26, 2012 and accorded International Patent Application Number PCT/IB2012/055133;

and/or filed in the United States Patent and Trademark Office on September 27, 2011 and accorded Application Number 61/539553;

(2) the application(s) identified in paragraph (1), and all applications claiming priority from such application(s), directly or indirectly, including all national stages of any international patent application(s);

(3) the right to file patent, utility model, or other applications on any invention or discovery disclosed in any of the applications identified in paragraphs (1) and (2), including the right to file such applications on said inventions and discoveries in the names of ASSIGNEE or their designees or in our/my name, at ASSIGNEE's election and in accordance with applicable law in all countries and regions; and the right to file all patent, utility model, or other applications in all countries and regions claiming the priority of any of the provisional or non-provisional application(s) identified in paragraphs (1) or (2);

(4) all rights to claim priority from any of the applications referred to in paragraphs (1), (2), and (3) or from any application from which any of the applications referred to in paragraphs (1), (2) and (3) claim priority in all countries and regions under the Paris Convention for the Protection of Industrial Property, the WTO GATT TRIPS Agreement, the Inter-American Convention relating to Inventions, Patents, Designs, and Industrial Models and all other international agreements to which the United States now is or hereafter becomes a signatory and, if the United States patent application is a provisional patent application, under 35 USC 119(e);

(5) all continuations, continuations-in-part, and divisionals of any United States patent application(s) or international patent application(s) designating the United States, any national stages of any international application(s), and any other patent application(s) described in paragraphs (1) through (4) hereof, including further continuations, continuations-in-part, and divisionals such as, but not limited to, continuations of continuations and continuations of divisionals;

(6) all patents, utility models, or other grants that issue from any of the applications referred to herein and all rights and remedies associated therewith including the right to sue for and recover past damages and to recover under 35 U.S.C. § 154 (d) or any other law permitting remedies for infringement prior to issuance of the patent;

(7) all registrations and confirmations of, and importation certificates based upon, one or more of said patents, utility models, or other grants, and applications for such registrations, confirmations and importation certificates and;

(8) all reissues, renewals and extensions of said patents, utility models, registrations, confirmations and importation certificates, reexamination certificates issued for said patents and supplementary protection certificates based upon said patents and applications for such reissues, renewals, extensions, reexamination certificates and supplementary protection certificates, the same to be held and enjoyed by said ASSIGNEE to the full ends of the terms for which said patents, utility models, registrations, confirmations, importation certificates, reexamination certificates, supplementary protection certificates, reissues, renewals and extensions may be

granted, as fully and entirely as the same would have been held and enjoyed by me/us if this sale, assignment and transfer had not been made.

I/We the Inventor(s) hereby authorize ASSIGNEE and their representatives to insert in paragraph (1) of this Assignment the filing date(s) and Application Number(s) of said patent, utility model, or other application(s) when notified thereof.

I/We the Inventor(s) hereby covenant and agree that I/We will, at any time, (i) upon the request, but at the expense, of ASSIGNEE, execute and deliver all documents that may be necessary or desirable to perfect the title to the foregoing inventions and discoveries, applications, patents, utility models, registrations, confirmations, importation certificates, reissues, renewals, extensions, reexamination certificates, supplementary protection certificates, and applications within the scope of (7) and (8), in ASSIGNEE, including the execution and procurement of all further documents evidencing this sale, assignment and transfer as may be necessary or desirable for recording the same in the patent office or other intellectual property office, agency or the like of any country or region, (ii) upon the request, but at the expense, of ASSIGNEE execute all additional applications within the scope of paragraphs (1) through (6) and all applications within the scope of (7) or (8), and (iii) make all rightful oaths and declarations and do all lawful acts requisite for procuring the same or for aiding therein, without further compensation, but at the expense of ASSIGNEE.

Should any provision of this Assignment be deemed invalid or unenforceable by reason of any law, statute, regulation or judgment, existing now or in the future in any jurisdiction, such provision shall be modified in such jurisdiction so as to nearly approximate the intent of the Parties. If this cannot be done, such invalid or unenforceable provision shall be divisible and be deleted in any such jurisdiction, and all other provisions shall remain in full force and effect. The modification or deletion of any provision in one jurisdiction shall have no effect on this Assignment in any other jurisdiction.

This Assignment shall be governed by the laws of Delaware.

This Assignment is effective as from the earliest priority date as stated above.

Patent Family Number PAT054800

Executed this _____ day of _____, 20____.

BY _____ L.S.
Young Shin CHO

ACKNOWLEDGEMENT

State of Massachusetts)
) s.s.:
County of Middlesex)

On this ____ day of _____, 20____, before me, the undersigned notary public, personally appeared _____ (name of document signer), proved to me through satisfactory evidence of identification, which were _____, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

_____, Notary Public

My commission expires _____

Patent Family Number PAT054800

Executed this _____ day of _____, 20__.

BY _____ L.S.
~~Notary~~ Roy LEVELL

ACKNOWLEDGEMENT

State of Massachusetts)
) s.s.:
County of Middlesex)

On this _____ day of _____, 20__, before me, the undersigned notary public, personally appeared _____ (name of document signer), proved to me through satisfactory evidence of identification, which were _____, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

_____. Notary Public

My commission expires _____

Patent Family Number PAT054800

Executed this _____ day of _____, 20____.

BY _____ L.S.
Barry-Barry TOURE

ACKNOWLEDGEMENT

State of Massachusetts)
) s.s.:
County of Middlesex)

On this ____ day of _____, 20____, before me, the undersigned notary public, personally appeared _____ (name of document signer), proved to me through satisfactory evidence of identification, which were _____, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

_____, Notary Public

My commission expires _____

Patent Family Number PAT054800

Executed this _____ day of _____, 20____.

BY _____ L.S.
Fan YANG

ACKNOWLEDGEMENT

State of Massachusetts)
) s.s.:
County of Middlesex)

On this ____ day of _____, 20____, before me, the undersigned notary public, personally appeared _____ (name of document signer), proved to me through satisfactory evidence of identification, which were _____, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

_____, Notary Public

My commission expires _____

Patent Family Number PAT054800

Executed this _____ day of _____, 20__.

BY _____ L.S.
Thomas CAFERRO

ACKNOWLEDGEMENT

State of Massachusetts)
) s.s.:
County of Middlesex)

On this ____ day of _____, 20__, before me, the undersigned notary public,
personally appeared _____ (name of document signer), proved to me
through satisfactory evidence of identification, which were
_____, to be the person whose name is signed on the
preceding or attached document, and acknowledged to me that (he) (she) signed it voluntarily for
its stated purpose.

_____, Notary Public

My commission expires _____

Executed this 3rd day of December, 2012.

BY Huangshu LEI L.S.
Huangshu LEI

ACKNOWLEDGEMENT

State of)
County of) s.s.:

On this _____ day of _____, 20____, before me, the undersigned notary public,
personally appeared _____ (name of document signer), proved to me
through _____ evidence of _____ identification, which were
_____, to be the person whose name is signed on the
preceding or attached document, and acknowledged to me that (he) (she) signed it voluntarily for
its stated purpose.

_____, Notary Public

My commission expires _____

Executed this _____ day of _____, 20__.

BY _____ L.S.
Francois LENOIR

ACKNOWLEDGEMENT

State of Massachusetts)
) s.s.:
County of Middlesex)

On this _____ day of _____, 20__, before me, the undersigned notary public, personally appeared _____ (name of document signer), proved to me through satisfactory evidence of identification, which were _____, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

_____, Notary Public

My commission expires _____

Patent Family Number PAT054800

_____ day of _____, 20____.

_____, L.S.

ACKNOWLEDGEMENT

State of Massachusetts)
) s.s.:
County of Middlesex)

On this ____ day of _____, 20____, before me, the undersigned notary public, personally appeared _____ (name of document signer), proved to me through satisfactory evidence of identification, which were _____, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

_____, Notary Public

My commission expires _____

_____ day of _____, 20____.

_____ L.S.

ACKNOWLEDGEMENT

County of Massachusetts)
) s.s.:
County of Middlesex)

On this _____ day of _____, 20____, before me, the undersigned notary public, personally appeared _____ (name of document signer), proved to me through satisfactory evidence of identification, which were _____, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

_____, Notary Public

My commission expires _____

Patent Family Number PAT054800

Executed this _____ day of _____, 20____.

Notary Public L.S.
Notary E. PALERMO

ACKNOWLEDGEMENT

State of Massachusetts)
) s.s.:
County of Middlesex)

On this _____ day of _____, 20____, before me, the undersigned notary public,
personally appeared _____ (name of document signer), proved to me
through satisfactory evidence of identification, which were
_____, to be the person whose name is signed on the
preceding or attached document, and acknowledged to me that (he) (she) signed it voluntarily for
its stated purpose.

_____, Notary Public

My commission expires _____

Patent Family Number PAT054800

Witnessed this _____ day of _____, 20____.

..... L.S.

David SHULTZ

ACKNOWLEDGEMENT

State of Massachusetts)
) S.S.:
County of Middlesex)

On this _____ day of _____, 20____, before me, the undersigned notary public, personally appeared _____ (name of document signer), proved to me through _____ satisfactory _____ evidence _____ of _____ identification, _____ which _____ were _____, to be the person whose name is signed on the _____ preceding or attached document, and acknowledged to me that (he) (she) signed it voluntarily for _____ its stated purpose.

_____, Notary Public

commission expires _____

Patent Family Number PAT054800

Executed this _____ day of _____, 20____.

D. SMITH L.S.

ACKNOWLEDGEMENT

State of Massachusetts)
County of Middlesex) s.s.:
)

On this _____ day of _____, 20____, before me, the undersigned notary public,
personally appeared _____ (name of document signer), proved to me
through _____ satisfactory evidence of _____ identification, which were
_____ to be the person whose name is signed on the
preceding or attached document, and acknowledged to me that (he) (she) signed it voluntarily for
its stated purpose.

_____, Notary Public

My commission expires _____

Patent Family Number PAT054800

Page 1 of 1, 2012.

THE UNIVERSITY OF TEXAS AT AUSTIN
 DEPARTMENT OF BIOLOGICAL SCIENCES
 78712-7750
 AUSTIN, TEXAS 78712-7750
 TEL: 512/495-5700
 FAX: 512/495-5700
 E-MAIL: biolsci@utexas.edu
 WWW: <http://www.biolsci.utexas.edu>

_____ L.S.

Authorized Signatory and Power of Attorney

ACKNOWLEDGEMENT

County of Massachusetts)
) s.s.:
County of Middlesex)

On this _____ day of _____, 20____, before me, the undersigned notary public, personally appeared _____ (name of document signer), proved to me through _____ satisfactory _____ evidence _____ of _____ identification, _____ which _____ were _____, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

_____, Notary Public

My commission expires _____

公 证 书

(2012)渝证字第 43580 号

申请人: HUANGSHU LEI, 男, 一九六三年五月二日出生,
国籍: 美国, 护照号码: 480174255。

公证事项: 签名

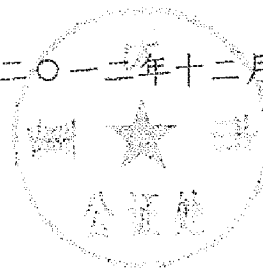
兹证明 HUANGSHU LEI 于二〇一二年十二月三日来到我
处, 在我的面前, 在前面的《ASSIGNMENT》上签名。

中华人民共和国重庆市公证处

公证员

蒋玉妹

二〇一二年十二月四日



PATENT

REEL: 033325 FRAME: 0053

NOTARIAL CERTIFICATE

(Translation)

(2012) YZ Zi, No.43580

Applicant: HUANGSHU LEI, male, Date of birth: May 2, 1963,
Nationality: American, Passport number: 480174255.

Notarial matter: Signature

This is to certify that HUANGSHU LEI came to our notary public
office and signed the foregoing ASSIGNMENT on Dec. 3, 2012 before
me, the notary public.

Notary: Jiang Yuqiu

Chongqing Notary Public Office

The People's Republic of China

Dec. 4, 2012

公 证 书

(2012)渝证字第 43581 号

申请人: HUANGSHU LEI, 男, 一九六三年五月二日出生,
国籍: 美国, 护照号码: 480174255。

公证事项: 译本内容与原本内容相符

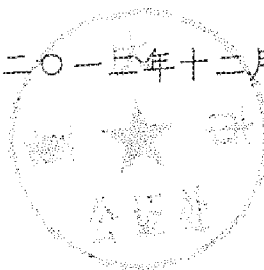
兹证明前面的 (2012) 渝证字第 43580 号《公证书》的
英文译本内容与该公证书中文原本相符。

中华人民共和国重庆市公证处

公证员

蒋玉珠

二〇一二年十二月四日



NOTARIAL CERTIFICATE

(Translation)

(2012) YZ Zi, No.43581

Applicant: HUANGSHU LEI, male, Date of birth: May 2, 1963,
Nationality: American, Passport number: 480174255.

Notarial matter: the translation is in conformity with the original

This is to certify that English copy attached hereto is in conformity with
the Chinese copy of Notarial Certificate (2012) YZ Zi, No.43580.

Notary: Jiang Yuqiu
Chongqing Notary Public Office
The People's Republic of China
Dec. 4, 2012

Executed this 1 day of December, 2012.

Novartis Institutes for Biomedical Research Inc.

BY [Signature] L.S.
Name: Laura M. Hackett
Authorized Signatory and Power of Attorney

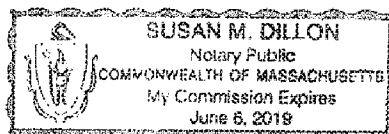
ACKNOWLEDGEMENT

State of Massachusetts)
) s.s.:
County of Middlesex)

On this 1st day of December, 2012, before me, the undersigned notary public, personally appeared Laura M. Hackett (name of document signer), proved to me through satisfactory evidence of identification, which were presented to be the person whose name is signed on the preceding or attached document, and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

[Signature], Notary Public

My commission expires 6/6/2019



ASSIGNMENT

This Assignment Agreement is entered into by and between

Young Shin CHO	citizen of South Korea / Republic of Korea	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 USA
Julian Roy LEVELL	citizen of United Kingdom	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 US
Bakary-Barry TOURE	citizen of Canada	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 US
Fan YANG	citizen of China	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 US
Thomas CAFERRO	citizen of United States of America	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 USA
Huangshu LEI	citizen of United States of America	No.585, Tushan Rd., Nan'an District, Chongqing, P.R.China, 400061
Francois LENOIR	citizen of Canada	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 USA
Gang LIU	citizen of China	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 USA

Mark G. PALERMO	citizen of United States of America	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 US
Michael David SHULTZ	citizen of United States of America	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 USA
Troy D. SMITH	citizen of United States of America	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 USA

(hereinafter "Inventor(s)"), and **Novartis Institutes for Biomedical Research Inc.**, 250 Massachusetts Ave, Cambridge, MA 02139, USA, a company organized under the laws of Delaware.

For good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, I/We the Inventor(s) do hereby confirm and agree that, by operation of law and/or contract, and/or by the fulfillment of any and all legal requirements regarding the transfer of employee inventions in my/our country of employment, **Novartis Institutes for Biomedical Research Inc.**, is the true and lawful owner of all right, title and interest in all inventions, discoveries, patents/utility models, applications, and rights described in paragraphs (1) through (8) below.

If, however, under the laws of any country, I/We the Inventor(s) nevertheless have any ownership right, title or interest in any of the items described herein (which I/We do not believe to be the case and make no claim in or to), for good and valuable consideration, the receipt and adequacy of which is hereby acknowledged, I/We the Inventor(s) do hereby sell, assign and transfer to **Novartis Institutes for Biomedical Research Inc.**, and its successors, assigns and legal representatives (hereinafter referred to collectively as the "ASSIGNEE"), all of our right, title and interest for all countries of the world in and to

(1) all of our inventions and discoveries described in the provisional or non-provisional patent, utility model, or other application(s) entitled
3-PYRIMIDIN-4-YL-OXAZOLIDIN-2-ONES AS INHIBITORS OF MUTANT IDH
[Patent Application PAT054800]

and filed in the to be determined Office on to be determined, 20 to be determined and accorded Application Number to be determined and/or filed as a PCT International Application on September 26, 2012 and accorded International Patent Application Number

CT/IB2012/055133; and/or filed in the United States Patent and Trademark Office on September 27, 2011 and accorded Application Number 61/539553;

(2) the application(s) identified in paragraph (1), and all applications claiming priority from such application(s), directly or indirectly, including all national stages of any international patent application(s);

(3) the right to file patent, utility model, or other applications on any invention or discovery disclosed in any of the applications identified in paragraphs (1) and (2), including the right to file such applications on said inventions and discoveries in the names of ASSIGNEE or their designees or in our/my name, at ASSIGNEE's election and in accordance with applicable law in all countries and regions; and the right to file all patent, utility model, or other applications in all countries and regions claiming the priority of any of the provisional or non-provisional application(s) identified in paragraphs (1) or (2);

(4) all rights to claim priority from any of the applications referred to in paragraphs (1), (2), and (3) or from any application from which any of the applications referred to in paragraphs (1), (2) and (3) claim priority in all countries and regions under the Paris Convention for the Protection of Industrial Property, the WTO GATT TRIPS Agreement, the Inter-American Convention relating to Inventions, Patents, Designs, and Industrial Models and all other international agreements to which the United States now is or hereafter becomes a signatory and, if the United States patent application is a provisional patent application, under 35 USC 119(e);

(5) all continuations, continuations-in-part, and divisionals of any United States patent application(s) or international patent application(s) designating the United States, any national stages of any international application(s), and any other patent application(s) described in paragraphs (1) through (4) hereof, including further continuations, continuations-in-part, and divisionals such as, but not limited to, continuations of continuations and continuations of divisionals;

(6) all patents, utility models, or other grants that issue from any of the applications referred to herein and all rights and remedies associated therewith including the right to sue for and recover past damages and to recover under 35 U.S.C. § 154 (d) or any other law permitting remedies for infringement prior to issuance of the patent;

(7) all registrations and confirmations of, and importation certificates based upon, one or more of said patents, utility models, or other grants, and applications for such registrations, confirmations and importation certificates and;

(8) all reissues, renewals and extensions of said patents, utility models, registrations, confirmations and importation certificates, reexamination certificates issued for said patents and supplementary protection certificates based upon said patents and applications for such reissues, renewals, extensions, reexamination certificates and supplementary protection certificates, the same to be held and enjoyed by said ASSIGNEE to the full ends of the terms for which said patents, utility models, registrations, confirmations, importation certificates, reexamination certificates, supplementary protection certificates, reissues, renewals and extensions may be

granted, as fully and entirely as the same would have been held and enjoyed by me/us if this sale, assignment and transfer had not been made.

I/We the Inventor(s) hereby authorize ASSIGNEE and their representatives to insert in paragraph (1) of this Assignment the filing date(s) and Application Number(s) of said patent, utility model, or other application(s) when notified thereof.

I/We the Inventor(s) hereby covenant and agree that I/We will, at any time, (i) upon the request, but at the expense, of ASSIGNEE, execute and deliver all documents that may be necessary or desirable to perfect the title to the foregoing inventions and discoveries, applications, patents, utility models, registrations, confirmations, importation certificates, reissues, renewals, extensions, reexamination certificates, supplementary protection certificates, and applications within the scope of (7) and (8), in ASSIGNEE, including the execution and procurement of all further documents evidencing this sale, assignment and transfer as may be necessary or desirable for recording the same in the patent office or other intellectual property office, agency or the like of any country or region, (ii) upon the request, but at the expense, of ASSIGNEE execute all additional applications within the scope of paragraphs (1) through (6) and all applications within the scope of (7) or (8), and (iii) make all rightful oaths and declarations and do all lawful acts requisite for procuring the same or for aiding therein, without further compensation, but at the expense of ASSIGNEE.

Should any provision of this Assignment be deemed invalid or unenforceable by reason of any law, statute, regulation or judgment, existing now or in the future in any jurisdiction, such provision shall be modified in such jurisdiction so as to nearly approximate the intent of the Parties. If this cannot be done, such invalid or unenforceable provision shall be divisible and be deleted in any such jurisdiction, and all other provisions shall remain in full force and effect. The modification or deletion of any provision in one jurisdiction shall have no effect on this Assignment in any other jurisdiction.

This Assignment shall be governed by the laws of Delaware.

This Assignment is effective as from the earliest priority date as stated above.

Executed this _____ day of _____, 20____.

BY _____ L.S.
Young Shin CHO

ACKNOWLEDGEMENT

State of Massachusetts)
) s.s.:
County of Middlesex)

On this _____ day of _____, 20____, before me, the undersigned notary public, personally appeared _____ (name of document signer), proved to me through satisfactory evidence of identification, which were _____, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

_____, Notary Public

My commission expires _____

Executed this _____ day of _____, 20__.

BY _____ L.S.
Julian Roy LEVELL

ACKNOWLEDGEMENT

State of Massachusetts)
) s.s.:
County of Middlesex)

On this ____ day of _____, 20__, before me, the undersigned notary public, personally appeared _____ (name of document signer), proved to me through satisfactory evidence of identification, which were _____, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

_____, Notary Public

My commission expires _____

Executed this _____ day of _____, 20____.

BY _____ L.S.
Bakary-Barry TOURE

ACKNOWLEDGEMENT

State of Massachusetts)
) s.s.:
County of Middlesex)

On this _____ day of _____, 20____, before me, the undersigned notary public, personally appeared _____ (name of document signer), proved to me through satisfactory evidence of identification, which were _____, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

_____, Notary Public

My commission expires _____

Executed this _____ day of _____, 20____.

BY _____ L.S.
Fan YANG

ACKNOWLEDGEMENT

State of Massachusetts)
) s.s.:
County of Middlesex)

On this ____ day of _____, 20____, before me, the undersigned notary public, personally appeared _____ (name of document signer), proved to me through satisfactory evidence of identification, which were _____, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

_____, Notary Public

My commission expires _____

Executed this _____ day of _____, 20____.

BY _____ L.S.
Thomas CAFERRO

ACKNOWLEDGEMENT

State of Massachusetts)
) s.s.:
County of Middlesex)

On this ____ day of _____, 20____, before me, the undersigned notary public, personally appeared _____ (name of document signer), proved to me through satisfactory evidence of identification, which were _____, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

_____, Notary Public

My commission expires _____

Executed this _____ day of _____, 20__.

BY Huangshu LEI L.S.

ACKNOWLEDGEMENT

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

On this _____ day of _____, 20____, before me, the undersigned notary public, personally appeared _____ (name of document signer), proved to me through _____ satisfactory evidence of identification, which were _____, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

_____, Notary Public

My commission expires _____

Executed this _____ day of _____, 20____.

BY _____ L.S.
Francois LENOIR

ACKNOWLEDGEMENT

State of Massachusetts)
) s.s.:
County of Middlesex)

On this ____ day of _____, 20____, before me, the undersigned notary public, personally appeared _____ (name of document signer), proved to me through satisfactory evidence of identification, which were _____, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

_____, Notary Public

My commission expires _____

Patent Family Number PAT054800

Executed this _____ day of _____, 20__.

BY _____ L.S.
Gang LIU

ACKNOWLEDGEMENT

State of Massachusetts)
) s.s.:
County of Middlesex)

On this _____ day of _____, 20__, before me, the undersigned notary public, personally appeared _____ (name of document signer), proved to me through satisfactory evidence of identification, which were _____, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

_____, Notary Public

My commission expires _____

Executed this _____ day of _____, 20____.

BY _____ L.S.
Mark G. PALERMO

ACKNOWLEDGEMENT

State of Massachusetts)
) s.s.:
County of Middlesex)

On this _____ day of _____, 20____, before me, the undersigned notary public, personally appeared _____ (name of document signer), proved to me through satisfactory evidence of identification, which were _____, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

_____, Notary Public

My commission expires _____

Executed this 4th day of December, 2012.

BY [Signature] L.S.
Michael David SHULTZ

ACKNOWLEDGEMENT

State of Massachusetts)

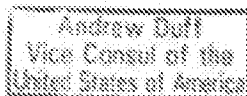
County of Middlesex)

) People's Republic of China)
) Municipality of Shanghai)
) s.s.: Consulate General of the)
) United States of America)

On this 4th day of December, 2012, before me, the undersigned notary public, personally appeared Michael Shultz (name of document signer), proved to me through satisfactory evidence of identification, which were US passport, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

[Signature], Notary Public

My commission expires PRESIDENTIAL COMMISSIONS DO NOT EXPIRE



American Consulate General
Shanghai China

Executed this _____ day of _____, 20____.

BY _____ L.S.
Troy D. SMITH

ACKNOWLEDGEMENT

State of Massachusetts)
) s.s.:
County of Middlesex)

On this _____ day of _____, 20____, before me, the undersigned notary public, personally appeared _____ (name of document signer), proved to me through satisfactory evidence of identification, which were _____, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

_____, Notary Public

My commission expires _____

Patent Family Number PAT054800

Executed this _____ day of _____, 2012.

Novartis Institutes for Biomedical Research Inc.

BY _____ L.S.

Name:

Authorized Signatory and Power of Attorney

ACKNOWLEDGEMENT

State of Massachusetts)
) s.s.:
County of Middlesex)

On this ____ day of _____, 20____, before me, the undersigned notary public, personally appeared _____ (name of document signer), proved to me through satisfactory evidence of identification, which were _____, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

_____, Notary Public

My commission expires _____

Executed this 6 day of December, 2012.

Novartis Institutes for Biomedical Research Inc.

BY Laura Madden L.S.
Name: Laura Madden
Authorized Signatory and Power of Attorney

ACKNOWLEDGEMENT

State of Massachusetts)
) s.s.:
County of Middlesex)

On this 6th day of December, 2012, before me, the undersigned notary public, personally appeared Laura Madden (name of document signer), proved to me through satisfactory evidence of identification, which were license, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

Susan M. Dillon, Notary Public

My commission expires 6/6/2019

