

PATENT ASSIGNMENT

Electronic Version v1.1
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SUBMISSION TYPE:	NEW ASSIGNMENT												
NATURE OF CONVEYANCE:	ASSIGNMENT												
CONVEYING PARTY DATA													
<table border="1"> <thead> <tr> <th>Name</th> <th>Execution Date</th> </tr> </thead> <tbody> <tr> <td>Leslie Johnson</td> <td>01/17/2013</td> </tr> <tr> <td>Yong-In Kim</td> <td>02/26/2013</td> </tr> <tr> <td>Igor Splawski</td> <td>02/13/2013</td> </tr> <tr> <td>Michael Roguska</td> <td>02/13/2013</td> </tr> <tr> <td>Joy Ghosh</td> <td>01/17/2013</td> </tr> </tbody> </table>		Name	Execution Date	Leslie Johnson	01/17/2013	Yong-In Kim	02/26/2013	Igor Splawski	02/13/2013	Michael Roguska	02/13/2013	Joy Ghosh	01/17/2013
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<table border="1"> <tr> <td>Name:</td> <td>Novartis Institutes for BioMedical Research, Inc.</td> </tr> <tr> <td>Street Address:</td> <td>250 Massachusetts Avenue</td> </tr> <tr> <td>City:</td> <td>Cambridge</td> </tr> <tr> <td>State/Country:</td> <td>MASSACHUSETTS</td> </tr> <tr> <td>Postal Code:</td> <td>02139</td> </tr> </table>		Name:	Novartis Institutes for BioMedical Research, Inc.	Street Address:	250 Massachusetts Avenue	City:	Cambridge	State/Country:	MASSACHUSETTS	Postal Code:	02139		
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PROPERTY NUMBERS Total: 1													
<table border="1"> <thead> <tr> <th>Property Type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>Application Number:</td> <td>13716526</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	13716526								
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CORRESPONDENCE DATA													
<p>Fax Number: 6178713392 <i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i></p> <p>Phone: 9789353585 Email: marybeth.kelly@novartis.com Correspondent Name: MaryBeth Address Line 1: 220 Massachusetts Avenue Address Line 2: 230F Address Line 4: Cambridge, MASSACHUSETTS 02139</p>													
ATTORNEY DOCKET NUMBER:	PAT054850												
NAME OF SUBMITTER:	MaryBeth Kelly												

CH \$40.00 13716526

Signature:	/MaryBeth Kelly/
Date:	04/10/2013
<p>Total Attachments: 13</p> <p>source=Executed Assignment - Inventors to NIBR-288237#page1.tif source=Executed Assignment - Inventors to NIBR-288237#page2.tif source=Executed Assignment - Inventors to NIBR-288237#page3.tif source=Executed Assignment - Inventors to NIBR-288237#page4.tif source=Executed Assignment - Inventors to NIBR-288237#page5.tif source=Executed Assignment - Inventors to NIBR-288237#page6.tif source=Executed Assignment - Inventors to NIBR-288237#page7.tif source=Executed Assignment -Kim to NIBR-288238#page1.tif source=Executed Assignment -Kim to NIBR-288238#page2.tif source=Executed Assignment -Kim to NIBR-288238#page3.tif source=Executed Assignment -Kim to NIBR-288238#page4.tif source=Executed Assignment -Kim to NIBR-288238#page5.tif source=Executed Assignment -Kim to NIBR-288238#page6.tif</p>	

ASSIGNMENT

This Assignment Agreement is entered into by and between

Leslie JOHNSON	citizen of United States of America	Novartis Institutes for BioMedical Research, Inc. 500 Technology Square Cambridge, MA 02139 USA
Yong-In KIM	citizen of South Korea / Republic of Korea	Novartis Institutes for BioMedical Research, Inc. 500 Technology Square Cambridge, MA 02139 USA
Igor SPLAWSKI	citizen of Poland	Novartis Institutes for BioMedical Research, Inc. 100 Technology Square Cambridge, MA 02139 USA
Michael ROGUSKA	citizen of United States of America	Novartis Institutes for BioMedical Research, Inc. 500 Technology Square Cambridge, MA 02139 USA
Joy GHOSH	citizen of India	Novartis Institutes for BioMedical Research, Inc. 500 Technology Square Cambridge, MA 02139 USA

c/o Novartis Institutes for Biomedical Research Inc., 250 Massachusetts Ave, 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

Compositions and Methods for Antibodies Targeting Factor P
[Patent Case PAT054850]

and filed in the United States Patent Office on December 17, 2012 and accorded Application Number 13/716,526 and/or filed as a PCT International Application on December 17, 2012 and accorded International Patent Application Number PCT/IB2012/057394 ; and/or filed in the United States Patent and Trademark Office on December 21, 2011 and accorded Application Number 61/578,458.

(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 the state of Delaware.

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

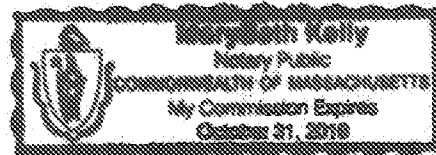
Executed this 17 day of January, 2013.

BY [Signature] L.S.
Leslie Johnson

On this 17th day of January, 2013, before me, the undersigned notary public, personally appeared **Leslie Johnson**, proved to me through satisfactory evidence of identification, which was his or her license to be the person whose name is signed on the preceding or attached document and acknowledged to me that he or she signed it voluntarily for its stated purpose.

[Signature], Notary Public

My commission expires October 31, 2019



Executed this _____ day of _____, 20____.

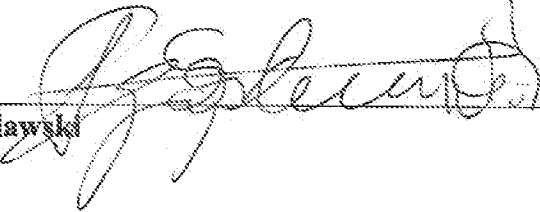
BY _____ L.S.
Yong-In Kim

On this _____ day of _____, 20____, before me, the undersigned notary public, personally appeared **Yong-In Kim**, proved to me through satisfactory evidence of identification, which was his or her license to be the person whose name is signed on the preceding or attached document and acknowledged to me that he or she signed it voluntarily for its stated purpose.

_____, Notary Public

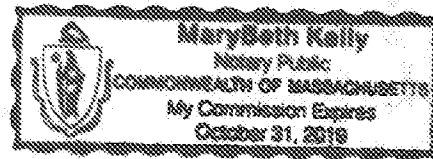
My commission expires _____

Executed this 13 day of Feb, 2013.

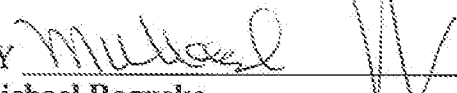
BY  L.S.
Igor Splawski

On this 13th day of February, 2013, before me, the undersigned notary public, personally appeared **Igor Splawski**, proved to me through satisfactory evidence of identification, which was his or her license to be the person whose name is signed on the preceding or attached document and acknowledged to me that he or she signed it voluntarily for its stated purpose.

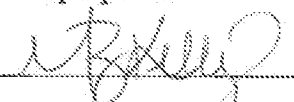
, Notary Public
 My commission expires October 31, 2019

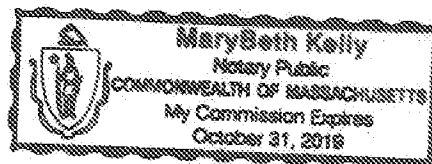


Executed this 13 day of February, 2013.

BY  L.S.
Michael Roguska

On this 13th day of February, 2013, before me, the undersigned notary public, personally appeared **Michael Roguska**, proved to me through satisfactory evidence of identification, which was his or her license to be the person whose name is signed on the preceding or attached document and acknowledged to me that he or she signed it voluntarily for its stated purpose.

, Notary Public
 My commission expires October 31, 2019



Executed this 17th day of January, 2013.

BY Joy Ghosh L.S.
Joy Ghosh

On this 17th day of January, 2013, before me, the undersigned notary public, personally appeared **Joy Ghosh**, proved to me through satisfactory evidence of identification, which was his or her license to be the person whose name is signed on the preceding or attached document and acknowledged to me that he or she signed it voluntarily for its stated purpose.

[Signature], Notary Public
My commission expires October 31, 2014



NOVARTIS INSTITUTES FOR BIOMEDICAL RESEARCH INC.

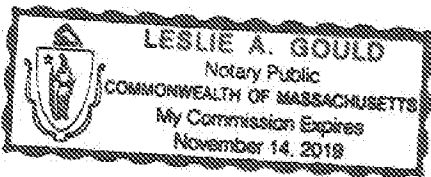
Executed this 14 day of February, 2013.

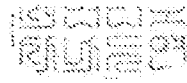
BY [Signature] L.S.
Name: MARIA BETH KELLY
Title: ANTIBODIES SIGNATORY

On this 14th day of February, 2013, before me, the undersigned notary public, personally appeared MARIA BETH KELLY, proved to me through satisfactory evidence of identification, which was his or her license to be the person whose name is signed on the preceding or attached document and acknowledged to me that he or she signed it voluntarily for its stated purpose.

[Signature], Notary Public

My commission expires November 14th 2019





[제 41호 서식] SEOHYEON LAW & NOTARY PUBLIC OFFICE

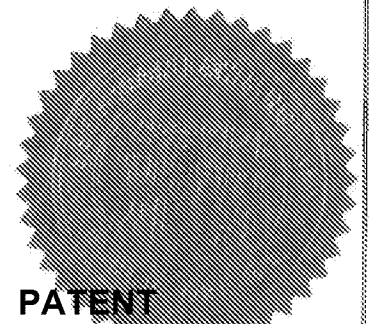
Registered No. 2013 - 762

NOTARIAL CERTIFICATE

SEOHYEON LAW & NOTARY PUBLIC OFFICE

#608 BORAMCORE BUILDING 245-2 SEOHYEON-DONG

BUNDANG-GU SEONGNAM-SI GYEONGGI-DO KOREA



PATENT

REEL: 030185 FRAME: 0683

ASSIGNMENT

This Assignment Agreement is entered into by and between

Leslie JOHNSON	citizen of United States of America	Novartis Institutes for BioMedical Research, Inc. 500 Technology Square Cambridge, MA 02139 USA
Yong-In KIM	citizen of South Korea / Republic of Korea	Novartis Institutes for BioMedical Research, Inc. 500 Technology Square Cambridge, MA 02139 USA
Igor SPLAWSKI	citizen of Poland	Novartis Institutes for BioMedical Research, Inc. 100 Technology Square Cambridge, MA 02139 USA
Michael ROGUSKA	citizen of United States of America	Novartis Institutes for BioMedical Research, Inc. 500 Technology Square Cambridge, MA 02139 USA
Joy GHOSH	citizen of India	Novartis Institutes for BioMedical Research, Inc. 500 Technology Square Cambridge, MA 02139 USA

c/o Novartis Institutes for Biomedical Research Inc., 250 Massachusetts Ave, 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

Compositions and Methods for Antibodies Targeting Factor P
[Patent Case PAT054850]

and filed in the United States Patent Office on December 17, 2012 and accorded Application Number 13/716,526 and/or filed as a PCT International Application on December 17, 2012 and accorded International Patent Application Number PCT/IB2012/057394 ; and/or filed in the United States Patent and Trademark Office on December 21, 2011 and accorded Application Number 61/578,458.

(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.

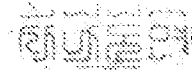
I/We the Inventor(s) hereby covenant and agree that I/We will, at any time, (i) upon the request, but at the expense, of ASSIGNEE, execute and deliver all documents that may be necessary or desirable to perfect the title to the foregoing inventions and discoveries, applications, patents, utility models, 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 the state of Delaware.

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

Executed this _____ day of _____, 20____.



BY _____ L.S.
Leslie Johnson

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

_____, Notary Public

My commission expires _____

Executed this 26th day of February, 2013.

BY *Yong-In Kim* L.S.
Yong-In Kim

On this 26th day of February, 2013, before me, the undersigned notary public, personally appeared **Yong-In Kim**, proved to me through satisfactory evidence of identification, which was his or her license to be the person whose name is signed on the preceding or attached document and acknowledged to me that he or she signed it voluntarily for its stated purpose.

De Yeon Ha, Notary Public

My commission expires _____

등부 2013년 제 762 호

Registered No. 2013 - 762

인 증

Notarial Certificate

위 임 명 장

Yong-In Kim

에 기재된

personally appeared before

me and admitted his(her)

김 용 인 은

본직의 면전에서 위 사서증서에 자기가 서명
날인을 자인하였다

subscription to the
attached

ASSIGNMENT

2013년 2월 26일 이 사무소에서

This is hereby attested on

위 인증한다.

this 26th day of FEB. 2013

at this office.

공증인가 법무법인 서현
소속 수원지방법검찰청

경기 성남시 분당구 서현동 245의 2 보람코아
빌딩 608호

SEOHYEON LAW & NOTARY PUBLIC OFFICE

Department Sowon District Prosecutors' office

#608 Boramcore Building 245-2

Seohyeon-dong Bundang-gu Seongnam-si

Gyeonggi-do Korea.

공증담당 변호사
나 도 연

Attorney-at-Law
DO YBON NA

This office has been authorized by the Minister of Justice, the Republic
of Korea, to act as Notary Public since May.15. 2003 under Law No.275