

PATENT ASSIGNMENT COVER SHEET

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 Stylesheet Version v1.2

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
WENLAI ZHOU	02/12/2016
MANAV KORPAL	04/21/2016
PING ZHU	04/22/2016
GIORDANO CAPONIGRO	03/10/2016
VESSELINA COOKE	03/10/2016
SCOTT DELACH	05/16/2016
JOSHUA KORN	03/10/2016
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: 1	
Property Type	Number
Application Number:	14769820
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>	
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Address Line 4:	EMERYVILLE, CALIFORNIA 94608
ATTORNEY DOCKET NUMBER:	PAT055531-US-PCT
NAME OF SUBMITTER:	LISA NASH
SIGNATURE:	/lisa nash/
DATE SIGNED:	05/26/2016

Total Attachments: 28

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ASSIGNMENT

This Assignment Agreement is entered into by and between:

Giordano CAPONIGRO	citizen of United States of America	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, Massachusetts 02139 USA
Vesselina COOKE	citizen of Bulgaria	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 US
Scott DELACH	citizen of United States of America	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, Massachusetts 02139 USA
Joshua KORN	citizen of United States of America	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 US
Manav KORPAL	citizen of Canada	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 US
Wenlai ZHOU	citizen of United States of America	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 USA
Ping ZHU	citizen of China	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

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and filed in the to be determined Office on to be determined and accorded Application Number to be determined and/or filed as a PCT International Application on **February 24, 2014** and accorded International Patent Application Number PCT/US2014/017977; and/or filed in the United States Patent and Trademark Office on **September 17, 2013** and accorded Application Number **61/878,669**; and/or filed in the United States Patent and Trademark Office on **February 25, 2013** and accorded Application Number **61/768,860**;

(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 _____
Giordano CAPONIGRO

Witnessed by:

Name:
Address:

Name:
Address:

Executed this _____ day of _____, 20____

BY _____
Vesselina COOKE

Witnessed by:

Name:
Address:

Name:
Address:

Executed this _____ day of _____, 20__

BY _____
Scott DELACH

Witnessed by:

Name:
Address:

Name:
Address:

Executed this _____ day of _____, 20__

BY _____
Joshua KORN

Witnessed by:

Name:
Address:

Name:
Address:

Executed this _____ day of _____, 20__

BY _____
Manav KORPAL

Witnessed by:


Name:
Address:

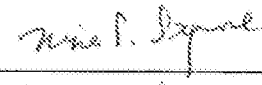
Name:
Address:

Executed this 12th day of Feb, 2016

BY 
Wenlai ZHOU

Witnessed by:


Name: Janice Obasiolu
Address: 527 Atherton St
Milton MA 02186


Name: Maria C. Sigworth
Address: 20 Kippins Path
Newton, MA 02459

Executed this 12 day of Feb, 2016

BY _____
Ping ZHU

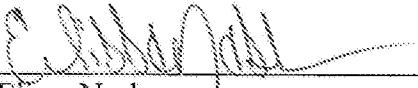
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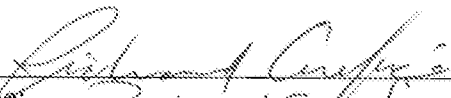
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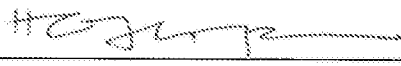
NOVARTIS INSTITUTES FOR BIOMEDICAL RESEARCH INC.

Executed this 16 day of February, 2016

BY 
Elissa Nash
Authorized Signatory

Witnessed by:


Name: Richard Cornelia
5300 Chiron Way
Emeryville, CA 94608


Name: HELO G SERPA
5300 Chiron Way
Emeryville, CA 94608

ASSIGNMENT

This Assignment Agreement is entered into by and between:

Giordano CAPONIGRO	citizen of United States of America	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, Massachusetts 02139 USA
Vesselina COOKE	citizen of Bulgaria	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 US
Scott DELACH	citizen of United States of America	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, Massachusetts 02139 USA
Joshua KORN	citizen of United States of America	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 US
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Wenlai ZHOU	citizen of United States of America	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 USA
Ping ZHU	citizen of China	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 USA

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(1) all of our inventions and discoveries described in the provisional or non-provisional patent, utility model, or other application(s) entitled

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(PAT055531-WO-PCT)

and filed in the to be determined Office on to be determined and accorded Application Number to be determined and/or filed as a PCT International Application on **February 24, 2014** and accorded International Patent Application Number **PCT/US2014/017977**; and/or filed in the United States Patent and Trademark Office on **September 17, 2013** and accorded Application Number **61/878,669**; and/or filed in the United States Patent and Trademark Office on **February 25, 2013** and accorded Application Number **61/768,860**;

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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);

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(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.

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declarations and do all lawful acts requisite for procuring the same or for aiding therein, without further compensation, but at the expense of ASSIGNEE .

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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 _____
Giordano CAPONIGRO

Witnessed by:

Name:
Address:

Name:
Address:

Executed this _____ day of _____, 20____

BY _____
Vesselina COOKE

Witnessed by:

Name:
Address:

Name:
Address:

Executed this _____ day of _____, 20____

BY _____
Scott DELACH

Witnessed by:

Name:
Address:

Name:
Address:

Executed this _____ day of _____, 20____

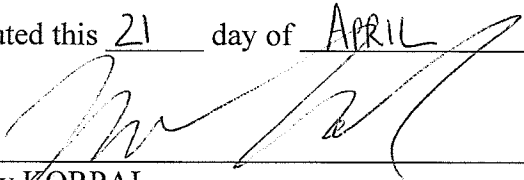
BY _____
Joshua KORN

Witnessed by:

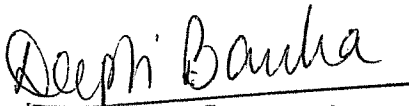
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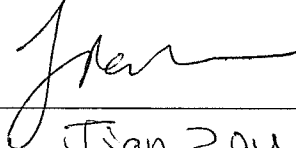
Name:
Address:

Executed this 21 day of APRIL, 2016

BY 
Manav KORPAL

Witnessed by:


Name: DEEPTI BANIKA
Address: 12462 MAIN CAMPOS DR.
LEXINGTON MA 02421


Name: Jian Zou
Address: 61 Beachview Rd
Boston MA 02128

Executed this _____ day of _____, 2016

BY _____
Wenlai ZHOU

Witnessed by:

Name:
Address:

Name:
Address:

Executed this _____ day of _____, 2016

BY _____
Ping ZHU

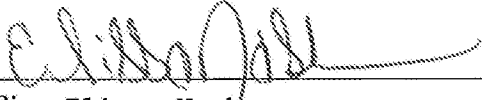
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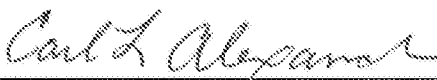
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Address:


NOVARTIS INSTITUTES FOR BIOMEDICAL RESEARCH INC.

Executed this 26 day of May, 20 16

BY 
Name: Elissa Nash
Title: Authorized Signatory

Witnessed by:


Name: Carl Alexander
Address: 5300 Chiron Way
Emeryville, CA 94608


Name: Patrick Lee
Address: 5300 Chiron Way
Emeryville, CA 94608

ASSIGNMENT

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Giordano CAPONIGRO	citizen of United States of America	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, Massachusetts 02139 USA
Vesselina COOKE	citizen of Bulgaria	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 US
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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);

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(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 _____
Giordano CAPONIGRO

Witnessed by:

Name:
Address:

Name:
Address:

Executed this _____ day of _____, 20__

BY _____
Vesselina COOKE

Witnessed by:

Name:
Address:

Name:
Address:

Executed this _____ day of _____, 20__

BY _____
Scott DELACH

Witnessed by:

Name:
Address:

Name:
Address:

Executed this _____ day of _____, 20__

BY _____
Joshua KORN

Witnessed by:

Name:
Address:

Name:
Address:

Executed this _____ day of _____, 2016

BY _____
Manav KORPAL

Witnessed by:

Name:
Address:

Name:
Address:

Executed this _____ day of _____, 2016

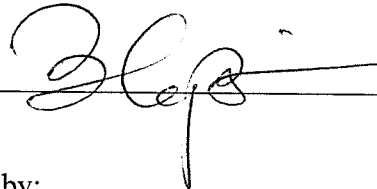
BY _____
Wenlai ZHOU

Witnessed by:

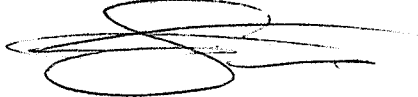
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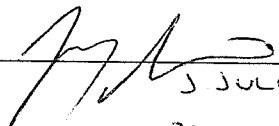
Executed this 22nd day of APRIL, 2016

BY 
Ping ZHU

Witnessed by:



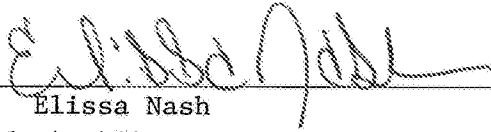
Name: SEAN IRWIN
Address:
300 TECHNOLOGY SQUARE
CAMBRIDGE, MA 02139



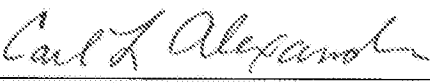
Name: JULIE JOSHI
Address:
300 Technology Square
Cambridge, MA 02139

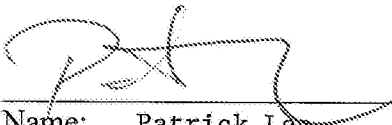
NOVARTIS INSTITUTES FOR BIOMEDICAL RESEARCH INC.

Executed this 26 day of May, 20 16

BY 
Name: Elissa Nash
Title: Authorized Signatory

Witnessed by:


Name: Carl Alexander
Address: 5300 Chiron Way
Emeryville, CA 94608


Name: Patrick Lee
Address: 5300 Chiron Way
Emeryville, CA 94608

ASSIGNMENT

This Assignment Agreement is entered into by and between:

Giordano CAPONIGRO	citizen of United States of America	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, Massachusetts 02139 USA
Vesselina COOKE	citizen of Bulgaria	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 US
Scott DELACH	citizen of United States of America	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, Massachusetts 02139 USA
Joshua KORN	citizen of United States of America	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 US
Manav KORPAL	citizen of Canada	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 US
Wenlai ZHOU	citizen of United States of America	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 USA
Ping ZHU	citizen of China	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

ANDROGEN RECEPTOR MUTATION

(PAT055531-WO-PCT)

and filed in the to be determined Office on to be determined and accorded Application Number to be determined and/or filed as a PCT International Application on **February 24, 2014** and accorded International Patent Application Number **PCT/US2014/017977**; and/or filed in the United States Patent and Trademark Office on **September 17, 2013** and accorded Application Number **61/878,669**; and/or filed in the United States Patent and Trademark Office on **February 25, 2013** and accorded Application Number **61/768,860**;

(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.

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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 10 day of March, 2016.

BY [Signature]
Giordano CAPONIGRO

Witnessed by:

[Signature]
Name: Susan M. Dillon
Address: 700 Main Street
Cambridge, MA 02139 US

[Signature]
Name: Kathleen M. Drury
Address: 700 Main Street
Cambridge, MA 02139

Executed this 10 day of March, 2016.

BY [Signature]
Vesselina COOKE

Witnessed by:


[Signature]
Name: Susan M. Dillon
Address: 700 Main Street
Cambridge, MA 02139 US

[Signature]
Name: Kathleen M. Drury
Address: 700 Main Street
Cambridge, MA 02139

Executed this 16 day of May, 2016.

BY 
Scott DELACH

Witnessed by:


Name: Susan M. Dillon
Address: 700 Main Street
Cambridge, MA 02139 US


Name: Kathleen M. Drury
700 Main Street
Cambridge, MA 02139

Executed this 10th day of March, 2016.

BY 
Joshua KORN

Witnessed by:


Name: Kathleen M. Drury
Address: 700 Main Street
Cambridge, MA 02139


Name: Susan M. Dillon
Address: 700 Main Street
Cambridge, MA 02139 US

Executed this _____ day of _____, 20____.

BY _____
Manav Korpala

Witnessed by:

Name:
Address:

Name:

Executed this _____ day of _____, 2015

BY _____
Wenlai ZHOU

Witnessed by:

Name:
Address:

Name:

Executed this _____ day of _____, 20____.

BY _____
Ping ZHU

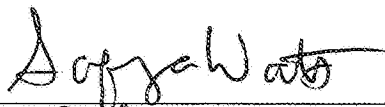
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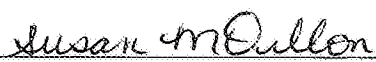
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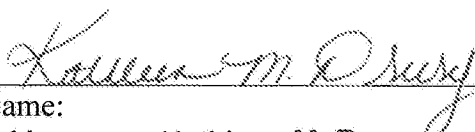
NOVARTIS INSTITUTES FOR BIOMEDICAL RESEARCH INC.

Executed this 19th day of May, 2016

BY 
Name: Safiya Watson
Title: Authorized Signatory

Witnessed by:


Name: Susan M. Dillon
Address: 700 Main Street
Cambridge, MA 02139 US


Name: Kathleen M. Drury
Address: 700 Main Street
Cambridge, MA 02139