

## PATENT ASSIGNMENT COVER SHEET

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 Stylesheet Version v1.2

EPAS ID: PAT5712377

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT	
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT	
<b>CONVEYING PARTY DATA</b>		
	<b>Name</b>	<b>Execution Date</b>
	ANTHONY EDWARD BOITANO	09/27/2017
	SUSAN E. CELLITTI	09/21/2017
	HONGNGOC THI PHAM	09/21/2017
	TETSUO UNO	09/21/2017
<b>RECEIVING PARTY DATA</b>		
<b>Name:</b>	NOVARTIS INSTITUTE FOR FUNCTIONAL GENOMICS, INC. DBA THE GENOMICS INSTITUTE OF THE NOVARTIS RESEARCH FOUNDATION	
<b>Street Address:</b>	10675 JOHNS JAY HOPKINS DR.	
<b>City:</b>	SAN DIEGO	
<b>State/Country:</b>	CALIFORNIA	
<b>Postal Code:</b>	92121	
<b>PROPERTY NUMBERS Total: 1</b>		
	<b>Property Type</b>	<b>Number</b>
	Application Number:	16470897
<b>CORRESPONDENCE DATA</b>		
<b>Fax Number:</b>		
<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>		
<b>Phone:</b>	(858) 812-1743	
<b>Email:</b>	amoten@gnf.org	
<b>Correspondent Name:</b>	ALICIA MOTEN	
<b>Address Line 1:</b>	10675 JOHNS JAY HOPKINS DR.	
<b>Address Line 4:</b>	SAN DIEGO, CALIFORNIA 92121	
<b>ATTORNEY DOCKET NUMBER:</b>	PAT057400-US-PCT	
<b>NAME OF SUBMITTER:</b>	ALICIA R. MOTEN	
<b>SIGNATURE:</b>	/Alicia R. Moten/	
<b>DATE SIGNED:</b>	09/11/2019	
<b>Total Attachments: 12</b>		
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source=PAT057400-US-PSP02 inventors to NIFG#page12.tif

**ASSIGNMENT**

This Assignment Agreement is entered into by and between

**ANTHONY EDWARD BOITANO, c/o 27 EVELYN ROAD, WABAN,  
MASSACHUSETTS 02468, UNITED STATES OF AMERICA, a citizen of UNITED  
STATES OF AMERICA;**

**SUSAN E. CELLITTI, c/o NOVARTIS INSTITUTE FOR FUNCTIONAL GENOMICS,  
INC., DBA GENOMICS INSTITUTE OF THE NOVARTIS RESEARCH FOUNDATION  
(GNF), 10675 JOHN JAY HOPKINS DRIVE, SAN DIEGO, CALIFORNIA 92121,  
UNITED STATES OF AMERICA, a citizen of UNITED STATES OF AMERICA;**

**HONGNGOC THI PHAM, c/o NOVARTIS INSTITUTE FOR FUNCTIONAL  
GENOMICS, INC., DBA GENOMICS INSTITUTE OF THE NOVARTIS RESEARCH  
FOUNDATION (GNF), 10675 JOHN JAY HOPKINS DRIVE, SAN DIEGO,  
CALIFORNIA 92121, UNITED STATES OF AMERICA, a citizen of UNITED STATES  
OF AMERICA;**

**TETSUO UNO, c/o NOVARTIS INSTITUTES FOR FUNCTIONAL GENOMICS, INC.,  
DBA GENOMICS INSTITUTE OF THE NOVARTIS RESEARCH FOUNDATION  
(GNF), 10675 JOHN JAY HOPKINS DRIVE, SAN DIEGO, CALIFORNIA 92121,  
UNITED STATES OF AMERICA, a citizen of JAPAN**

(hereinafter "Inventor(s)"), and **NOVARTIS INSTITUTE FOR FUNCTIONAL  
GENOMICS, INC., DBA GENOMICS INSTITUTE OF THE NOVARTIS RESEARCH  
FOUNDATION (GNF), 10675 JOHN JAY HOPKINS DRIVE, SAN DIEGO,  
CALIFORNIA 92121, UNITED STATES OF AMERICA** , a company organized under the  
laws of THE STATE 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 INSTITUTE FOR  
FUNCTIONAL GENOMICS, 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 INSTITUTE FOR FUNCTIONAL GENOMICS, 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

**ANTIBODY DRUG CONJUGATES FOR ABLATING HEMATOPOIETIC STEM CELLS**

and filed in the United States Patent and Trademark Office on 16 Jun, 2017 and accorded Application Number 62/520854 and/or filed as a PCT International Application on \_\_\_\_\_ and accorded International Patent Application Number PCT/\_\_\_\_\_;

(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 law of the State of Delaware.

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



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

\_\_\_\_\_  
**TETSUO UNO**

Witnessed by:

\_\_\_\_\_  
Name:  
Address: 10675 John Jay Hopkins Drive  
San Diego, California 92121

\_\_\_\_\_  
Name:  
Address: 10675 John Jay Hopkins Drive  
San Diego, California 92121

**NOVARTIS INSTITUTE FOR FUNCTIONAL GENOMICS, INC., dba Genomics**  
**Institute of the Novartis Research Foundation**

Executed this 13 day of October, 2017.

BY Julie McCarthy  
NAME: Julie McCarthy  
Authorized Signatory

Witnessed by:

J. Kalliaman  
Name: J. Kalliaman  
Address: 10675 John Jay Hopkins Drive  
San Diego, California 92121

Susan Sesnowicz  
Name: SUSAN SESNOWICZ  
Address: 10675 John Jay Hopkins Drive  
San Diego, California 92121



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laws of THE STATE 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 INSTITUTE FOR FUNCTIONAL GENOMICS, 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 INSTITUTE FOR FUNCTIONAL GENOMICS, 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

**ANTIBODY DRUG CONJUGATES FOR ABLATING HEMATOPOIETIC STEM CELLS**

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(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);

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

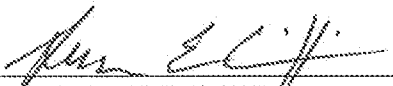
**ANTHONY EDWARD BOITANO**

Witnessed by:

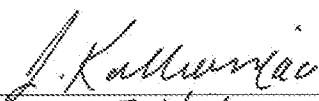
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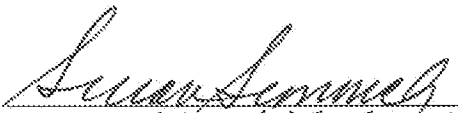
\_\_\_\_\_  
Name:  
Address:

Executed this 21<sup>st</sup> day of September, 2017.

  
\_\_\_\_\_  
**SUSAN E. CELLITTI**

Witnessed by:

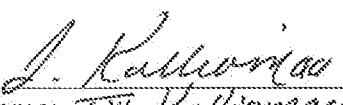
  
\_\_\_\_\_  
Name: J. T. Kalliomäki  
Address: 10675 John Jay Hopkins Drive  
San Diego, California 92121

  
\_\_\_\_\_  
Name: SUSAN SEMMICH  
Address: 10675 John Jay Hopkins Drive  
San Diego, California 92121

Executed this 21 day of September, 2017.

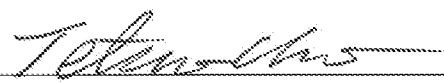
  
\_\_\_\_\_  
**HONGNGOC THI PHAM**

Witnessed by:

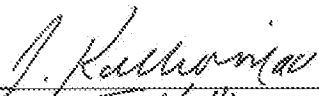
  
\_\_\_\_\_  
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\_\_\_\_\_  
Name: SUSAN SEMMICH  
Address: 10675 John Jay Hopkins Drive  
San Diego, California 92121

Executed this 21 day of September, 2017.

  
TETSUO UNO

Witnessed by:

  
Name: J. Kalliomäki  
Address: 10675 John Jay Hopkins Drive  
San Diego, California 92121

  
Name: SUSAN SEDOVITCH  
Address: 10675 John Jay Hopkins Drive  
San Diego, California 92121

NOVARTIS INSTITUTE FOR FUNCTIONAL GENOMICS, INC., dba Genomics  
Institute of the Novartis Research Foundation

Executed this 13 day of October, 20 17.

BY Julie McCarthy  
NAME: Julie McCarthy  
Authorized Signatory

Witnessed by:

J. Kallumaa  
Name: J. Kallumaa  
Address: 10675 John Jay Hopkins Drive  
San Diego, California 92121

Susan Semor  
Name: SUSAN SEMOR  
Address: 10675 John Jay Hopkins Drive  
San Diego, California 92121