

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT3359037

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
JOHN L. DIENER	03/11/2011
EMMA HICKMAN	03/16/2011
ANNE-MARIE PULICHINO	03/07/2011
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	NOVARTIS AG
<b>Street Address:</b>	LICHTSTRASSE 35
<b>City:</b>	BASEL
<b>State/Country:</b>	SWITZERLAND
<b>Postal Code:</b>	4056
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
Application Number:	14042924
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(617)871-3392
<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>	6178717917
<b>Email:</b>	beth.obrien@novartis.com
<b>Correspondent Name:</b>	NIBR
<b>Address Line 1:</b>	700 MAIN STREET
<b>Address Line 4:</b>	CAMBRIDGE, MASSACHUSETTS 02139
<b>ATTORNEY DOCKET NUMBER:</b>	PAT054121-US-DIV05
<b>NAME OF SUBMITTER:</b>	BETH O'BRIEN
<b>SIGNATURE:</b>	/Beth O'Brien/
<b>DATE SIGNED:</b>	05/19/2015
<b>Total Attachments: 10</b>	
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(joint)

Patent Case PAT054121

### ASSIGNMENT

For good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, we

John L. DIENER	citizen of United States of America	Novartis Institutes for BioMedical Research, Inc. 100 Technology Square Cambridge, MA 02139 USA
Emma HICKMAN	citizen of United Kingdom	Novartis Pharmaceuticals UK Limited Horsham Research Centre Wimblehurst Road GB- Horsham, West Sussex RH12 5AB UNITED KINGDOM
Anne-Marie PULICHINO	citizen of Canada	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 USA

do hereby sell, assign and transfer to Novartis AG, a company organized under the laws of the Swiss Confederation, of Lichtstrasse 35, 4056 Basel, Switzerland, (hereinafter referred to as the "ASSIGNEE") and its successors, assigns and legal representatives, all of my right, title and interest for all countries of the world in and to (1) all of my inventions and discoveries described in the patent application(s) titled

#### ORGANIC COMPOSITIONS TO TREAT BETA-ENaC-RELATED DISEASES

and filed in the United States Patent and Trademark Office on \_\_\_\_\_, 20\_\_ and accorded Application Number \_\_\_\_\_ \* and/or filed in the RO/\_\_\_\_ on \_\_\_\_\_, 20\_\_ and accorded International Patent Application Number PCT/\_\_\_\_\_\*, (2) the patent application(s) identified in (1), (3) all national stages of any international patent application identified in (1), (4) all other patent applications in all countries and regions claiming the priority of the provisional or non-provisional patent application filed in the United States Patent and Trademark Office on April 23, 2010 and accorded Application Number 61/327379 and filed in the United States Patent and Trademark Office on May 11, 2010 and accorded Application Number 61/333398, (5) for all patent applications, all rights of priority based upon the United States patent application identified in (4) in all countries and regions under the Paris Convention for the Protection of Industrial Property, 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 identified in (4) is a provisional patent application, under 35 USC 119(e) (including the right to file patent applications on said inventions and discoveries in the names of ASSIGNEE or their designees or in our names, at their election and in accordance with applicable law in all countries and regions), (6) all continuations and divisions of any United States patent application or international patent application designating the United States identified in (1), any national stages of any international application identified in (1) and any patent applications within the scope of (4) (including further continuations and divisions such as, but not limited to, continuations of continuations and continuations of divisions), ((2)-(4) and (6) hereinafter referred to collectively as "patent applications"), (7) all patents that are granted on any of said patent applications, (8) all registrations and confirmations of, and importation certificates based upon, one or more of said patents and applications for such registrations, confirmations and importation certificates and (9) all reissues, renewals and extensions of said patents, 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 and their successors, assigns and legal representatives to the full ends of the terms for which said patents, 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 us if this sale, assignment and transfer had not been made.

\*We hereby authorize **ASSIGNEE** and their representatives to insert in this Assignment the filing date(s) and Application Number(s) of said patent application(s) when notified thereof.

And we hereby covenant and agree that we will, at any time, (i) upon the request, but at the expense, of **ASSIGNEE** or their successors, assigns or legal representatives execute and deliver all documents that may be necessary or desirable to perfect the title to the foregoing inventions and discoveries, patent applications, patents, registrations, confirmations, importation certificates, reissues, renewals, extensions, reexamination certificates, supplementary protection certificates and applications within the scope of (8) and (9) in **ASSIGNEE** or their successors, assigns or legal representatives, 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** or their successors, assigns or legal representatives execute all additional patent applications within the scope of (3), (4) and (6) and all applications within the scope of (8) or (9) 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** or their successors, assigns or legal representatives.

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

Executed this 11 day of March, 2011.


  
\_\_\_\_\_  
John L. DIENER L.S.

**ACKNOWLEDGEMENT**

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

On this 11th day of March, 2011, personally appeared before me John Diener to me known and known by me to be the same person described in and who executed the foregoing Assignment and acknowledged that (s)he executed the same of his (her) own free will for the purpose set forth.

(Seal)

  
\_\_\_\_\_  
Notary Public  
Jessica N. Yoo  
Notary Public  
Commonwealth of Massachusetts  
My Commission Expires  
May 19, 2011

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

\_\_\_\_\_  
L.S.  
Emma HICKMAN

**ACKNOWLEDGEMENT**

State of \_\_\_\_\_ )  
                                          ) s.s.:  
County of \_\_\_\_\_ )

On this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, personally appeared before me \_\_\_\_\_ to me known and known by me to be the same person described in and who executed the foregoing Assignment and acknowledged that (s)he executed the same of his (her) own free will for the purpose set forth.

(Seal)

\_\_\_\_\_  
Notary Public

Executed this 7 day of March, 2011

\_\_\_\_\_  
L.S.  
Anne-Marie PULICHINO

**ACKNOWLEDGEMENT**

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

On this 7th day of March, 2011, personally appeared before me Anne Marie Pulichino to me known and known by me to be the same person described in and who executed the foregoing Assignment and acknowledged that (s)he executed the same of his (her) own free will for the purpose set forth.

(Seal)

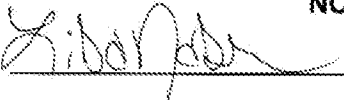

Jessica N. Yoo  
\_\_\_\_\_  
Notary Public  
Jessica N. Yoo  
Notary Public  
Commonwealth of Massachusetts  
My Commission Expires  
May 19, 2011

Case No. PAT054121

**ACCEPTANCE OF ASSIGNMENT**

With reference to the Assignment to **NOVARTIS AG** of an invention entitled "**ORGANIC COMPOSITIONS TO TREAT BETA-ENaC-RELATED DISEASES**" signed by John L. DIENER, Emma HICKMAN and Anne-Marie PULICHINO; this will certify that **NOVARTIS AG** accepts such Assignment.

**NOVARTIS AG**

By :		
Name :	<u>Lisa Nash</u>	<u>Nafra Bates</u>
Function :	<u>Authorized Signatory</u>	<u>Authorized Signatory</u>
Date:	<u>March 29, 2011</u>	

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

CIVIL CODE § 1189

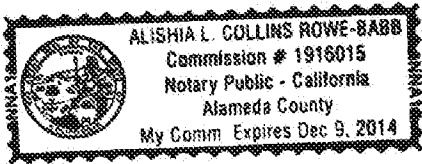
State of California

County of Alameda

On March 29, 2011 before me, Alishia L. Collins Rowe-Babb, Notary Public

personally appeared Lisa Nash and Nafesa Bates

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature: [Handwritten Signature] Signature of Notary Public

Place Notary Seal Above

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of Attached Document

Title or Type of Document:

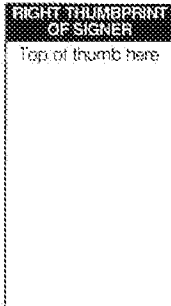
Document Date: Number of Pages:

Signer(s) Other Than Named Above:

Capacity(ies) Claimed by Signer(s)

Signer's Name:

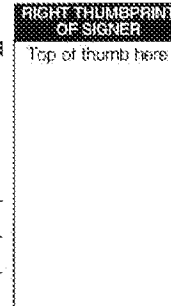
- Corporate Officer --- Title(s):
Individual
Partner --- Limited General
Attorney in Fact
Trustee
Guardian or Conservator
Other:



Signer Is Representing:

Signer's Name:

- Corporate Officer --- Title(s):
Individual
Partner --- Limited General
Attorney in Fact
Trustee
Guardian or Conservator
Other:



Signer Is Representing:

(joint)

Patent Case PAT054121

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For good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, we

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Emma HICKMAN	citizen of United Kingdom	Novartis Pharmaceuticals UK Limited Horsham Research Centre Wimblehurst Road GB- Horsham, West Sussex RH12 5AB UNITED KINGDOM
Anne-Marie PULICHINO	citizen of Canada	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 USA

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Executed this 16 day of mar, 2011

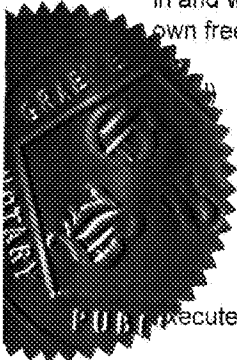
Emma Hickman L.S.  
Emma HICKMAN

**ACKNOWLEDGEMENT**

State of U.K. )  
County of WEST SUSSEX ) s.s.:

On this 16 day of MAR, 2011, personally appeared before me EMMA HICKMAN to me known and known by me to be the same person described in and who executed the foregoing Assignment and acknowledged that (s)he executed the same of his (her) own free will for the purpose set forth.

[Signature]  
Notary Public



Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_  
\_\_\_\_\_  
Anne-Marie PULICHINO L.S.

**ACKNOWLEDGEMENT**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) s.s.:

On this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, personally appeared before me \_\_\_\_\_ to me known and known by me to be the same person described in and who executed the foregoing Assignment and acknowledged that (s)he executed the same of his (her) own free will for the purpose set forth.

(Seal)

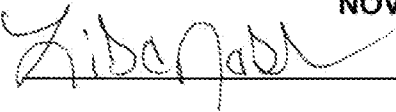
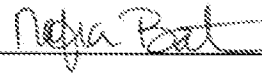
\_\_\_\_\_  
Notary Public

Case No. PAT054121

**ACCEPTANCE OF ASSIGNMENT**

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**NOVARTIS AG**

By :		
Name :	<u>Lisa Nash</u>	<u>Nafra Bates</u>
Function :	<u>Authorized Signatory</u>	<u>Authorized Signatory</u>
Date:	<u>March 29, 2011</u>	

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

CIVIL CODE § 1189

State of California

County of Alameda

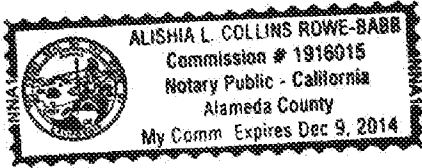
On March 27, 2011 before me, Alishia L. Collins Rowe-Babb, Notary Public

personally appeared Lisa Nash and Nafisa Bates

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.



Signature: Alishia L. Collins Rowe-Babb

Place Notary Seal Above

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of Attached Document

Title or Type of Document:

Document Date: Number of Pages:

Signer(s) Other Than Named Above:

Capacity(ies) Claimed by Signer(s)

Signer's Name:

Corporate Officer — Title(s):

Individual

Partner — Limited General

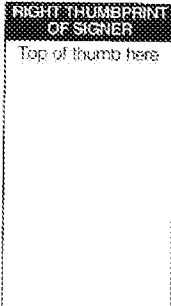
Attorney in Fact

Trustee

Guardian or Conservator

Other:

Signer Is Representing:



Signer's Name:

Corporate Officer — Title(s):

Individual

Partner — Limited General

Attorney in Fact

Trustee

Guardian or Conservator

Other:

Signer Is Representing:

