

PATENT ASSIGNMENT

Electronic Version v1.1
 Stylesheet Version v1.1

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>PAOLO COSTANTINO</td> <td>05/20/2013</td> </tr> <tr> <td>MARIA ROSARIA ROMANO</td> <td>05/23/2013</td> </tr> </tbody> </table>		Name	Execution Date	PAOLO COSTANTINO	05/20/2013	MARIA ROSARIA ROMANO	05/23/2013				
Name	Execution Date										
PAOLO COSTANTINO	05/20/2013										
MARIA ROSARIA ROMANO	05/23/2013										
RECEIVING PARTY DATA											
<table border="1"> <tr> <td>Name:</td> <td>NOVARTIS VACCINES AND DIAGNOSTICS SRL</td> </tr> <tr> <td>Street Address:</td> <td>VIA FIORENTINA 1</td> </tr> <tr> <td>City:</td> <td>SIENA</td> </tr> <tr> <td>State/Country:</td> <td>ITALY</td> </tr> <tr> <td>Postal Code:</td> <td>53100</td> </tr> </table>		Name:	NOVARTIS VACCINES AND DIAGNOSTICS SRL	Street Address:	VIA FIORENTINA 1	City:	SIENA	State/Country:	ITALY	Postal Code:	53100
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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>13670727</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	13670727						
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CORRESPONDENCE DATA											
<p>Fax Number: 5106553542 <i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i></p> <p>Phone: (510) 923-2192 Email: felicia.soria@novartis.com Correspondent Name: Helen Lee Address Line 1: 4560 Horton Street Address Line 2: IP Services M/S X-100B Address Line 4: Emeryville, CALIFORNIA 94608-2916</p>											
ATTORNEY DOCKET NUMBER:	PAT054803-US-NP										
NAME OF SUBMITTER:	Felicia Soria										
Signature:	/Felicia Soria/										
Date:	06/10/2013										

CH \$40.00 13670727

Total Attachments: 9

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RECORDATION FORM COVER SHEET
PATENTS ONLY

U.S. DEPARTMENT OF COMMERCE
U.S. Patent and Trademark Office

Atty Docket No.: PAT054803-US-NP

To the Director of Patents and Trademarks: Please record the attached original documents or copy thereof.

1. Name of conveying party(ies):

PAOLO COSTANTINO
MARIA ROSARIA ROMANO

Additional name(s) of conveying party(ies) attached? ☐ Yes ☒ No

3. Nature of conveyance:

- ☒ Assignment ☐ Merger
☐ Security Agreement ☐ Change of Name
☐ Joint Research Agreement ☐ Other _____
☐ Government Interest Assignment
☐ Executive Order 9424, Confirmatory License

Execution Date(s): 05/20/2013, 05/23/2013

2. Name and address of receiving party(ies)
Name:

NOVARTIS VACCINES AND DIAGNOSTICS SRL
Via Fiorentina 1
53100 Siena
ITALY

☐ Other

Additional name(s) & address(es) attached? ☐ Yes ☒ No

4. Application number(s) or patent number(s):

If this document is being filed together with a new application, the execution date of the application is: _____.

A. Patent Application No.(s)

13/670,727

B. Patent No.(s)

Additional number(s) attached ☐ Yes ☒ No

5. Name and address of party to whom correspondence
concerning document should be mailed:

NOVARTIS VACCINES AND DIAGNOSTICS, INC.
Corporate Intellectual Property – X 100B
P.O. Box 8097
Emeryville, CA 94662-8097

6. Total number of applications and patents involved 1

7. Total fee (37 CFR 3.41)..... \$40.00

- ☐ Enclosed
☒ Authorized to be charged to deposit account.

8. Deposit account number: **03-1664**

(Attach duplicate copy of this page if paying by deposit account)

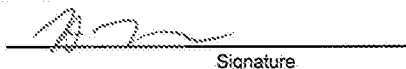
DO NOT USE THIS SPACE

9. Statement and signature.

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

Helen Lee, Reg. No. 39,270

Name of Person Signing

 Signature

10th June 2013 Date

Total number of pages including cover sheet, attachments, and document: 9

Documents to be recorded (including cover sheet) should be faxed to (571) 273-0140, or mailed to:
Mail Stop Assignment Recordation Services, Director of the USPTO, P.O. Box 1450, Alexandria, VA 22313-1450

ASSIGNMENT

This Assignment Agreement is entered into by and between Paolo Costantino, a citizen of Italy, and Maria Rosaria Romano, a citizen of Italy (hereinafter "Inventor(s)"), and NOVARTIS VACCINES AND DIAGNOSTICS S.r.l., Via Fiorentina 1, 53100, Siena, Italy, a company organized under the laws of Italy.

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 VACCINES AND DIAGNOSTICS S.r.l., 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 VACCINES AND DIAGNOSTICS S.r.l., 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

CARRIER MOLECULE
[Patent Case PAT054803-US-NP]

and filed in the United States Patent and Trademark Office on November 7, 2012 and accorded Application Number 13/670,727 and/or filed as a PCT International Application on _____ and accorded International Patent Application Number _____; and/or filed in the United States Patent and Trademark Office on _____ and accorded Application Number _____;

(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.

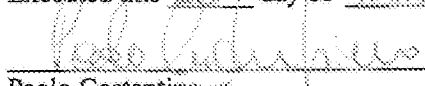
I/We the Inventor(s) hereby covenant and agree that I/We will, at any time, (i) upon the request, but at the expense, of ASSIGNEE, execute and deliver all documents that may be necessary or desirable to perfect the title to the foregoing inventions and discoveries, applications, patents, utility models,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

Executed this 20 day of MAY, 2013.



Paolo Costantino L.S.



Witness


Executed this _____ day of _____, 2013.

Maria Rosaria Romano L.S.

Witness

Executed this 05 day of JUNE, 2013.

NOVARTIS VACCINES AND DIAGNOSTICS S.r.l.

BY  L.S.
Stephen John Evans, Attorney-in-Fact


Witness

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This Assignment Agreement is entered into by and between Paolo Costantino, a citizen of Italy, and Maria Rosaria Romano, a citizen of Italy (hereinafter "Inventor(s)"), and NOVARTIS VACCINES AND DIAGNOSTICS S.r.l., Via Fiorentina 1, 53100, Siena, Italy, a company organized under the laws of Italy.

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 VACCINES AND DIAGNOSTICS S.r.l., 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 VACCINES AND DIAGNOSTICS S.r.l., 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

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CARRIER MOLECULE
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(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);

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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);

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

Executed this _____ day of _____, 2013.

Paolo Costantino L.S.

Witness

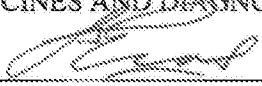
Executed this 23 day of MAY, 2013.


M. Romano
Maria Rosaria Romano L.S.

Witness

Executed this 05 day of JUNE, 2013.

NOVARTIS VACCINES AND DIAGNOSTICS S.r.l.

BY  L.S.
Stephen John Evans, Attorney-in-Fact



Witness