# 507072887 01/13/2022 PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT7119723

SUBMISSION TYPE:		NEW ASSIGNMENT		
NATURE OF CONVEYANCE:		ASSIGNMENT		
CONVEYING PARTY D	ΟΑΤΑ			
		Name	Execution Date	
NOVARTIS VACCINES	S AND DIAGI	NOSTICS, INC.	03/28/2013	
RECEIVING PARTY D	ΑΤΑ			
Name:	NOVARTI	NOVARTIS AG		
Street Address:	LICHTSTI	LICHTSTRASSE 36		
City:	BASEL			
State/Country:	SWITZER	SWITZERLAND		
Postal Code:	4056			
	<b> </b>			
PROPERTY NUMBERS				
Property Type	•	Number		
Application Number	140			
Application Number: CORRESPONDENCE		512541		
CORRESPONDENCE I Fax Number: <i>Correspondence will I</i>	DATA be sent to th f provided; i	512541 <b>The e-mail address first; if that is unsucces</b> <b>f that is unsuccessful, it will be sent via U</b> _cipkop@gsk.com		
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#### PATENT ASSIGNMENT

# Electronic Version v1.1

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NATURE OF CONVEYANCE:		ASSIGNMENT				
CONVEYING PARTY DATA						
Name Execution Date						
NOVARTIS VACCINES	S AND DIAGNOSTI	CS, INC.	03/28/2013			
RECEIVING PARTY DATA						
Name:	NOVARTIS AG					
Street Address:	LICHTSTRASSE 35					
City:	BASEL					
State/Country:	SWITZERLAND					
Postal Code:	4056					
PROPERTY NUMBERS Total: 1						
Property Type		Number	Number			
Application Number: 13808		08085				
CORRESPONDENCE DATA						
CORRESPONDENCE I	ATA					
CORRESPONDENCE I	DATA 5106553542					
Fax Number:	5106553542	hen the fax attempt is unsuccessful.				
Fax Number: <i>Correspondence will be</i> Phone:	5106553542 e <i>sent via US Mail</i> w (510) 923-21	92				
Fax Number: <i>Correspondence will be</i> Phone: Email:	5106553542 e <i>sent via US Mail v</i> (510) 923-21 felicia.soria@	-				
Fax Number: <i>Correspondence will be</i> Phone: Email: Correspondent Name:	5106553542 e <i>sent vía US Mail v</i> i (510) 923-21 felicia.soria@ Helen Lee	92 )novartis.com				
Fax Number: <i>Correspondence will be</i> Phone: Email: Correspondent Name: Address Line 1:	5106553542 e <i>sent via US Mail v</i> (510) 923-21 felicia.soria@ Helen Lee 4560 Horton	92 @novartis.com Street				
Fax Number: <i>Correspondence will be</i> Phone: Email: Correspondent Name:	5106553542 e <i>sent via US Mail vi</i> (510) 923-21 felicia.soria@ Helen Lee 4560 Horton IP Services N	92 @novartis.com Street				
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and the second se	ORM COVER SHEET U.S. DEPARTMENT OF COMMERCE U.S. Patent and Trademark Office
UNB NO. 0031-0027 (Exp. 0/50/2008)	Atty Docket No.: PAT054242-WO-PCT
To the Director of Patents and Trademarks: Pleas	e record the attached original documents or copy thereof.
	2. Name and address of receiving party(ies) Name: NOVARTIS AG Lichtstrasse 35 4056 Basel SWITZERLAND
Executive Order 9424, Confirmatory License	Other
Execution Date(s): 03/28/2013 4. Application number(s) or patent number(s):	Additional name(s) & address(es) attached? 🗌 Yes 🖾 No
If this document is being filed together with a new application, t A. Patent Application No.(s) PCT/US2011/043104 (now 13/808,085) Additional number(	B. Patent No.(s)
<ol> <li>Name and address of party to whom correspondence concerning document should be mailed:</li> </ol>	6. Total number of applications and patents involved
NOVARTIS VACCINES AND DIAGNOSTICS, INC. Corporate Intellectual Property – X 100B P.O. Box 8097 Emeryville, CA 94662-8097	<ul> <li>7. Total fee (37 CFR 3.41)</li></ul>
	(Attach duplicate copy of this page if paying by deposit account)
DO NOT L	I JSE THIS SPACE
<ol> <li>Statement and signature.</li> <li>To the best of my knowledge and belief, the foregoing is a true copy of the original document.</li> </ol>	
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	cover sheet, attachments, and document: 5
Documents to be recorded (including cover sheet) shoul Mail Stop Assignment Recordation Services, Director of the US	d be faxed to (571) 273-0140, or mailed to: PTO, P.O. Box 1450, Alexandria, VA 22313-1450

PATENT REEL: 058644 FRAME: 0283

#### ASSIGNMENT

This Assignment Agreement is entered into by and between NOVARTIS VACCINES AND DIAGNOSTICS, INC, 4560 Horton Street, Emeryville, California 94608, a company organized under the laws of the State of Delaware, and NOVARTIS AG, a company incorporated in Switzerland whose address is Lichtstrasse 35, 4056 Basel, Switzerland.

For good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, NOVARTIS VACCINES AND DIAGNOSTICS, INC does hereby sell, assign and transfer to NOVARTIS AG and its successors, assigns and legal representatives (hereinafter referred to collectively as the "ASSIGNEE"), all of its right, title and interest for all countries of the world in and to

(1) all inventions and discoveries described in the provisional or non-provisional patent application(s) entitled

## **DELIVERY OF RNA TO TRIGGER MULTIPLE IMMUNE PATHWAYS** [Patent Case PAT054242-WO-PCT]

and filed in the United States Patent and Trademark Office on \_\_\_\_\_\_, 2013 and accorded Application Number \_\_\_\_\_\_ and/or filed as a PCT International Application on July 6, 2011 and accorded International Patent Application Number <u>PCT/US2011/043104</u>; 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 on behalf or in the name(s) of the inventor(s) of said inventions and discoveries, 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);

## PATENT REEL: 058644 FRAME: 0284

(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 NOVARTIS VACCINES AND DIAGNOSTICS, INC if this sale, assignment and transfer had not been made.

NOVARTIS VACCINES AND DIAGNOSTICS, INC hereby authorizes 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.

NOVARTIS VACCINES AND DIAGNOSTICS, INC hereby covenants and agrees that it 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 Switzerland.

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

Executed this \_\_\_\_\_ day of \_\_\_\_\_\_,2013.

NOVARTIS VACCINES AND DIAGNOSTICS, INC.

BY // L.S. Helen Lee, Assistant Secretary

)

State of California

County of Alameda )

On <u>3/28/2013</u> before me, <u>Nafra M. Entes</u> Notary Public, personally appeared <u>Helen Lee</u>, who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that she executed the same in her authorized capacity, and that by her signature on the instrument the person, or the entity upon behalf of which the person 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.

Jaha N Bat Signature of Notary Public

Print Name: Natra M. Bates

My commission expires:



Executed this <u>28th</u> day of <u>March</u>, 2013.

NOVARTIS AG

BY \_\_\_\_\_\_L.S. Authorized Representative Are; Howy

Felica: Soria Witness

Executed this <u>28</u> day of <u>March</u>, 2013.

NOVARTIS AG

BY ULL CH in Babb L.S. Authorized Representative Alishia Collins Rowe Babb

\_\_\_\_\_\_ Felixán Soria