PATENT ASSIGNMENT

Electronic Version v1.1 Stylesheet Version v1.1

SUBMISSION TYPI	E.		NEW ASSIGNMENT			
NATURE OF CONVEYANCE:			ASSIGNMENT			
CONVEYING PART	TY DATA					
		1	lame		Execution Date	٦
Harald RUECKL					02/04/2011	
Hanno SCHEFFCZ	ZIK				03/11/2011	
RECEIVING PART	Y DATA					
[٦
Name:		Novartis Vaccines and Diagnostics GmbH				
Street Address:		Emil-von-Behring Strasse 76				
City:	Marburg	GERMANY				
State/Country:		35041				
Postal Code: 35041						
PROPERTY NUMB	ERS Total: 2					
Property Type				Number		٦
Application Number:		12028	12928165			
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CORRESPONDEN	CE DATA					
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Fax Number:	(510)65 // ho cont via		hen the fax attempt is un	successful		
Email:			•	Successiui.		
Email:diana-1.castillo@novartis.comCorrespondent Name:Novartis Vaccines and Diagnostics, Inc.						
Address Line 1: 4560 Horton Street, MS X-100B						
Address Line 4:			LIFORNIA 94608-2916			
ATTORNEY DOCKET NUMBER:			PAT053948-US-NP			
NAME OF SUBMIT	NAME OF SUBMITTER:					
			Helen Lee			
Total Attachments:						
source=53948-US-I source=53948-US-I		-				
source=53948-US-1		-				
		0,200			PATENT	

ASSIGNMENT

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

Harald RUECKL and Hanno SCHEFFCZIK

do hereby sell, assign and transfer to **Novartis Vaccines and Diagnostics GmbH**, Emil-von-Behring Strasse 76, Marburg, Germany 35041 (hereinafter referred to as the "**ASSIGNEE**") and its successors, assigns and legal representatives, all our right, title and interest for all countries of the world in and to (1) all of our inventions and discoveries described in the patent application(s) entitled

IMPROVED METHODS FOR PRODUCING VACCINES

filed in the United States on December 3, 2010, and accorded Application Number 12/928,165 (2) said patent applications in all countries and regions claiming the priority of the United States patent application filed on December 3, 2009 and accorded Application Number 61/283,548 and (3) all continuations and divisions of all of said patent applications (including further continuations and divisions such as, but not limited to, continuations of continuations and continuations of divisions), ((2)-(3) hereinafter referred to collectively as "patent applications"), (4) all patents that are granted on any of said patent applications, (5) all registrations and confirmations of, and importation certificates based on, one or more of said patents and (6) all reissues, renewals and extensions of said patents, reexamination certificates issued for said patents and supplementary protection certificates based on said patents (including the right to file patent applications on said inventions and discoveries in the names of ASSIGNEE, their designees or in any or all of our names, at their election and in accordance with applicable law in all countries and regions and all rights of priority in all countries and regions for all of said patent applications under the International Convention for the Protection of Industrial Property, and all other applicable similar international agreements), the same to be held and enjoyed by said ASSIGNEE, their successors, assigns and legal representatives, to the full ends of the terms for which all patents therefor 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 instrument the Application Number and the filing date of said patent application when notified thereof.

And we hereby covenant and agree that we will, at any time, upon the request and 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, patent applications, patents, registrations, confirmations, importation certificates, reissues, renewals, extensions, reexamination certificates and supplementary protection 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, that we will, at any time, upon the request and at the expense of **ASSIGNEE**, execute all additional patent applications, applications for registration and/or confirmation of one or more of said patents, applications for certificates of importation based on one or more of said patents, applications and extensions of one or more of said patents and supplemental protection certificates based upon one or more of said patents, and that we will 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**, the successors, assigns or other legal representatives.

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

Executed this <u>A4</u> day of <u>February</u>, 2011.

Name: Harald RUECKL

Und Un Christiane Willmann

<u>siste Analle Muschon</u>

Witness:

Executed this _____ day of _____, 2011.

Name: Hanno SCHEFFCZIK

Witness:

Witness:

ASSIGNMENT

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Harald RUECKL and Hanno SCHEFFCZIK

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IMPROVED METHODS FOR PRODUCING VACCINES

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

Executed this _____ day of _____, 2011.

Name: Harald RUECKL

Witness:

Witness:

Executed this 11 day of March , 2011.

Name: Hanno SCHEFFCZIK

Witness:

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G. Munter Witness: Genz Schmit Home & 6

PATENT REEL: 025976 FRAME: 0040

RECORDED: 03/17/2011