

## PATENT ASSIGNMENT

Electronic Version v1.1  
 Stylesheet Version v1.1

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
Maninder HORA	02/05/2013
RECEIVING PARTY DATA	
Name:	Novartis Vaccines and Diagnostics, Inc.
Street Address:	4560 Horton Street
City:	Emeryville
State/Country:	CALIFORNIA
Postal Code:	94608
PROPERTY NUMBERS Total: 1	
Property Type	Number
Application Number:	13696591
CORRESPONDENCE DATA	
Fax Number:	5106553542
<i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i>	
Email:	diana-1.castillo@novartis.com
Correspondent Name:	Novartis Vaccines and Diagnostic, Inc.
Address Line 1:	4560 Horton Street
Address Line 2:	IP Services M/S X-100B
Address Line 4:	Emeryville, CALIFORNIA 94608-2916
ATTORNEY DOCKET NUMBER:	PAT054183-US-PCT
NAME OF SUBMITTER:	Helen Lee
Signature:	/Helen Lee, Reg. No. 39,270/
Date:	08/29/2013
Total Attachments: 5 source=PAT054183-US-PCT ASG INC-Inv#page1.tif source=PAT054183-US-PCT ASG INC-Inv#page2.tif source=PAT054183-US-PCT ASG INC-Inv#page3.tif source=PAT054183-US-PCT ASG INC-Inv#page4.tif source=PAT054183-US-PCT ASG INC-Inv#page5.tif	

CH \$40.00 13696591

## ASSIGNMENT

This Assignment Agreement is entered into by and between Maninder HORA, c/o NOVARTIS VACCINES AND DIAGNOSTICS, INC., 4560 Horton Street, Emeryville, California 94608, a citizen of the United States of America hereinafter "Inventor(s)", and NOVARTIS VACCINES AND DIAGNOSTICS, INC., 4560 Horton Street, Emeryville, California 94608, 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 VACCINES AND DIAGNOSTICS, 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 VACCINES AND DIAGNOSTICS, 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

### IMPROVED METHODS FOR PREPARING SQUALENE

Patent Case No. PAT054183-US-PCT

and filed in the United States Patent and Trademark Office on May 12, 2011, and accorded Application Number 13/696,591 and/or filed as a PCT International Application on May 12, 2011, and accorded International Patent Application Number PCT/IB2011/001397; and/or filed in the United States Patent and Trademark Office on May 12, 2010, and accorded Application Number 61/395,448;

(1) all of our inventions and discoveries described in the provisional or non-provisional patent, utility model, or other application(s) entitled

(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 laws of the State of Delaware.

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

Executed this 5<sup>th</sup> day of February, 2013 .

Maninder HORA L.S.

State of California )  
 )  
 County of Alameda )  
San Francisco

On February 5, 2013 before me, Tanya M. Lecha, Notary Public, personally appeared Maninder HORA, 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.

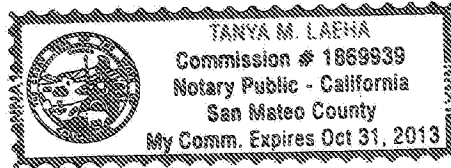
I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Tanya M. Laeha

Signature of Notary Public

Print Name: Tanya M. Laeha



My commission expires: 10/31/2013

Executed this 21<sup>st</sup> day of February, 2013 .

NOVARTIS VACCINES AND DIAGNOSTICS, INC.

BY Nofra Bates Nofra Bates L.S.

Diana R. Castillo  
Witness Diana R. Castillo

NOVARTIS VACCINES AND DIAGNOSTICS, INC.

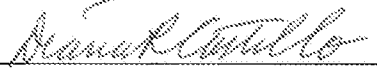
BY \_\_\_\_\_ L.S.

\_\_\_\_\_  
Witness

Executed this 21 day of February, 2013 .

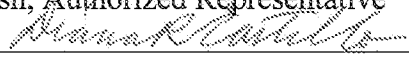
NOVARTIS AG

BY  L.S.  
Melodi Dice, Authorized Representative

  
Diana R. Castillo, Witness

NOVARTIS AG

BY  L.S.  
Lisa Nash, Authorized Representative

  
Diana R. Castillo, Witness