

PATENT ASSIGNMENT

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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>Harald RUECKL</td> <td>07/17/2012</td> </tr> <tr> <td>Hanno SCHEFFCZIK</td> <td>07/25/2012</td> </tr> <tr> <td>Barbara SANTRY</td> <td>07/17/2012</td> </tr> </tbody> </table>		Name	Execution Date	Harald RUECKL	07/17/2012	Hanno SCHEFFCZIK	07/25/2012	Barbara SANTRY	07/17/2012		
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RECEIVING PARTY DATA											
<table border="1"> <tr> <td>Name:</td> <td>Novartis Vaccines and Diagnostics GmbH</td> </tr> <tr> <td>Street Address:</td> <td>Emil-von-Behring Strasse, 76</td> </tr> <tr> <td>City:</td> <td>Marburg</td> </tr> <tr> <td>State/Country:</td> <td>GERMANY</td> </tr> <tr> <td>Postal Code:</td> <td>35041</td> </tr> </table>		Name:	Novartis Vaccines and Diagnostics GmbH	Street Address:	Emil-von-Behring Strasse, 76	City:	Marburg	State/Country:	GERMANY	Postal Code:	35041
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PROPERTY NUMBERS Total: 3											
<table border="1"> <thead> <tr> <th>Property Type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>Application Number:</td> <td>13513560</td> </tr> <tr> <td>Application Number:</td> <td>12928165</td> </tr> <tr> <td>Application Number:</td> <td>61283548</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	13513560	Application Number:	12928165	Application Number:	61283548		
Property Type	Number										
Application Number:	13513560										
Application Number:	12928165										
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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:	PAT053948-US-PCT										
NAME OF SUBMITTER:	Helen Lee										

CH \$120.00 13513560

Total Attachments: 6

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ASSIGNMENT

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

Harald RUECKL, Hanno SCHEFFCZIK, and Barbara SANTRY

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

ARRANGING INTERACTION AND BACK PRESSURE CHAMBERS FOR MICROFLUIDIZATION

filed* in the RO/IB on December 3, 2010, and accorded International Patent Application Number PCT/IB2010/003390, (2) said patent application(s), (3) all national stages of said international patent application, (4) all other patent applications in all countries and regions claiming the priority of the United States Of America patent application filed on December 3, 2010, and accorded Application Number 13/513,560, and the United States Of America patent application filed on December 3, 2010, and accorded Application Number 12/928,165, and the United States Of America patent application filed on December 3, 2009, and accorded Application Number 61/283,548 (5) 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)-(5) hereinafter referred to collectively as "patent applications"), (6) all patents that are granted on any of said patent applications, (7) all registrations and confirmations of, and importation certificates based on, one or more of said patents and (8) 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.

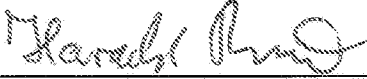
And we hereby covenant and agree that we will, at any time, upon the request and at the expense of **ASSIGNEE**, execute and deliver all documents that may be necessary or desirable to perfect the title to the foregoing inventions and discoveries, patent applications, patents, registrations, confirmations, importation certificates, reissues, renewals, extensions, reexamination certificates and supplementary protection certificates in **ASSIGNEE**, their successors, assigns or other 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, 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 for reissues, renewals 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.

PATENT

REEL: 029367 FRAME: 0672

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

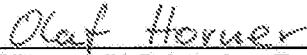
Executed this 17 day of July, 2012.



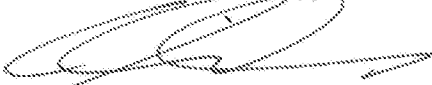
Name: Harald RUECKL



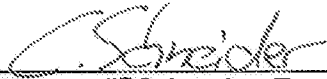
Witness #1 Signature



Witness #1 Printed or Typed Name



Witness #2 Signature:



Witness #2 Printed or Typed Name

Executed this _____ day of _____, 2012.

Name: Hanno SCHEFFCZIK

Witness #1 Signature

Witness #1 Printed or Typed Name

Witness #2 Signature:

Witness #1 Printed or Typed Name

Executed this _____ day of _____, 2012.

Name: Barbara SANTRY

Witness #1 Signature

Witness #1 Printed or Typed Name

Witness #2 Signature:

Witness #1 Printed or Typed Name

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PATENT

REEL: 029367 FRAME: 0675

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

Executed this _____ day of _____, 2012.

Name: Harald RUECKL

Witness #1 Signature

Witness #1 Printed or Typed Name

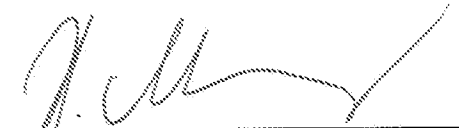
Witness #2 Signature:

Witness #1 Printed or Typed Name

Executed this 25th day of July, 2012.



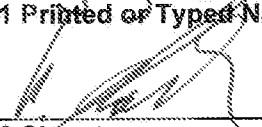
Name: Hanne SCHEFFCZIK



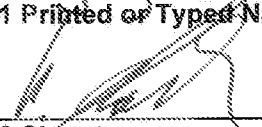
Witness #1 Signature



Witness #1 Printed or Typed Name



Witness #2 Signature:





Witness #1 Printed or Typed Name


Executed this 17 day of JULY, 2012.


Name: Barbara SANTRY


Witness #1 Signature


Witness #1 Printed or Typed Name


Witness #2 Signature:


Witness #1 Printed or Typed Name