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PATENT ASSIGNMENT

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
Bjoern KEINER	09/14/2012

RECEIVING PARTY DATA

Name:	Novartis Vaccines and Diagnostics GmbH
Street Address:	Emil-von-Behring Strasse, 76
City:	Marburg
State/Country:	GERMANY
Postal Code:	35041

PROPERTY NUMBERS Total: 3

Property Type	Number
Application Number:	13503353
Application Number:	61279487
PCT Number:	IB1054752

CORRESPONDENCE DATA

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Correspondence will be sent via US Mail when the fax attempt is unsuccessful.

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ATTORNEY DOCKET NUMBER: PAT053879-US-PCT

NAME OF SUBMITTER: Helen Lee

Total Attachments: 2

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REEL: 029152 FRAME: 0831

ASSIGNMENT

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

Bjoern KEINER

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

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filed* in the RO/IB on October 20, 2010, and accorded International Patent Application Number PCT PCT/IB2010/054752 (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 October 20, 2010 and accorded Application Number 13/503,353 United States Of America, patent application filed on October 20, 2009 and accorded Application Number 61/279,487 (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 Assignment the filing date(s) and Application Number(s) of said patent application(s) when notified thereof.

And we hereby covenant and agree that we will, at any time, (i) upon the request, but at the expense, of ASSIGNEE or their successors, assigns or legal representatives 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, supplementary protection certificates and applications within the scope of (8) and (9) in ASSIGNEE or their successors, assigns or 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, (ii) upon the request, but at the expense, of ASSIGNEE or their successors, assigns or legal representatives execute all additional patent applications within the scope of (3), (4) and (6) and all applications within the scope of (8) or (9) 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 or their successors, assigns or legal representatives.

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

Executed this /// day of /// 2012.

Name: Bjoern KEINER

WITNESS #1 Signature

WITNESS #1 Printed or Typed Name

WITNESS #2 Signature

RECORDED: 10/18/2012

PATENT REEL: 029152 FRAME: 0833