

PATENT ASSIGNMENT COVER SHEET

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Stylesheet Version v1.2

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
EVA ALTMANN	11/29/2012
STEPHANIE FLOHR	11/30/2012
ULRICH HOMMEL	12/10/2012
EDWIGE LILIANE JEANNE LORTHIOIS	11/30/2012
JUERGEN KLAUS MAIBAUM	11/30/2012
NILS OSTERMANN	12/10/2012
JEAN QUANCARD	11/30/2012
ANNA VULPETTI	12/12/2012
RECEIVING PARTY DATA	
Name:	NOVARTIS PHARMA AG
Street Address:	LICHTSTRASSE 35
City:	BASEL
State/Country:	SWITZERLAND
Postal Code:	4056
PROPERTY NUMBERS Total: 1	
Property Type	Number
Application Number:	14409911
CORRESPONDENCE DATA	
Fax Number:	
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.</i>	
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Correspondent Name:	KATHLEEN M. DRURY
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Address Line 4:	CAMBRIDGE, MASSACHUSETTS 02139
ATTORNEY DOCKET NUMBER:	PAT055181-US-PCT
NAME OF SUBMITTER:	KATHLEEN M. DRURY
SIGNATURE:	/Kathleen M. Drury/
DATE SIGNED:	04/12/2016

Total Attachments: 8

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ASSIGNMENT

This Assignment Agreement is entered into by and between

Eva ALTMANN	citizen of Switzerland	Novartis Pharma AG Postfach 4002 Basel Switzerland
Stefanie FLOHR	citizen of Germany	Novartis Pharma AG Postfach 4002 Basel Switzerland
Ulrich HOMMEL	citizen of Germany	Novartis Pharma AG Postfach 4002 Basel Switzerland
Edwige Liliane Jeanne LORTHIOIS	citizen of France	Novartis Pharma AG Postfach 4002 Basel Switzerland
Juergen Klaus MAIBAUM	citizen of Germany	Novartis Pharma AG Postfach 4002 Basel Switzerland
Nils OSTERMANN	citizen of Germany	Novartis Pharma AG Postfach 4002 Basel Switzerland
Jean QUANCARD	citizen of France	Novartis Pharma AG Postfach 4002 Basel Switzerland
Stefan Andreas RANDL	citizen of Germany	Karl-Stieler-Straße 9 60320 Frankfurt am Main Germany
Olivier ROGEL (DECEASED)	citizen of France	Novartis Pharma AG Postfach 4002 Basel Switzerland

Anna VULPETTI	citizen of Italy	Novartis Pharma AG
		Postfach
		4002 Basel
		Switzerland

(hereinafter "Inventor(s)"), and **NOVARTIS PHARMA AG**, Lichtstrasse 35, 4056 Basel, Switzerland, a company organized under the laws of Switzerland.

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 PHARMA AG** 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 PHARMA AG** 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

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

COMPLEMENT PATHWAY MODULATORS AND USES THEREOF

[PAT055181]

and filed in the to be determined Office on to be determined and accorded Application Number to be determined and/or filed as a PCT International Application on to be determined and accorded International Patent Application Number PCT/to be determined; and/or filed in the United States Patent and Trademark Office on **28 June 2012** and accorded Application Number **61/665,479**.

(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.

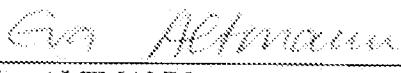
I/We the Inventor(s) hereby covenant and agree that I/We will, at any time, (i) upon the request, but at the expense, of ASSIGNEE, execute and deliver all documents that may be necessary or desirable to perfect the title to the foregoing inventions and discoveries, applications, patents, utility models, 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 .

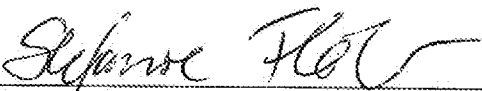
Should any provision of this Assignment be deemed invalid or unenforceable by reason of any law, statute, regulation or judgment, existing now or in the future in any jurisdiction, such provision shall be modified in such jurisdiction so as to nearly approximate the intent of the Parties. If this cannot 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 is effective as from the earliest priority date as stated above.

Executed this 29th day of November, 2012.

BY  L.S.
Eva ALTMANN

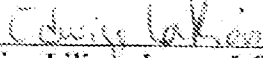
Executed this 30th day of November, 2012.

BY  L.S.
Stefani FLOHR

Executed this 10th day of December, 2012.

BY  L.S.
Ulrich HOMMEL

Executed this 30 day of November, 2012.

BY  L.S.
Edwige Lilliané Jeanne LORTHIOIS

Executed this 30 day of November, 2012.

BY  L.S.
Juergen Klaus MAIBAUM

Executed this 10 day of December, 2012.

BY  L.S.
Nils OSTERMANN

Executed this 10th day of November, 2012.

BY  L.S.
Jean QUANCARD

Executed this _____ day of _____, 20____.

BY _____ L.S.
Stefan Andreas RANDL

Executed this _____ day of _____, 20 ____.

BY _____ L.S.

Dr. Veronique Stark-Rogel, Legal Representative for Olivier ROGEL (deceased)
(see attachments)

Executed this 12 day of December, 2012.

BY *Anna Vulpetti* L.S.
Anna VULPETTI


Executed this 14th day of August, 2013

NOVARTIS PHARMA AG

BY  L.S.

Sabine Zeller
Authorized signatory

NOVARTIS PHARMA AG

BY  L.S.

Reto Halbeisen
Authorized signatory

Attestation

I, the undersigned Civil Law Notary in Basel, Switzerland, Dr. Matthias Staehelin, certify herewith that the signatures attached heretofore are the genuine signatures of **Ms. Eva Altmann**, citizen of Buus/BL, Switzerland, residing in Reinach/BL, Switzerland; and of **Ms. Stefanie Annette Flohr**, German citizen, residing in Reinach/BL, Switzerland; and of **Mr. Ulrich Hommel**, German citizen, residing in Müllheim, Germany; and of **Ms. Edwige Liliane Jeanne Lorthiois**, French citizen, residing in Niffer, France; and of **Mr. Jürgen Klaus Maibaum**, German citizen, residing in Weil-Haltingen, Germany; and of **Mr. Nils Ostermann**, German citizen, residing in Binzen, Germany; and of **Mr. Jean Bernard Quancard**, French citizen, residing in Huningue, France; and of **Ms. Anna Vulpetti**, Italian citizen, residing in Basel, Switzerland.

Further I certify herewith that the signatures attached heretofore are the genuine signatures of **Mr. Reto Halbeisen**, citizen of Wahlen/BL, Switzerland, residing in Basel, Switzerland; and of **Ms. Sabine Zeller**, citizen of Ormalingen, Switzerland, residing in Gelterkinden, Switzerland; both acting for **Novartis Pharma AG**, in Basel, Switzerland, both as proxy holders and both with joint signature.

The authenticity of the signatures was established by means of comparison.

BASEL, Switzerland, this 7th (seventh) day of February 2013 (two thousand and thirteen)

M. Staehelin, Notar

Dr. M. Staehelin
Notar

Leg.Prot.Nr. 160 /2013