

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT7957496

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
KAMLESH JAGDIS BALA	05/13/2015
ANDREW BREARLEY	09/11/2014
JAMES DALE	04/02/2015
ANNE-MARIE EDWARDS	04/14/2015
MAHBUB AHMED	10/05/2014
DAVID PORTER	03/17/2015
LISA ANN ROONEY	03/25/2015
DAVID ANDREW SANDHAM	09/09/2014
DUNCAN SHAW	09/09/2014
NICHOLA SMITH	09/09/2014
JESSICA LOUISE TAYLOR	07/15/2015
ROGER JOHN TAYLOR	04/09/2015
JOE WRIGGLESWORTH	09/13/2014
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	NOVARTIS PHARMACEUTICALS UK LIMITED
<b>Street Address:</b>	FRIMLEY BUSINESS PARK
<b>Internal Address:</b>	FRIMLEY, CAMBERLEY
<b>City:</b>	SURREY
<b>State/Country:</b>	UNITED KINGDOM
<b>Postal Code:</b>	GU16 7SR
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	17089064
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(617)871-3392
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**Correspondent Name:** DIANA MABRY  
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**ATTORNEY DOCKET NUMBER:** PAT056179-US-CNT04

**NAME OF SUBMITTER:** DIANA MABRY

**SIGNATURE:** /Diana Mabry/

**DATE SIGNED:** 05/17/2023

**Total Attachments: 88**

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## ASSIGNMENT

This Assignment Agreement is entered into by and between Kamlesh Jagdis BALA citizen of United Kingdom; Andrew BREARLEY citizen of United Kingdom ;James DALE citizen of United Kingdom; Anne-Marie D'SOUZA citizen of United Kingdom; Mahbub AHMED citizen of United Kingdom; David PORTER citizen of United Kingdom; Lisa Ann ROONEY citizen of Australia; David Andrew SANDHAM citizen of United Kingdom; Duncan SHAW citizen of UK; Nichola SMITH citizen of United Kingdom; Jessica Louise TAYLOR citizen of United Kingdom; Roger John TAYLOR citizen of United Kingdom; Joe WRIGGLESWORTH citizen of United Kingdom; c/o Novartis Pharmaceuticals UK Limited, Frimley Business Park, Frimley, Camberley, Surrey GU16 7SR, UK, (hereinafter "Inventor(s)"), and **NOVARTIS PHARMACEUTICALS UK LIMITED**, Frimley Business Park, Frimley, Camberley, Surrey GU16 7SR, UK, a company organized under the laws of Great Britain.

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 PHARMACEUTICALS UK LIMITED** 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 PHARMACEUTICALS UK LIMITED** 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

### **CARBOXAMIDE DERIVATIVES**

(Patent reference: PAT056179)

and filed in the European Patent Office on 14 May 2014 and accorded Application Number **14168303.7** and/or filed as a PCT International Application on \_\_\_\_\_, 20\_\_\_\_ and accorded International Patent Application Number PCT/\_\_\_\_\_; and/or filed in the United States Patent and Trademark Office on \_\_\_\_\_, 20\_\_\_\_ and accorded Application Number \_\_\_\_\_;

(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 13<sup>th</sup> day of MAY, 2015.

BY KJBala L.S.  
Kamlesh Jagdis BALA

Witnessed by:

[Signature]  
Name: RYAN WEST  
Address: 7 MULBERRY CLOSE,  
HORSHAM,  
WEST SUSSEX  
RH12 2NH

[Signature]  
Name: ALESSANDRO MAZZACANI  
Address: 348 DITCHLING Rd  
BRIGHTON  
BN1 6JG  
UK

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Andrew BREARLEY

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
James DALE

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

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Name:  
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Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Anne-Marie D'SOUZA

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

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Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Mahbub AHMED

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

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Name:  
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Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
David PORTER

Witnessed by:

\_\_\_\_\_  
Name:  
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Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Lisa Ann ROONEY

Witnessed by:

\_\_\_\_\_  
Name:  
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Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
David Andrew SANDHAM

Witnessed by:

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Name:  
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Name:  
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Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Duncan SHAW

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

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Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Nichola SMITH

Witnessed by:

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Name:  
Address:

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Name:  
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Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Jessica Louise TAYLOR

Witnessed by:

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Name:  
Address:

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Name:  
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Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Roger John TAYLOR

Witnessed by:

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Name:  
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Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Joe WRIGGLESWORTH


Witnessed by:

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Name:  
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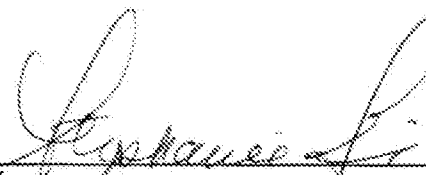
**NOVARTIS PHARMACEUTICALS UK LIMITED**

Executed this 20th day of July, 2012.

BY  L.S.  
Name: SIMONE CYRIVAN  
Title: Authorized Signatory

Witnessed by:

  
Name: **Stephen Wolfolds**  
Address: **700 Main Street  
Cambridge, MA 02139**

  
Name: **Stephanie Geis**  
Address: **700 Main Street  
Cambridge, MA 02139**

## ASSIGNMENT

This Assignment Agreement is entered into by and between Kamlesh Jagdis BALA citizen of United Kingdom; Andrew BREARLEY citizen of United Kingdom; James DALE citizen of United Kingdom; Anne-Marie D'SOUZA citizen of United Kingdom; Ahmed MAHBUB citizen of United Kingdom; David PORTER citizen of United Kingdom; Lisa Ann ROONEY citizen of Australia; David Andrew SANDHAM citizen of United Kingdom; Duncan SHAW citizen of UK; Nichola SMITH citizen of United Kingdom; Jessica Louise TAYLOR citizen of United Kingdom; Roger John TAYLOR citizen of United Kingdom; Joe WRIGGLESWORTH citizen of United Kingdom; c/o Novartis Pharmaceuticals UK Limited, Frimley Business Park, Frimley, Camberley, Surrey GU16 7SR, UK, (hereinafter "Inventor(s)"), and **NOVARTIS PHARMACEUTICALS UK LIMITED**, Frimley Business Park, Frimley, Camberley, Surrey GU16 7SR, UK, a company organized under the laws of Great Britain.

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 PHARMACEUTICALS UK LIMITED** 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 PHARMACEUTICALS UK LIMITED** 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

### CARBOXAMIDE DERIVATIVES

(Patent reference: PAT056179)

and filed in the **European Patent Office** on **14 May 2014** and accorded Application Number **14168303.7** and/or filed as a PCT International Application on \_\_\_\_\_, 20\_\_\_\_ and accorded International Patent Application Number **PCT/**\_\_\_\_\_; and/or filed in the **United States Patent and Trademark Office** on \_\_\_\_\_, 20\_\_\_\_ and accorded Application Number \_\_\_\_\_;

(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.

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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 .

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

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Kamlesh Jagdis BALA

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

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Name:  
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Executed this 11 day of September 2014.

BY [Signature] L.S.  
Andrew BREARLEY

Witnessed by:

[Signature]  
Name: DANIEL CLARK FLEM  
Address: 1 KELLY WAY  
LETONHRS REGIS  
WANTSAC  
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OX12 9ST

[Signature]  
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Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
James DALE

Witnessed by:

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Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Anne-Marie D'SOUZA

Witnessed by:

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Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Ahmed MAHBUB

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Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
David PORTER

Witnessed by:

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Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Lisa Ann ROONEY

Witnessed by:

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Name:  
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Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
David Andrew SANDHAM

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Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Duncan SHAW

Witnessed by:

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Name:  
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Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Nichola SMITH

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Jessica Louise TAYLOR

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Roger John TAYLOR

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Joe WRIGGLESWORTH

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

NOVARTIS PHARMACEUTICALS UK LIMITED

Executed this 7th day of July, 2015

BY [Signature] L.S.

Name: Silvia Arescher

Title: Authorized Signatory

Witnessed by:

[Signature]

Name: **Silvia Arescher**  
Address: **Lichtstrasse 35  
4056 Basel  
Switzerland**

[Signature]

Name: **Maria J. Franco Martins**  
Address: **Lichtstrasse 35  
4056 Basel  
Switzerland**

## ASSIGNMENT

This Assignment Agreement is entered into by and between Kamlesh Jagdis BALA citizen of United Kingdom; Andrew BREARLEY citizen of ~~UK~~ ; James DALE citizen of United Kingdom; Anne-Marie D'SOUZA citizen of United Kingdom; Mahbub AHMED citizen of United Kingdom; David PORTER citizen of United Kingdom; Lisa Ann ROONEY citizen of Australia; David Andrew SANDHAM citizen of United Kingdom; Duncan SHAW citizen of UK; Nichola SMITH citizen of United Kingdom; Jessica Louise TAYLOR citizen of United Kingdom; Roger John TAYLOR citizen of United Kingdom; Joe WRIGGLESWORTH citizen of United Kingdom; c/o Novartis Pharmaceuticals UK Limited, Frimley Business Park, Frimley, Camberley, Surrey GU16 7SR, UK, (hereinafter "Inventor(s)"), and **NOVARTIS PHARMACEUTICALS UK LIMITED**, Frimley Business Park, Frimley, Camberley, Surrey GU16 7SR, UK, a company organized under the laws of Great Britain.

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 PHARMACEUTICALS UK LIMITED** 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 PHARMACEUTICALS UK LIMITED** 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

### **CARBOXAMIDE DERIVATIVES** (Patent reference: PAT056179)

and filed in the **European Patent Office** on **14 May 2014** and accorded Application Number **14168303.7** and/or filed as a PCT International Application on \_\_\_\_\_, 20\_\_\_\_ and accorded International Patent Application Number PCT/\_\_\_\_\_; and/or filed in the **United States Patent and Trademark Office** on \_\_\_\_\_, 20\_\_\_\_ and accorded Application Number \_\_\_\_\_;

(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 \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Kamlesh Jagdis BALA

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Andrew BREARLEY

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this 2nd day of April, 2015.

BY \_\_\_\_\_ L.S.  
James DALE

Witnessed by:

*R. Scott*

*D. Evans*

\_\_\_\_\_  
Name: RICHARD SCOTT  
Address: 35 MALLETT ROAD  
FLITCH GREEN  
DUNMOW  
ESSEX  
CM6 3FR

\_\_\_\_\_  
Name: DAVID EVANS  
Address: 4 FIELD CRESCENT  
ROYSTON  
HERTS  
SG8 7JZ

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Anne-Marie D'SOUZA

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Mahbub AHMED

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
David PORTER

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Lisa Ann ROONEY

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
David Andrew SANDHAM

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Duncan SHAW

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Nichola SMITH

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Jessica Louise TAYLOR

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Roger John TAYLOR

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Joe WRIGGLESWORTH

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

NOVARTIS PHARMACEUTICALS UK LIMITED

Executed this 17<sup>th</sup> day of May, 2015.

BY [Signature] L.S.  
Name: Stefano Zucchi  
Title: Authorized Signatory

Witnessed by:

[Signature]  
Name: Silvia Arellano  
Address: Lichtstrasse 35  
4056 Basel  
Switzerland

[Signature]  
Name: Maria J. Franco Martins  
Address: Maria J. Franco Martins  
Lichtstrasse 35  
4056 Basel  
Switzerland

ASSIGNMENT

This Assignment Agreement is entered into by and between Kamlesh Jagdis BALA citizen of United Kingdom; Andrew BREARLEY citizen of ~~UK~~ ; James DALE citizen of United Kingdom; Anne-Marie D'SOUZA citizen of United Kingdom; Mahbub AHMED citizen of United Kingdom; David PORTER citizen of United Kingdom; Lisa Ann ROONEY citizen of Australia; David Andrew SANDHAM citizen of United Kingdom; Duncan SHAW citizen of UK; Nichola SMITH citizen of United Kingdom; Jessica Louise TAYLOR citizen of United Kingdom; Roger John TAYLOR citizen of United Kingdom; Joe WRIGGLESWORTH citizen of United Kingdom; c/o Novartis Pharmaceuticals UK Limited, Frimley Business Park, Frimley, Camberley, Surrey GU16 7SR, UK, (hereinafter "Inventor(s)"), and **NOVARTIS PHARMACEUTICALS UK LIMITED**, Frimley Business Park, Frimley, Camberley, Surrey GU16 7SR, UK, a company organized under the laws of Great Britain.

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 PHARMACEUTICALS UK LIMITED 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 PHARMACEUTICALS UK LIMITED 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

**CARBOXAMIDE DERIVATIVES**

(Patent reference: PAT056179)

and filed in the European Patent Office on 14 May 2014 and accorded Application Number 14168303.7 and/or filed as a PCT International Application on \_\_\_\_\_, 20\_\_\_\_ and accorded International Patent Application Number PCT/\_\_\_\_\_; and/or filed in the United States Patent and Trademark Office on \_\_\_\_\_, 20\_\_\_\_ and accorded Application Number \_\_\_\_\_;

(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 \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Kamlesh Jagdis BALA

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Andrew BREARLEY

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
James DALE

Witnessed by:

\_\_\_\_\_  
Name:  
Address:


\_\_\_\_\_  
Name:  
Address:

Executed this 14<sup>th</sup> day of APRIL, 2015.

BY ANNE M D'SOUZA L.S.  
Anne-Marie D'SOUZA

Witnessed by:

A. G. W. G. W. G. W.  
Name: A. G. W. G. W.  
Address: Flat 20, 43-53  
Weybridge Square, E18 1BB

  
Name: EMANUELE OSTROMO  
Address: 53 GRANGE ROAD, CHESSINGTON, SURREY.

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Mahbub AHMED

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
David PORTER

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Lisa Ann ROONEY

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
David Andrew SANDHAM

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Duncan SHAW

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Nichola SMITH

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Jessica Louise TAYLOR

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Roger John TAYLOR

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Joe WRIGGLESWORTH

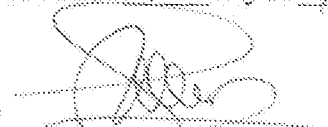
Witnessed by:

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Name:  
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Name:  
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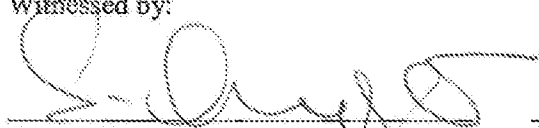
NOVARTIS PHARMACEUTICALS UK LIMITED

Executed this 14<sup>th</sup> day of May, 2015

BY  L.S.

Name: Silvana Zanel  
Title: Authorized Signatory

Witnessed by:




Name: Silvia Aregger  
Address: Lichtstrasse 35  
4056 Basel  
Switzerland

Maria J. Franco Martins

Name: Maria J. Franco Martins  
Address: Lichtstrasse 35  
4056 Basel  
Switzerland

## ASSIGNMENT

This Assignment Agreement is entered into by and between Kamlesh Jagdis BALA citizen of United Kingdom; Andrew BREARLEY citizen of ; James DALE citizen of United Kingdom; Anne-Marie D'SOUZA citizen of United Kingdom; Mahbub AHMED citizen of United Kingdom; David PORTER citizen of United Kingdom; Lisa Ann ROONEY citizen of Australia; David Andrew SANDHAM citizen of United Kingdom; Duncan SHAW citizen of UK; Nichola SMITH citizen of United Kingdom; Jessica Louise TAYLOR citizen of United Kingdom; Roger John TAYLOR citizen of United Kingdom; Joe WRIGGLESWORTH citizen of United Kingdom; c/o Novartis Pharmaceuticals UK Limited, Frimley Business Park, Frimley, Camberley, Surrey GU16 7SR, UK, (hereinafter "Inventor(s)"), and **NOVARTIS PHARMACEUTICALS UK LIMITED**, Frimley Business Park, Frimley, Camberley, Surrey GU16 7SR, UK, a company organized under the laws of Great Britain.

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 PHARMACEUTICALS UK LIMITED** 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 PHARMACEUTICALS UK LIMITED** 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

### **CARBOXAMIDE DERIVATIVES** (Patent reference: PAT056179)

and filed in the **European Patent Office** on **14 May 2014** and accorded Application Number **14168303.7** and/or filed as a PCT International Application on \_\_\_\_\_, 20\_\_\_\_ and accorded International Patent Application Number PCT/\_\_\_\_\_; and/or filed in the **United States Patent and Trademark Office** on \_\_\_\_\_, 20\_\_\_\_ and accorded Application Number \_\_\_\_\_;

(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 .

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

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Kamlesh Jagdis BALA

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Andrew BREARLEY

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
James DALE

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

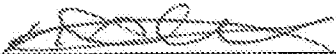
BY \_\_\_\_\_ L.S.  
Anne-Marie D'SOUZA

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

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Name:  
Address:

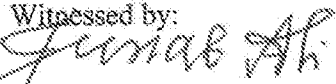
Executed this 05 day of OCTOBER, 2014.

BY  L.S.

Ahmed MAHBUB

Mahbub AHMED

Witnessed by:





Name: JUNAB ALI  
Address: 14 POPPY DRIVE  
WALSALL WSS4RB  
Executed this \_\_\_\_\_ day of UK, 20\_\_\_\_.

Name: Khadija Begum  
Address: 14, POPPY DRIVE,  
TAMEBRIDGE,  
WALSALL. WSS4RB

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

David PORTER

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

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

Lisa Ann ROONEY

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
David Andrew SANDHAM

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Duncan SHAW

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

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Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Nichola SMITH

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Jessica Louise TAYLOR

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Roger John TAYLOR

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Joe WRIGGLESWORTH


Witnessed by:

\_\_\_\_\_  
Name:  
Address:

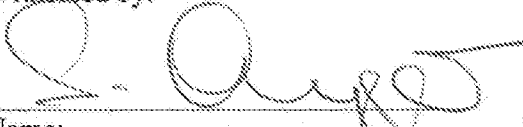
\_\_\_\_\_  
Name:  
Address:

NOVARTIS PHARMACEUTICALS UK LIMITED

Executed this 7th day of May, 2015

BY  L.S.  
Name: Silvie Zenz  
Title: Authorized Signatory

Witnessed by:

  
Name: Silvia Aregger  
Address: Lichtstrasse 35  
4056 Basel  
Switzerland

  
Name: Maria J. Franco Martins  
Address: Lichtstrasse 35  
4056 Basel  
Switzerland

## ASSIGNMENT

This Assignment Agreement is entered into by and between Kamlesh Jagdis BALA citizen of United Kingdom; Andrew BREARLEY citizen of UK; James DALE citizen of United Kingdom; Anne-Marie D'SOUZA citizen of United Kingdom; Mahbub AHMED citizen of United Kingdom; David PORTER citizen of United Kingdom; Lisa Ann ROONEY citizen of Australia; David Andrew SANDHAM citizen of United Kingdom; Duncan SHAW citizen of UK; Nichola SMITH citizen of United Kingdom; Jessica Louise TAYLOR citizen of United Kingdom; Roger John TAYLOR citizen of United Kingdom; Joe WRIGGLESWORTH citizen of United Kingdom; c/o Novartis Pharmaceuticals UK Limited, Frimley Business Park, Frimley, Camberley, Surrey GU16 7SR, UK, (hereinafter "Inventor(s)"), and **NOVARTIS PHARMACEUTICALS UK LIMITED**, Frimley Business Park, Frimley, Camberley, Surrey GU16 7SR, UK, a company organized under the laws of Great Britain.

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 PHARMACEUTICALS UK LIMITED** 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 PHARMACEUTICALS UK LIMITED** 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

### **CARBOXAMIDE DERIVATIVES** (Patent reference: PAT056179)

and filed in the **European Patent Office** on **14 May 2014** and accorded Application Number **14168303.7** and/or filed as a PCT International Application on \_\_\_\_\_, 20\_\_\_\_ and accorded International Patent Application Number PCT/\_\_\_\_\_; and/or filed in the **United States Patent and Trademark Office** on \_\_\_\_\_, 20\_\_\_\_ and accorded Application Number \_\_\_\_\_;

(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.

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

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Kamlesh Jagdis BALA

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Andrew BREARLEY

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
James DALE

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Anne-Marie D'SOUZA

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Mahbub AHMED

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this 17 day of March, 2015.

BY for late L.S.  
David PORTER

Witnessed by:

[Signature]  
Name: JON SUTTON  
Address: ARGENTA DISCOVERY  
CM 14 BTR.

[Signature]  
Name: ANDREW FORREST  
Address: ARGENTA DISCOVERY  
CM 13 STR

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Lisa Ann ROONEY

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
David Andrew SANDHAM

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Duncan SHAW

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Nichola SMITH

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Jessica Louise TAYLOR

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Roger John TAYLOR

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Joe WRIGGLESWORTH

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

NOVARTIS PHARMACEUTICALS UK LIMITED

Executed this 7<sup>th</sup> day of May, 2015

BY [Signature] L.S.  
Name: Shane Zucco  
Title: Authorized Signatory

Witnessed by:

[Signature]  
Name: Silvia Areppner  
Address: Lichtstrasse 35  
4056 Basel  
Switzerland

[Signature]  
Name: Maria J. Franco Martins  
Address: Lichtstrasse 35  
4056 Basel  
Switzerland

## ASSIGNMENT

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

### CARBOXAMIDE DERIVATIVES (Patent reference: PAT056179)

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Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_.

BY \_\_\_\_\_ L.S.  
Kamlesh Jagdis BALA

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Andrew BREARLEY

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
James DALE

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Anne-Marie D'SOUZA

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Mahbub AHMED

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

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Name:  
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Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

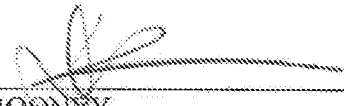
BY \_\_\_\_\_ L.S.  
David PORTER

Witnessed by:

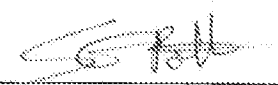
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Name:  
Address:

Executed this 25th day of March, 2015.

BY  L.S.  
Lisa Ann ROONEY

Witnessed by:

  
Name: STEPHEN ERNEST ATU  
Address: Flat 6 Catherine Court  
30 Springfield Drive  
Ilford IG2 6RH

  
Name: GABOR DURKO  
Address: 54 Lynton Close  
E18 1DP South Woodford  
London

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
David Andrew SANDHAM

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Duncan SHAW

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Nichola SMITH

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Jessica Louise TAYLOR

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Roger John TAYLOR

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Joe WRIGGLESWORTH

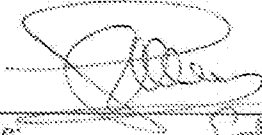
Witnessed by:

\_\_\_\_\_  
Name:  
Address:


\_\_\_\_\_  
Name:  
Address:

NOVARTIS PHARMACEUTICALS UK LIMITED

Executed this 7th day of May, 2015.

BY  L.S.  
Name: Shire Zou  
Title: Authorized Signatory

Witnessed by:

  
Name: Silvia Aregger  
Address: Lichtstrasse 35  
4056 Basel  
Switzerland

  
Name: Maria J. Franco Martins  
Address: Lichtstrasse 35  
4056 Basel  
Switzerland

### ASSIGNMENT

This Assignment Agreement is entered into by and between Kamlesh Jagdis BALA citizen of United Kingdom; Andrew BREARLEY citizen of ~~UK~~ ; James DALE citizen of United Kingdom; Anne-Marie D'SOUZA citizen of United Kingdom; Ahmed MAHBUB citizen of United Kingdom; David PORTER citizen of United Kingdom; Lisa Ann ROONEY citizen of Australia; David Andrew SANDHAM citizen of United Kingdom; Duncan SHAW citizen of UK; Nichola SMITH citizen of United Kingdom; Jessica Louise TAYLOR citizen of United Kingdom; Roger John TAYLOR citizen of United Kingdom; Joe WRIGGLESWORTH citizen of United Kingdom; c/o Novartis Pharmaceuticals UK Limited, Frimley Business Park, Frimley, Camberley, Surrey GU16 7SR, UK, (hereinafter "Inventor(s)"), and **NOVARTIS PHARMACEUTICALS UK LIMITED**, Frimley Business Park, Frimley, Camberley, Surrey GU16 7SR, UK, a company organized under the laws of Great Britain.

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 PHARMACEUTICALS UK LIMITED** 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 PHARMACEUTICALS UK LIMITED** 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

### **CARBOXAMIDE DERIVATIVES** (Patent reference: PAT056179)

and filed in the **European Patent Office** on **14 May 2014** and accorded Application Number **14168303.7** and/or filed as a PCT International Application on \_\_\_\_\_, 20\_\_\_\_ and accorded International Patent Application Number **PCT/**\_\_\_\_\_; and/or filed in the **United States Patent and Trademark Office** on \_\_\_\_\_, 20\_\_\_\_ and accorded Application Number \_\_\_\_\_;

(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 \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Kamlesh Jagdis BALA

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Andrew BREARLEY

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
James DALE

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Anne-Marie D'SOUZA

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Ahmed MAHBUB

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
David PORTER

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Lisa Ann ROONEY

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this 9<sup>th</sup> day of SEPTEMBER, 2014

BY [Signature] L.S.  
David Andrew SANDHAM

Witnessed by:

[Signature]  
Name: Philip Lam  
Address: 100 Technology Square  
Cambridge, MA 02139

[Signature]  
Name: Hashain Malik  
Address: 100 Tech Sq.  
Cambridge, MA 02139

Executed this 9<sup>th</sup> day of September, 2014

BY [Signature] L.S.  
Duncan SHAW

Witnessed by:

[Signature]  
Name: Philip Lam  
Address: 100 Technology Square  
Cambridge, MA 02139

[Signature]  
Name: Hashain Malik  
Address: 100 Tech Sq.  
Cambridge, MA 02139

Executed this 9<sup>th</sup> day of SEPTEMBER, 2014

BY Nichola Smith L.S.  
Nichola SMITH

Witnessed by:

[Signature]  
Name: Philip Lam  
Address: 100 Technology Square  
Cambridge, MA 02139

[Signature]  
Name: Hashain Malik  
Address: 100 Tech Sq.  
Cambridge, MA 02139

Patent Family Number PAT056179

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Jessica Louise TAYLOR

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Roger John TAYLOR

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Joe WRIGGLESWORTH

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

NOVARTIS PHARMACEUTICALS UK LIMITED

Executed this 7th day of May, 2015.

BY [Signature] L.S.

Name: [Signature]

Title: Authorized Signatory

Witnessed by:

[Signature]  
Name: Silvia Aregger  
Address: Lichtstrasse 35  
4056 Basel  
Switzerland

[Signature]  
Name: Maria J. Franco Martins  
Address: Lichtstrasse 35  
4056 Basel  
Switzerland

## ASSIGNMENT

This Assignment Agreement is entered into by and between Kamlesh Jagdis BALA citizen of United Kingdom; Andrew BREARLEY citizen of United Kingdom; James DALE citizen of United Kingdom; Anne-Marie D'SOUZA citizen of United Kingdom; Mahbub AHMED citizen of United Kingdom; David PORTER citizen of United Kingdom; Lisa Ann ROONEY citizen of Australia; David Andrew SANDHAM citizen of United Kingdom; Duncan SHAW citizen of UK; Nichola SMITH citizen of United Kingdom; Jessica Louise TAYLOR citizen of United Kingdom; Roger John TAYLOR citizen of United Kingdom; Joe WRIGGLESWORTH citizen of United Kingdom; c/o Novartis Pharmaceuticals UK Limited, Frimley Business Park, Frimley, Camberley, Surrey GU16 7SR, UK, (hereinafter "Inventor(s)"), and **NOVARTIS PHARMACEUTICALS UK LIMITED**, Frimley Business Park, Frimley, Camberley, Surrey GU16 7SR, UK, a company organized under the laws of Great Britain.

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 PHARMACEUTICALS UK LIMITED** 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 PHARMACEUTICALS UK LIMITED** 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

### **CARBOXAMIDE DERIVATIVES** (Patent reference: PAT056179)

and filed in the European Patent Office on 14 May 2014 and accorded Application Number **14168303.7** and/or filed as a PCT International Application on \_\_\_\_\_, 20\_\_\_\_ and accorded International Patent Application Number **PCT/**\_\_\_\_\_; and/or filed in the United States Patent and Trademark Office on \_\_\_\_\_, 20\_\_\_\_ and accorded Application Number \_\_\_\_\_;

(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 .

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

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Kamlesh Jagdis BALA

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Andrew BREARLEY

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
James DALE

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Anne-Marie D'SOUZA

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Mahbub AHMED

Witnessed by:

_____ Name:	_____ Name:
_____ Address:	_____ Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
David PORTER

Witnessed by:

_____ Name:	_____ Name:
_____ Address:	_____ Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Lisa Ann ROONEY

Witnessed by:

_____ Name:	_____ Name:
_____ Address:	_____ Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
David Andrew SANDHAM

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Duncan SHAW

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Nichola SMITH

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this 15 day of July, 2015.

BY [Signature] L.S.  
Jessica Louise TAYLOR

Witnessed by:

<u>[Signature]</u> Name: Natalie Harman Address: Answers investigation suite 2, The Orchard Chiddingfold road Dunstond, Surrey GU8 4PB	<u>[Signature]</u> Name: Olivia Ellenger Address: Answers investigation suite 2, The Orchard Chiddingfold road Dunstond, Surrey GU8 4PB
---	--

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Roger John TAYLOR

Witnessed by:

_____ Name: Address:	_____ Name: Address:
----------------------------	----------------------------

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Joe WRIGGLESWORTH

Witnessed by:

_____ Name: Address:	_____ Name: Address:
----------------------------	----------------------------

**NOVARTIS PHARMACEUTICALS UK LIMITED**

Executed this 20th day of July, 2015.

BY [Signature] L.S.

Name: Simon E. O'Brien

Title: Authorized Signatory

Witnessed by:

[Signature]

Name:

Address:

**Stephen Wolfold**

700 Main Street  
Cambridge, MA 02139

[Signature]

Name:

Address:

**Stephanie Geis**

700 Main Street  
Cambridge, MA 02139

## ASSIGNMENT

This Assignment Agreement is entered into by and between Kamlesh Jagdis BALA citizen of United Kingdom; Andrew BREARLEY citizen of ~~UK~~ ; James DALE citizen of United Kingdom; Anne-Marie D'SOUZA citizen of United Kingdom; Mahbub AHMED citizen of United Kingdom; David PORTER citizen of United Kingdom; Lisa Ann ROONEY citizen of Australia; David Andrew SANDHAM citizen of United Kingdom; Duncan SHAW citizen of UK; Nicholas SMITH citizen of United Kingdom; Jessica Louise TAYLOR citizen of United Kingdom; Roger John TAYLOR citizen of United Kingdom; Joe WRIGGLESWORTH citizen of United Kingdom; c/o Novartis Pharmaceuticals UK Limited, Frimley Business Park, Frimley, Camberley, Surrey GU16 7SR, UK, (hereinafter "Inventor(s)"), and NOVARTIS PHARMACEUTICALS UK LIMITED, Frimley Business Park, Frimley, Camberley, Surrey GU16 7SR, UK, a company organized under the laws of Great Britain.

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 PHARMACEUTICALS UK LIMITED 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.

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

### CARBOXAMIDE DERIVATIVES (Patent reference: PAT056179)

and filed in the European Patent Office on 14 May 2014 and accorded Application Number 14168303.7 and/or filed as a PCT International Application on \_\_\_\_\_, 20\_\_\_\_ and accorded International Patent Application Number PCT/\_\_\_\_\_; and/or filed in the United States Patent and Trademark Office on \_\_\_\_\_, 20\_\_\_\_ and accorded Application Number \_\_\_\_\_;

(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 \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Kamlesh Jagdis BALA

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Andrew BREARLEY

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
James DALE

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
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Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Anne-Marie D'SOUZA

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

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Name:  
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Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Mahbub AHMED

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

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Name:  
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Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
David PORTER

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

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Name:  
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Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Lisa Ann ROONEY

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

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Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
David Andrew SANDHAM

Witnessed by:

\_\_\_\_\_  
Name:  
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Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Duncan SHAW

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Nichola SMITH

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Jessica Louise TAYLOR

Witnessed by:

Name:  
Address:

Name:  
Address:

Executed this 9<sup>th</sup> day of APRIL, 2015.

BY R J Taylor L.S.  
Roger John TAYLOR

Witnessed by:

Name: R. GELATO  
Address: School of Chemistry, University of Leeds, LS1

Name: MURASYKIN HAMZAH  
Address: SCHOOL OF CHEMISTRY, UNIVERSITY OF LEEDS.

Executed this 9<sup>th</sup> day of April, 2015.

BY \_\_\_\_\_ L.S.  
Joe WRIGGLESWORTH

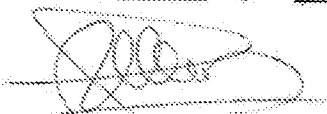
Witnessed by:

Name:  
Address:

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Address:

NOVARTIS PHARMACEUTICALS UK LIMITED

Executed this 7<sup>th</sup> day of May, 2015.

BY  L.S.  
Name: Edine Zenzel  
Title: Authorized Signatory

Witnessed by:

  
Name: Silvia Aregger  
Address: Lichtstrasse 35  
4056 Basel  
Switzerland

  
Name: Maria J. Franco Martins  
Address: Maria J. Franco Martins  
Lichtstrasse 35  
4056 Basel  
Switzerland

## ASSIGNMENT

This Assignment Agreement is entered into by and between Kamlesh Jagdis BALA citizen of United Kingdom; Andrew BREARLEY citizen of UK; James DALE citizen of United Kingdom; Anne-Marie D'SOUZA citizen of United Kingdom; Ahmed MAHBUB citizen of United Kingdom; David PORTER citizen of United Kingdom; Lisa Ann ROONEY citizen of Australia; David Andrew SANDHAM citizen of United Kingdom; Duncan SHAW citizen of UK; Nichola SMITH citizen of United Kingdom; Jessica Louise TAYLOR citizen of United Kingdom; Roger John TAYLOR citizen of United Kingdom; Joe WRIGGLESWORTH citizen of United Kingdom; c/o Novartis Pharmaceuticals UK Limited, Frimley Business Park, Frimley, Camberley, Surrey GU16 7SR, UK, (hereinafter "Inventor(s)"), and NOVARTIS PHARMACEUTICALS UK LIMITED, Frimley Business Park, Frimley, Camberley, Surrey GU16 7SR, UK, a company organized under the laws of Great Britain.

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 PHARMACEUTICALS UK LIMITED 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 PHARMACEUTICALS UK LIMITED 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

### CARBOXAMIDE DERIVATIVES (Patent reference: PAT056179)

and filed in the European Patent Office on 14 May 2014 and accorded Application Number 14168303.7 and/or filed as a PCT International Application on \_\_\_\_\_, 20\_\_\_\_ and accorded International Patent Application Number PCT/\_\_\_\_\_; and/or filed in the United States Patent and Trademark Office on \_\_\_\_\_, 20\_\_\_\_ and accorded Application Number \_\_\_\_\_;

(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.

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

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Kamlesh Jagdis BALA

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

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Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Andrew BREARLEY

Witnessed by:

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Name:  
Address:

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Name:  
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Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
James DALE

Witnessed by:

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Name:  
Address:

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Name:  
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Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Anne-Marie D'SOUZA

Witnessed by:

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Name:  
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Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Ahmed MAHBUB

Witnessed by:

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Name:  
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Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
David PORTER

Witnessed by:

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Name:  
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Name:  
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Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Lisa Ann ROONEY

Witnessed by:

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Name:  
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Name:  
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Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
David Andrew SANDHAM

Witnessed by:

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Name:  
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Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Duncan SHAW

Witnessed by:

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Name:  
Address:

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Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Nichola SMITH

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Jessica Louise TAYLOR

Witnessed by:

\_\_\_\_\_  
Name:  
Address:

\_\_\_\_\_  
Name:  
Address:

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

BY \_\_\_\_\_ L.S.  
Roger John TAYLOR

Witnessed by:


\_\_\_\_\_  
Name:  
Address:


\_\_\_\_\_  
Name:  
Address:

Executed this 13<sup>th</sup> day of September, 2014.

BY  L.S.  
Joe WRIGGLESWORTH

Witnessed by:

  
\_\_\_\_\_  
Name: MEGAN LIGHTFOOT  
Address: 29 VICTORIA ROAD  
NOTTINGHAM  
NG5 2NA

  
\_\_\_\_\_  
Name: MICHAEL COOKE  
Address: SIGNATURE DISCOVERY  
BLOODY  
PENNYFOOT STREET  
NOTTINGHAM  
NG1 1GF

NOVARTIS PHARMACEUTICALS UK LIMITED

Executed this 10 day of May, 2015.

BY [Signature] L.S.

Name: [Signature]  
Title: Authorized Signatory

Witnessed by:

[Signature]

Name: Silvia Aregger  
Address: Lichtstrasse 35  
4056 Basel  
Switzerland

[Signature]  
Name: Maria J. Franco Martins  
Address: Lichtstrasse 35  
4056 Basel  
Switzerland