

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
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EPAS ID: PAT6761235

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
CHRISTOPHER THOMAS BRAIN	08/25/2009
CLINTON A. BROOKS	09/29/2009
GUO HE	08/25/2009
YING HOU	08/25/2009
YUE LI	10/29/2009
YIPIN LU	08/28/2009
TROY SMITH	08/27/2009
MOO JE SUNG	08/25/2009
WOJCIECH WRONA	08/25/2009
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	NOVARTIS AG
<b>Street Address:</b>	LICHTSTRASSE 35
<b>City:</b>	BASEL
<b>State/Country:</b>	SWITZERLAND
<b>Postal Code:</b>	4056
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
Patent Number:	8962630
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.</i>	
<b>Email:</b>	veronica.romanov@novartis.com
<b>Correspondent Name:</b>	VERONICA ROMANOV
<b>Address Line 1:</b>	700 MAIN STREET
<b>Address Line 4:</b>	CAMBRIDGE, MASSACHUSETTS 02139
<b>ATTORNEY DOCKET NUMBER:</b>	PAT052816-US-DIV
<b>NAME OF SUBMITTER:</b>	VERONICA ROMANOV
<b>SIGNATURE:</b>	/Veronica Romanov/

**DATE SIGNED:**

06/14/2021

**Total Attachments: 19**

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source=PAT052816 Inventors to NAG Assignment#page19.tif

(Joint)

Patent Case PAT052816

**ASSIGNMENT**

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

Christopher Thomas BRAIN	citizen of United Kingdom	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 USA
Clinton A. BROCKS	citizen of United States of America	3274 Ridgecrest Rd. Smyrna, Georgia 30080 US
Guo HE	citizen of the United States of America	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 USA
Ying HOU	citizen of China	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 USA
Yue LI	citizen of China	China Novartis Institutes for BioMedical Research Co., Ltd. No. 8 Building Lane 898 Hailai Road Zhangjiang Hi-Tech Park, Pudong New Area Shanghai 201203
Yipin LU	citizen of China	Novartis institutes for BioMedical Research, Inc. 400 Technology Square Cambridge, MA 02139 USA
Troy SMITH	citizen of United States of America	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 USA
Moo-Je SUNG	citizen of South Korea / Republic of Korea	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 USA

Wojciech WRONA	citizen of United States of America	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 USA
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do hereby sell, assign and transfer to Novartis AG, a company organized under the laws of the Swiss Confederation, of Lichtstrasse 35, 4056 Basel, Switzerland, (hereinafter referred to as the "ASSIGNEE") and its successors, assigns and legal representatives, all of my right, title and interest for all countries of the world in and to (1) all of my inventions and discoveries described in the patent application(s) titled

### **PYRROLOPYRIMIDINE COMPOUNDS AND THEIR USES**

and filed in the United States Patent and Trademark Office on \_\_\_\_\_, 20\_\_ and accorded Application Number \_\_\_\_\_ \* and/or filed in the RO/ \_\_\_\_\_ on \_\_\_\_\_, 20\_\_ and accorded International Patent Application Number PCT/ \_\_\_\_\_ \*, (2) the patent application(s) identified in (1), (3) all national stages of any international patent application identified in (1), (4) all other patent applications in all countries and regions claiming the priority of the provisional or non-provisional patent application filed in the United States Patent and Trademark Office on August 22, 2008 and accorded Application Number 61/091037, (5) for all patent applications, all rights of priority based upon the United States patent application identified in (4) in all countries and regions under the Paris Convention for the Protection of Industrial Property, 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 identified in (4) is a provisional patent application, under 35 USC 119(e) (including the right to file patent applications on said inventions and discoveries in the names of ASSIGNEE or their designees or in our names, at their election and in accordance with applicable law in all countries and regions), (6) all continuations and divisions of any United States patent application or international patent application designating the United States identified in (1), any national stages of any international application identified in (1) and any patent applications within the scope of (4) (including further continuations and divisions such as, but not limited to, continuations of continuations and continuations of divisions), ((2)-(4) and (6) hereinafter referred to collectively as "patent applications"), (7) all patents that are granted on any of said patent applications, (8) all registrations and confirmations of, and importation certificates based upon, one or more of said patents and applications for such registrations, confirmations and importation certificates and (9) all reissues, renewals and extensions of said patents, 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 and their successors, assigns and legal representatives to the full ends of the terms for which said patents, 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 us if this sale, assignment and transfer had not been made.

\*We hereby authorize ASSIGNEE and their representatives to insert in this Assignment the filing date(s) and Application Number(s) of said patent application(s) when notified thereof.

And we hereby covenant and agree that we will, at any time, (i) upon the request, but at the expense, of ASSIGNEE or their successors, assigns or legal representatives execute and deliver all documents that may be necessary or desirable to perfect the title to the foregoing inventions and discoveries, patent applications, patents, registrations, confirmations, importation certificates, reissues, renewals, extensions, reexamination certificates, supplementary protection certificates and applications within the scope of (8) and (9) in ASSIGNEE or their successors, assigns or legal representatives, including the execution and procurement of all further documents evidencing this sale, assignment and transfer as may be necessary or desirable for recording the same in the patent office or other intellectual property office, agency or the like of any country

or region, (ii) upon the request, but at the expense, of ASSIGNEE or their successors, assigns or legal representatives execute all additional patent applications within the scope of (3), (4) and (5) and all applications within the scope of (8) or (9) and (iii) make all rightful oaths and declarations and do all lawful acts requisite for procuring the same or for aiding therein, without further compensation, but at the expense of ASSIGNEE or their successors, assigns or legal representatives.

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

Executed this 25<sup>th</sup> day of August, 2009

[Signature] L.S.  
Christopher Thomas Brain

**ACKNOWLEDGEMENT**

State of Massachusetts )  
 ) s.s.:  
County of Middlesex )

On this 20<sup>th</sup> day of August, 2009, personally appeared before me Christy M. T. [Signature] to me known and known by me to be the same person described in and who executed the foregoing Assignment and acknowledged that (s)he executed the same of his (her) own free will for the purpose set forth.

(Seal)

[Signature]  
Notary Public  
Jessica N. Yoo  
Notary Public  
Commonwealth of Massachusetts  
My Commission Expires  
May 19, 2011

Executed this 29<sup>th</sup> day of September, 2009

[Signature] L.S.  
Clinton A. Brooks

**ACKNOWLEDGEMENT**

State of Virginia )  
 ) s.s.:  
County of Madison )

On this 29<sup>th</sup> day of September, 2009 personally appeared before me Clinton A. Brooks to me known and known by me to be the same person described in and who executed the foregoing Assignment and acknowledged that (s)he executed the same of his (her) own free will for the purpose set forth.

(Seal)

SHAHID ASLAM  
NOTARY PUBLIC  
COMMONWEALTH OF VIRGINIA  
MY COMMISSION EXPIRES: MAY 31, 2010  
COMMISSION # 7038823

[Signature]  
Notary Public

Executed this 25 day of Aug, 2009

[Signature]  
\_\_\_\_\_  
Guo He L.S.

**ACKNOWLEDGEMENT**

State of Massachusetts )  
 ) s.s.:  
County of Middlesex )

On this 25<sup>th</sup> day of August, 2009 personally appeared before me  
Guo He, licensee to me known and known by me to be the same person described  
in and who executed the foregoing Assignment and acknowledged that (s)he executed the same of his (her)  
own free will for the purpose set forth.

(Seal)

[Signature]  
\_\_\_\_\_  
Notary Public

Jessica N. Yoo  
Notary Public  
Commonwealth of Massachusetts  
My Commission Expires  
May 19, 2011

Executed this 25 day of Aug, 2009

[Signature]  
\_\_\_\_\_  
Ying Hou L.S.

**ACKNOWLEDGEMENT**

State of Massachusetts )  
 ) s.s.:  
County of Middlesex )

On this 25<sup>th</sup> day of August, 2009 personally appeared before me  
Ying Hou, licensee to me known and known by me to be the same person described  
in and who executed the foregoing Assignment and acknowledged that (s)he executed the same of his (her)  
own free will for the purpose set forth.

(Seal)

[Signature]  
\_\_\_\_\_  
Notary Public

Jessica N. Yoo  
Notary Public  
Commonwealth of Massachusetts  
My Commission Expires  
May 19, 2011

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

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

Yue Li

**ACKNOWLEDGEMENT**

State of \_\_\_\_\_ )

) s.s.:

County of \_\_\_\_\_ )

On this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_, personally appeared before me \_\_\_\_\_ to me known and known by me to be the same person described in and who executed the foregoing Assignment and acknowledged that (s)he executed the same of his (her) own free will for the purpose set forth.

(Seal)

\_\_\_\_\_  
Notary Public

Executed this 28 day of Aug, 2009

Yipin Lu  
\_\_\_\_\_  
L.S.

Yipin Lu

**ACKNOWLEDGEMENT**

State of Massachusetts )

) s.s.:

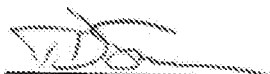
County of Middlesex )

On this 28th day of August, 2009 personally appeared before me Yipin Lu, nense to me known and known by me to be the same person described in and who executed the foregoing Assignment and acknowledged that (s)he executed the same of his (her) own free will for the purpose set forth.

(Seal)

Jessica N. Yao  
\_\_\_\_\_  
Notary Public  
Jessica N. Yao  
Notary Public  
Commonwealth of Massachusetts  
My Commission Expires  
May 19, 2011

Executed this 27<sup>th</sup> day of August, 2009

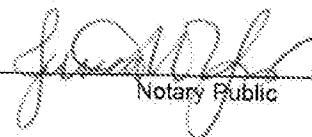
  
\_\_\_\_\_  
Troy Smith L.S.

**ACKNOWLEDGEMENT**

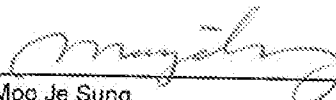
State of Massachusetts )  
 ) s.s.:  
County of Middlesex )

On this 27<sup>th</sup> day of August, 2009 personally appeared before me  
Troy Smith, licensee to me known and known by me to be the same person described  
in and who executed the foregoing Assignment and acknowledged that (s)he executed the same of his (her)  
own free will for the purpose set forth.

(Seal)

  
\_\_\_\_\_  
Notary Public  
Jessica N. Yoo  
Notary Public  
Commonwealth of Massachusetts  
My Commission Expires  
May 19, 2011

Executed this 25 day of August, 2009


  
\_\_\_\_\_  
Moo Je Sung L.S.

**ACKNOWLEDGEMENT**

State of Massachusetts )  
 ) s.s.:  
County of Middlesex )

On this 25<sup>th</sup> day of August, 2009 personally appeared before me  
Moo Je Sung, licensee to me known and known by me to be the same person described  
in and who executed the foregoing Assignment and acknowledged that (s)he executed the same of his (her)  
own free will for the purpose set forth.

(Seal)



  
\_\_\_\_\_  
Notary Public  
Jessica N. Yoo  
Notary Public  
Commonwealth of Massachusetts  
My Commission Expires  
May 19, 2011





ACCEPTANCE OF ASSIGNMENT

With reference to the Assignment to **NOVARTIS AG** of an invention entitled "**PYRROLOPYRIMIDINE COMPOUNDS AND THEIR USES**" signed by Christopher Thomas Brain, Clinton A. Brooks, Guo He, Ying Hou, Yue Li, Yipin Lu, Troy Smith, Moo Sung and Wojciech Wrona; this will certify that **NOVARTIS AG** accepts such Assignment.

	<b>NOVARTIS AG</b>	
By :		
Name :	Reto Halbeisen _____	Sabine Zeller _____
Function :	Authorized signatory _____	Authorized signatory _____
Date:	21.10.09 _____	

430  
263

# 公 证 书

中华人民共和国上海市东方公证处

joint)

Patent Case PAT052816

### ASSIGNMENT

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

Christopher Thomas BRAIN	citizen of United Kingdom	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 USA
Clinton A. BROOKS	citizen of United States of America	3274 Ridgecrest Rd. Smyrna, Georgia 30080 US
Guo HE	citizen of the United States of America	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 USA
Ying HOU	citizen of China	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 USA
Yue LI	citizen of China	China Novartis Institutes for BioMedical Research Co., Ltd. No. 8 Building Lane 898 Haili Road Zhangjiang Hi-Tech Park, Pudong New Area Shanghai 201203
Yipin LU	citizen of China	Novartis Institutes for BioMedical Research, Inc. 400 Technology Square Cambridge, MA 02139 USA
Troy SMITH	citizen of United States of America	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 USA
Moo SUNG	citizen of South Korea / Republic of Korea	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 USA

PATENT

REEL: 056537 FRAME: 0294

Wojciech WRONA	citizen of United States of America	Novartis Institutes for BioMedical Research, Inc. 250 Massachusetts Avenue Cambridge, MA 02139 USA
----------------	-------------------------------------	---

do hereby sell, assign and transfer to Novartis AG, a company organized under the laws of the Swiss Confederation, of Lichtstrasse 35, 4056 Basel, Switzerland, (hereinafter referred to as the "ASSIGNEE") and its successors, assigns and legal representatives, all of my right, title and interest for all countries of the world in and to (1) all of my inventions and discoveries described in the patent application(s) titled

### PYRROLOPYRIMIDINE COMPOUNDS AND THEIR USES

and filed in the United States Patent and Trademark Office on \_\_\_\_\_, 20\_\_ and accorded Application Number \_\_\_\_\_\* and/or filed in the RO/ \_\_\_\_\_ on \_\_\_\_\_, 20\_\_ and accorded International Patent Application Number PCT/ \_\_\_\_\_\*, (2) the patent application(s) identified in (1), (3) all national stages of any international patent application identified in (1), (4) all other patent applications in all countries and regions claiming the priority of the provisional or non-provisional patent application filed in the United States Patent and Trademark Office on August 22, 2008 and accorded Application Number 61/091037, (5) for all patent applications, all rights of priority based upon the United States patent application identified in (4) in all countries and regions under the Paris Convention for the Protection of Industrial Property, 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 identified in (4) is a provisional patent application, under 35 USC 119(e) (including the right to file patent applications on said inventions and discoveries in the names of ASSIGNEE or their designees or in our names, at their election and in accordance with applicable law in all countries and regions), (6) all continuations and divisions of any United States patent application or international patent application designating the United States identified in (1), any national stages of any international application identified in (1) and any patent applications within the scope of (4) (including further continuations and divisions such as, but not limited to, continuations of continuations and continuations of divisions), ((2)-(4) and (6) hereinafter referred to collectively as "patent applications"), (7) all patents that are granted on any of said patent applications, (8) all registrations and confirmations of, and importation certificates based upon, one or more of said patents and applications for such registrations, confirmations and importation certificates and (9) all reissues, renewals and extensions of said patents, 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 and their successors, assigns and legal representatives to the full ends of the terms for which said patents, 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 us if this sale, assignment and transfer had not been made.

\*We hereby authorize ASSIGNEE and their representatives to insert in this Assignment the filing date(s) and Application Number(s) of said patent application(s) when notified thereof.

And we hereby covenant and agree that we will, at any time, (i) upon the request, but at the expense, of ASSIGNEE or their successors, assigns or legal representatives execute and deliver all documents that may be necessary or desirable to perfect the title to the foregoing inventions and discoveries, patent applications, patents, registrations, confirmations, importation certificates, reissues, renewals, extensions, reexamination certificates, supplementary protection certificates and applications within the scope of (8) and (9) in ASSIGNEE or their successors, assigns or legal representatives, including the execution and procurement of all further documents evidencing this sale, assignment and transfer as may be necessary or desirable for recording the same in the patent office or other intellectual property office, agency or the like of any country







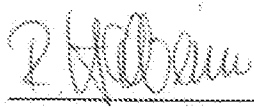







ACCEPTANCE OF ASSIGNMENT

With reference to the Assignment to NOVARTIS AG of an invention entitled "PYRROLOPYRIMIDINE COMPOUNDS AND THEIR USES" signed by Christopher Thomas Brain, Clinton A. Brooks, Guo He, Ying Hou, Yue Li, Yipin Lu, Troy Smith, Moo Sung and Wojciech Wrona; this will certify that NOVARTIS AG accepts such Assignment.

		<b>NOVARTIS AG</b>	
By :	_____		_____
Name :	Reto Halbeisen _____		Sabine Zeller _____
Function :	Authorized signatory _____		Authorized signatory _____
Date:	<u>18.11.2009</u>		

# 公 证 书

(2009)沪东证外字第 46591 号

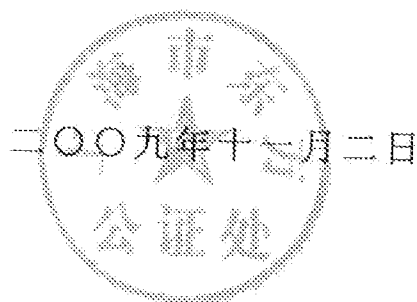
兹证明李悦（女，一九七六年七月二十五日出生，公民身份号码：120104197607250023）于二〇〇九年十月二十九日来到本公证处，在前面的文件上签名，该签名行为属实。

本公证书对该文件的内容未予证明。

中华人民共和国上海市东方公证处

公 证 员

吴 郢



XW 15028628

**ATTESTATION**

I, the undersigned Civil Law Notary in Basel, Switzerland, Dr. Matthias Staehelin, certify herewith that the signatures attached heretofore are the genuine signatures of **Mr. Reto Halbelsen**, citizen of Wahlen/BL, Switzerland, residing in Laufen/BL, Switzerland, and **Ms. Sabine Zeller**, citizen of Ormalingen/BL, Switzerland, residing in Gelterkinden/BL, Switzerland, both acting for **Novartis AG**, in Basel, Switzerland, both as proxy holders, both with joint signature.

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

BASEL, Switzerland, this 20<sup>th</sup> (twentieth) day of November 2009 (two thousand and nine)

*M. Staehelin Notar*

Dr. M. Staehelin  
Notar

Leg.Prot.Nr. 3060 / 2009