505449187 04/26/2019

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5495988

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
NOVARTIS INSTITUTES FOR BIOMEDICAL RESEARCH, INC.	08/28/2017

RECEIVING PARTY DATA

Name:	NOVARTIS AG
Street Address:	LICHTSTRASSE 35
City:	BASEL
State/Country:	SWITZERLAND
Postal Code:	4056

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16290313

CORRESPONDENCE DATA

Fax Number:

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.

Phone: 6178717967

Email: katie.drury@novartis.com
Correspondent Name: KATHLEEN DRURY
Address Line 1: 700 MAIN STREET

Address Line 4: CAMBRIDGE, MASSACHUSETTS 02139

ATTORNEY DOCKET NUMBER:	PAT057435-US-CNT
NAME OF SUBMITTER:	KATHLEEN DRURY
SIGNATURE:	/Kathleen Drury/
DATE SIGNED:	04/26/2019

Total Attachments: 4

source=PAT057435-US-PSP_Assignment_NIBR to NAG#page1.tif source=PAT057435-US-PSP_Assignment_NIBR to NAG#page2.tif source=PAT057435-US-PSP_Assignment_NIBR to NAG#page3.tif source=PAT057435-US-PSP_Assignment_NIBR to NAG#page4.tif

PATENT 505449187 REEL: 049012 FRAME: 0287

ASSIGNMENT

This Assignment Agreement is entered into by and between **NOVARTIS INSTITUTES FOR BIOMEDICAL RESEARCH, INC.**, 250 MASSACHUSETTS AVENUE, CAMBRIDGE, MA 02139 US, a company organized under the laws of THE STATE OF DELAWARE, and **NOVARTIS AG**, a company incorporated in Switzerland whose address is Lichtstrasse 35, 4056 Basel, Switzerland.

For good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, NOVARTIS INSTITUTES for BioMedical Research, Inc. does hereby sell, assign and transfer to and NOVARTIS AG and its successors, assigns and legal representatives (hereinafter referred to collectively as the "ASSIGNEE"), all of its right, title and interest for all countries of the world in and to

(1) all inventions and discoveries described in the provisional or non-provisional patent application(s) entitled

NOVEL NAPHTHYRIDINONE DERIVATIVES AND THEIR USE IN THE TREATMENT OF ARRHYTHMIA

and filed in the United States Patent and Trademark Office on 21 October 2016, and accorded
Application Number 62/410930 and/or filed as a PCT International Application on
and accorded International Patent Application Number
PCT/;

- (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 on behalf or in the name(s) of the inventor(s) of said inventions and discoveries, 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);

Page 1 of 4

- (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 NOVARTIS INSTITUTES for BioMedical Research, Inc. if this sale, assignment and transfer had not been made.

NOVARTIS INSTITUTES for BioMedical Research, Inc. hereby authorizes 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.

NOVARTIS INSTITUTES for BioMedical Research, Inc. hereby covenants and agrees that it 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.

PATENT REEL: 049012 FRAME: 0289 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 shall be governed by the laws of Switzerland.

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

NOVARTIS INSTITUTES FOR	R BIOMEDICAL RESEARCH, INC
-------------------------	----------------------------

Executed this			August	20
executed tins	Kury St	_ day or _	- / W J V V J	, 20!
BY	and the second of the second	arrest.		
NAME: Authorized Si	Safiy 0 gnatory	Wats	ion —	

Susan M. Dillon
700 Main Street
Cambridge, MA 02139 US

Name: Address:

Witness Name:

Address:

Stephanie Geis 700 Main Street Cambridge, MA 02139

NUMBER	ARTIC	10
NIDV	ARIS	A .

Executed this

BY NAME:

Authorized Signatory

NAME: Laura Yuacder Authorized Signatory

susan m Oillon

Susan M. Dillon 700 Main Street Cambridge, MA 02139 US

Witness

Name:

Address:

Name:

Address:

Stephanie Geis 700 Main Street Cambridge, MA 02139

> **PATENT** REEL: 049012 FRAME: 0291

RECORDED: 04/26/2019