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PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
SARA HADIDA RUAH	03/05/2009
MARK MILLER	03/05/2009
JINGLAN ZHOU	03/05/2009
BRIAN BEAR	03/05/2009

RECEIVING PARTY DATA

Name:	VERTEX PHARMACEUTICALS INCORPORATED
Street Address:	50 NORTHERN AVENUE
City:	BOSTON
State/Country:	MASSACHUSETTS
Postal Code:	02210

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15297983

CORRESPONDENCE DATA

Fax Number: (617)646-1666

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using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

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ATTORNEY DOCKET NUMBER:	10275.0096-04000
NAME OF SUBMITTER:	LESLIE MCDONELL
SIGNATURE:	/Leslie McDonell/
DATE SIGNED:	06/06/2017

Total Attachments: 7

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PATENT REEL: 042613 FRAME: 0184 504399117

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PATENT REEL: 042613 FRAME: 0185

Attorney Docket No.: VPI/08-100 US

ASSIGNMENT

We,

- (1) Sara Hadida Ruah, of La Jolla, California;
- (2) Mark Miller, of San Diego, California;
- (3) Jinglan Zhou, of San Diego, California; and
- (4) Brian Bear, of Oceanside, California;

for good and valuable consideration, receipt of which is hereby acknowledged, have assigned, sold and transferred to, and do hereby assign, sell and transfer to, Vertex Pharmaceuticals Incorporated, a corporation organized and existing under the laws of the Commonwealth of Massachusetts and having an office and a place of business at 130 Waverly Street, Cambridge, MA 02139, its successors and assigns, all hereinafter referred to as the ASSIGNEE:

- (1) the entire right, title and interest in the United States and in all countries throughout the world in and to any and all of my/our inventions, and discoveries disclosed in:
- (a) the application for United States Letters Patent entitled: HETEROARYL DERIVATIVES AS CFTR MODULATORS, and filed in the United States Patent and Trademark Office on February 25, 2009 under Application Number 12/392,298, including any renewals, revivals, reissues, reexaminations, extensions, continuations, and divisions thereof, and any substitute applications therefor, and/or
- (b) the International Patent Application entitled: HETEROARYL DERIVATIVES AS CFTR MODULATORS, filed under the Patent Cooperation Treaty in the United States Receiving Office on February 25, 2009, under Application No. PCT/US2009/035064, and designating all countries, including any renewals, revivals, reissues, reexaminations, extensions, continuations and divisions thereof, and any substitute applications therefor;
- (2) the full and complete right to file patent applications in the name of the ASSIGNEE, its designee, or in our names at the election of the ASSIGNEE or its designee, on the aforesaid inventions, discoveries and applications in the United States and in any other country of the world;

- (3) the entire right, title and interest in and to any Letters Patent which may issue thereon in the United States or in any other country of the world, and in and to any renewals, revivals, reissues, reexaminations, extensions, continuations and divisions thereof; and
- (4) the entire right, title and interest in and to all Convention and Treaty Rights of all kinds thereon, including without limitation all rights of priority in any country of the world, in and to the above inventions, discoveries and applications including, but not limited to, the following priority application(s):

61/032,159	United States of America	February 28, 2008
Application No.	Country	Filing Date

and all rights of priority in any country of the world deriving from the aboveidentified International Patent Application.

We hereby authorize and request the competent authorities to grant and to issue any and all such Letters Patent in the United States and throughout the world to the ASSIGNEE of the entire right, title and interest therein, as fully and entirely as the same would have been held and enjoyed by me/us had this assignment, sale and transfer not been made.

We agree, at any time, upon the request of the ASSIGNEE to execute and to deliver to the ASSIGNEE any additional applications for patents for said inventions and discoveries, or any part or parts thereof, and any applications for patents of confirmation, registration and importation based on any Letters Patent issuing on said inventions, discoveries or applications, and divisions, continuations, renewals, revivals, reissues, reexaminations and extensions thereof.

We further agree at any time to execute and to deliver upon request of the ASSIGNEE such additional documents, if any, as are necessary or desirable to secure patent protection on said inventions, discoveries and applications throughout all countries of the world, and otherwise to do the necessary to give full effect to and to perfect the rights of the ASSIGNEE under this Assignment, including the execution, delivery and procurement of any and all further documents evidencing this assignment, transfer and sale as may be necessary or desirable.

Medde
(1) Sara Hadida Ruah
Date: 3/5/2009

County of San Dego

Subscribed and sworn to (or affirmed) before me this (date) _____ th___, day of March, 2009 by Sara Hadida Ruah, proved to me on the basis of satisfactory evidence to be the person who appeared before me.

Notary Public
My Commission Expires: 10-20-2011



March Arch	
(2) Mark Miller	
Date: 3/5/2009	

County of Sun Diego ss

Subscribed and sworn to (or affirmed) before me this (date) _____, day of ______, 2009 by Mark Miller, proved to me on the basis of satisfactory

evidence to be the person(s) who appeared before me.

Notary Public

My Commission Expires: 10-20-201/



1 gandini co	Fr
(3) Jinglan Zho	1 1 ~
Date:	315/09

County of San Diego ss

Subscribed and sworn to (or affirmed) before me this (date) ______, day of

_, 2009 by Jinglan Zhou, proved to me on the basis of satisfactory evidence to be the person(s) who appeared before me.

Notary Public
My Commission Expires: 10->0->0||



	RS-	and the same of		
(4) Brian	Bear	, particular, c		
Date:	3/5	09	 	

County of Sun Diezo ss

Subscribed and sworn to (or affirmed) before me this (date) ______, day of

March, 2009 by Brian Bear, proved to me on the basis of satisfactory evidence to be the person(s) who appeared before me.

Notary Public

My Commission Expires: 10-20-20!



ACKNOWLEDGMENT OF ASSIGNEE

By: Daniel
Stephen L. Nesbitt
Chief Patent Counsel
VERTEX PHARMACEUTICALS INCORPORATED
Date: $\frac{3/11/0.9}{}$
Commonwealth of Massachusetts County of Middlesex
On this day of

