

<b>PATENT ASSIGNMENT COVER SHEET</b>
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Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT3957151

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
PAUL S. CHARIFSON	07/08/2013
KEVIN MICHAEL COTTRELL	06/25/2013
HONGBO DENG	07/22/2013
JOHN P. DUFFY	06/25/2013
HUAI GAO	07/01/2013
SIMON GIROUX	06/24/2013
JEREMY GREEN	06/25/2013
KATRINA LEE JACKSON	07/09/2013
JOSEPH M. KENNEDY	07/07/2013
DAVID J. LAUFFER	06/24/2013
MARK WILLEM LEDEBOER	07/09/2013
PAN LI	06/24/2013
JOHN PATRICK MAXWELL	07/24/2013
MARK A. MORRIS	06/24/2013
ALBERT CHARLES PIERCE	07/09/2013
NATHAN D. WAAL	07/09/2013
JINWANG XU	07/10/2013
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	VERTEX PHARMACEUTICALS INCORPORATED
<b>Street Address:</b>	50 NORTHERN AVENUE
<b>City:</b>	BOSTON
<b>State/Country:</b>	MASSACHUSETTS
<b>Postal Code:</b>	02210
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	15056137
<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</i>	
<b>PATENT</b>	

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

**Email:** patents@vrtx.com  
**Correspondent Name:** VERTEX PHARMACEUTICALS INCORPORATED  
**Address Line 1:** 50 NORTHERN AVENUE  
**Address Line 4:** BOSTON, MASSACHUSETTS 02210

<b>ATTORNEY DOCKET NUMBER:</b>	VPI/12-112 US DV1
<b>NAME OF SUBMITTER:</b>	FRANCES M. CUNNINGHAM
<b>SIGNATURE:</b>	/Frances M. Cunningham/
<b>DATE SIGNED:</b>	07/12/2016

**Total Attachments: 20**

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## ASSIGNMENT

We,

- (1) Paul S. Charifson, of Framingham, Massachusetts;
- (2) Kevin Michael Cottrell, of Cambridge, Massachusetts;
- (3) Hongbo Deng, of Southborough, Massachusetts;
- (4) John P. Duffy, of Northborough, Massachusetts;
- (5) Huai Gao, of Arlington, Massachusetts;
- (6) Simon Giroux, of Cambridge, Massachusetts;
- (7) Jeremy Green, of Waltham, Massachusetts;
- (8) Katrina Lee Jackson, of Cambridge, Massachusetts;
- (9) Joseph M. Kennedy, of Charlestown, Massachusetts;
- (10) David J. Lauffer, of Stow, Massachusetts;
- (11) Mark Willem Ledebøer, of Acton, Massachusetts;
- (12) Pan Li, of Lexington, Massachusetts;
- (13) John Patrick Maxwell, of Hingham, Massachusetts;
- (14) Mark A. Morris, of Somerville, Massachusetts;
- (15) Albert C. Pierce, of Cambridge, Massachusetts;
- (16) Nathan D. Waal, of Cambridge, Massachusetts, and
- (17) Jinwang Xu, of Framingham, Massachusetts;

for good and valuable consideration, receipt of which is hereby acknowledged, have assigned, sold and transferred to, by virtue of our agreement with Vertex Pharmaceuticals Incorporated 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 our inventions, and discoveries disclosed in:

(a) the application for United States Letters Patent entitled: DNA-PK INHIBITORS, and filed in the United States Patent and Trademark Office on April 23, 2013, under Application Number 13/868,703, including any renewals, revivals, reissues,

reexaminations, extensions, continuations, and divisions thereof, and any substitute applications therefor, and/or

(b) the International Patent Application entitled: DNA-PK INHIBITORS, filed under the Patent Cooperation Treaty in the United States Receiving Office on April 23, 2013, under Application No.: PCT/US13/37811, 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):

61/777,806	United States of America	March 12, 2013
61/725,652	United States of America	November 13, 2012
61/637,512	United States of America	April 24, 2012
<hr/> Application No.	<hr/> Country	<hr/> Filing Date

and all rights of priority in any country of the world deriving from the above-identified 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 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.

Paul S. Charifson

(1) Paul S. Charifson

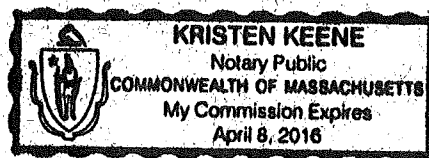
Date: July 8, 2013


Commonwealth of Massachusetts  
County of Middlesex

On this 8 day of July, 2013, before me, the undersigned notary public, personally appeared Paul S. Charifson, proved to me through satisfactory evidence of identification which was/were:  personal knowledge of identity,  a driver's license,  other (please identify) \_\_\_\_\_, to be the person whose name is signed on this document, and who swore or affirmed to me that the contents of the document are truthful and accurate to the best of his/her knowledge and belief.

Kristen Keene  
Notary Public

My Commission Expires: 4/8/2016.





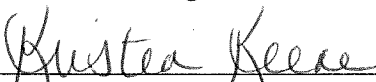
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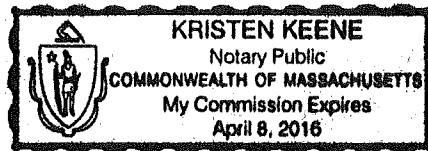
(2) Kevin Michael Cottrell

Date: 6/25/13

Commonwealth of Massachusetts  
County of Middlesex

On this 25 day of June, 2013, before me, the undersigned notary public, personally appeared Kevin Michael Cottrell, proved to me through satisfactory evidence of identification which was/were:  personal knowledge of identity,  a driver's license,  other (please identify) \_\_\_\_\_, to be the person whose name is signed on this document, and who swore or affirmed to me that the contents of the document are truthful and accurate to the best of his/her knowledge and belief.

  
Notary Public  
My Commission Expires: 4/8/2016.



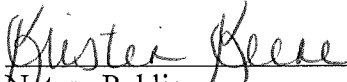


(3) Hongbo Deng

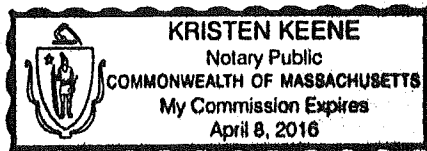
Date: 07/22/2013

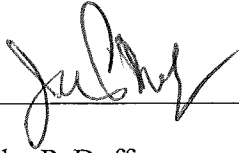
Commonwealth of Massachusetts  
County of Middlesex

On this 22 day of July, 2013, before me, the undersigned notary public, personally appeared Hongbo Deng, proved to me through satisfactory evidence of identification which was/were:  personal knowledge of identity,  a driver's license,  other (please identify) \_\_\_\_\_, to be the person whose name is signed on this document, and who swore or affirmed to me that the contents of the document are truthful and accurate to the best of his/her knowledge and belief.

  
Notary Public

My Commission Expires: 4/8/2016.





(4) John P. Duffy

Date: 6/25/13

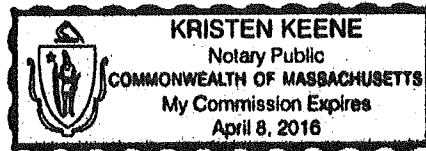
Commonwealth of Massachusetts  
County of Middlesex

On this 25 day of June, 2013, before me, the undersigned notary public, personally appeared John P. Duffy, proved to me through satisfactory evidence of identification which was/were:  personal knowledge of identity,  a driver's license,  other (please identify) \_\_\_\_\_, to be the person whose name is signed on this document, and who swore or affirmed to me that the contents of the document are truthful and accurate to the best of his/her knowledge and belief.



Notary Public

My Commission Expires: 4/8/2016.








(5) Huai Gao

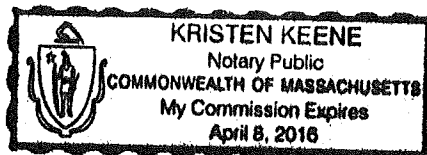
Date: 07/01/2013

Commonwealth of Massachusetts  
County of Middlesex

On this 1 day of July, 2013, before me, the undersigned notary public, personally appeared Huai Gao, proved to me through satisfactory evidence of identification which was/were:  personal knowledge of identity,  a driver's license,  other (please identify) \_\_\_\_\_, to be the person whose name is signed on this document, and who swore or affirmed to me that the contents of the document are truthful and accurate to the best of his/her knowledge and belief.

  
Notary Public

My Commission Expires: 4/8/2016.



*Simon Giroux*

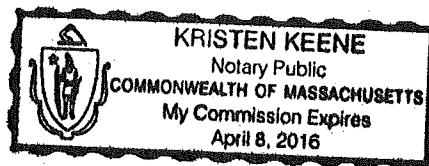
(6) Simon Giroux

Date: 6/24/2013

Commonwealth of Massachusetts  
County of Middlesex

On this 24 day of June, 2013, before me, the undersigned notary public, personally appeared Simon Giroux, proved to me through satisfactory evidence of identification which was/were:  personal knowledge of identity,  a driver's license,  other (please identify) \_\_\_\_\_, to be the person whose name is signed on this document, and who swore or affirmed to me that the contents of the document are truthful and accurate to the best of his/her knowledge and belief.

*Kristen Keene*  
Notary Public  
My Commission Expires: 4/8/2016.



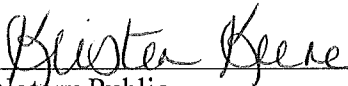


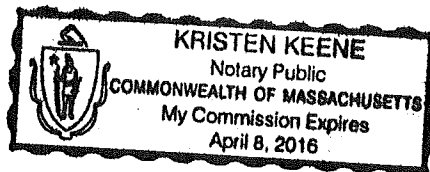
(7) Jeremy Green

Date: JUNE 25, 2013

Commonwealth of Massachusetts  
County of Middlesex

On this 25 day of June, 2013, before me, the undersigned notary public, personally appeared Jeremy Green, proved to me through satisfactory evidence of identification which was/were:  personal knowledge of identity,  a driver's license,  other (please identify) \_\_\_\_\_, to be the person whose name is signed on this document, and who swore or affirmed to me that the contents of the document are truthful and accurate to the best of his/her knowledge and belief.

  
Notary Public  
My Commission Expires: 4/8/2016.



Katrina Lee Jackson

(8) Katrina Lee Jackson

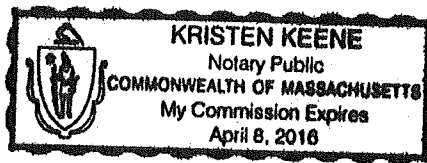
Date: 7/9/2013

Commonwealth of Massachusetts  
County of Middlesex

On this 9 day of July, 2013, before me, the undersigned notary public, personally appeared Katrina Lee Jackson, proved to me through satisfactory evidence of identification which was/were:  personal knowledge of identity,  a driver's license,  other (please identify) \_\_\_\_\_, to be the person whose name is signed on this document, and who swore or affirmed to me that the contents of the document are truthful and accurate to the best of his/her knowledge and belief.

Kristen Keene  
Notary Public

My Commission Expires: 4/8/2016.



Joseph M. Kennedy

(9) Joseph M. Kennedy

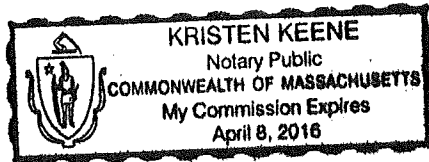
Date: 07/01/2013

Commonwealth of Massachusetts  
County of Middlesex

On this 1 day of July, 2013, before me, the undersigned notary public, personally appeared Joseph M. Kennedy, proved to me through satisfactory evidence of identification which was/were:  personal knowledge of identity,  a driver's license,  other (please identify) \_\_\_\_\_, to be the person whose name is signed on this document, and who swore or affirmed to me that the contents of the document are truthful and accurate to the best of his/her knowledge and belief.

Kristen Keene  
Notary Public

My Commission Expires: 4/8/2016.



David J. Lauffer

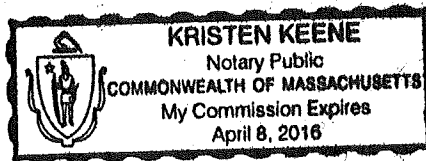
(10) David J. Lauffer

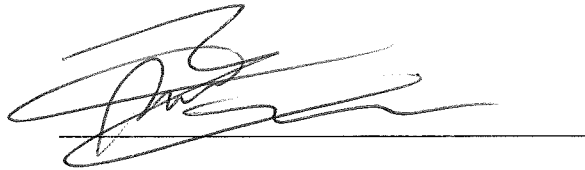
Date: June 24, 2013

Commonwealth of Massachusetts  
County of Middlesex

On this 24 day of June, 2013, before me, the undersigned notary public, personally appeared David J. Lauffer, proved to me through satisfactory evidence of identification which was/were:  personal knowledge of identity,  a driver's license,  other (please identify) \_\_\_\_\_, to be the person whose name is signed on this document, and who swore or affirmed to me that the contents of the document are truthful and accurate to the best of his/her knowledge and belief.

Kristen Keene  
Notary Public  
My Commission Expires: 4/8/2016





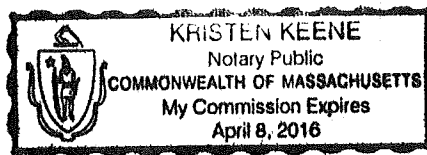
(11) Mark Willem Ledeboer

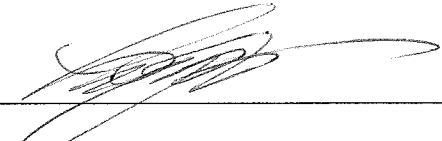
Date: 7/9/13

Commonwealth of Massachusetts  
County of Middlesex

On this 9 day of July, 2013, before me, the undersigned notary public, personally appeared Mark Willem Ledeboer, proved to me through satisfactory evidence of identification which was/were:  personal knowledge of identity,  a driver's license,  other (please identify) \_\_\_\_\_, to be the person whose name is signed on this document, and who swore or affirmed to me that the contents of the document are truthful and accurate to the best of his/her knowledge and belief.


Kristen Keene  
Notary Public  
My Commission Expires: 4/8/2016.

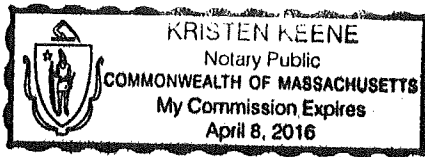


  
\_\_\_\_\_  
(12) Pan Li  
Date: 6/24/2013

Commonwealth of Massachusetts  
County of Middlesex

On this 24 day of June, 2013, before me, the undersigned notary public, personally appeared Pan Li, proved to me through satisfactory evidence of identification which was/were:  
 personal knowledge of identity,  a driver's license,  other (please identify)  
\_\_\_\_\_, to be the person whose name is signed on this document, and who swore or affirmed to me that the contents of the document are truthful and accurate to the best of his/her knowledge and belief.

  
\_\_\_\_\_  
Notary Public  
My Commission Expires: 4/8/2016.





*John Patrick Maxwell*

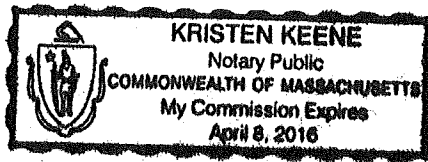
(13) John Patrick Maxwell

Date: 07.24.2013

Commonwealth of Massachusetts  
County of Middlesex

On this 24 day of July, 2013, before me, the undersigned notary public, personally appeared John Patrick Maxwell, proved to me through satisfactory evidence of identification which was/were:  personal knowledge of identity,  a driver's license,  other (please identify) \_\_\_\_\_, to be the person whose name is signed on this document, and who swore or affirmed to me that the contents of the document are truthful and accurate to the best of his/her knowledge and belief.

*Kristen Keene*  
Notary Public  
My Commission Expires: 4/8/2016.



Mark A. Morris

(14) Mark A. Morris

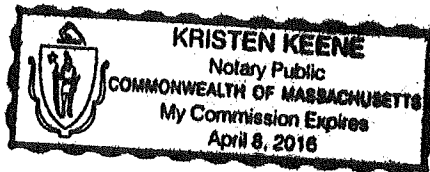
Date: 24 June 2013

Commonwealth of Massachusetts  
County of Middlesex

On this 24 day of June, 2013, before me, the undersigned notary public, personally appeared Mark A. Morris, proved to me through satisfactory evidence of identification which was/were:  personal knowledge of identity,  a driver's license,  other (please identify) \_\_\_\_\_, to be the person whose name is signed on this document, and who swore or affirmed to me that the contents of the document are truthful and accurate to the best of his/her knowledge and belief.

Kristen Keene  
Notary Public

My Commission Expires: 4/8/2016.



Albert Charles Pierce

(15) Albert Charles Pierce

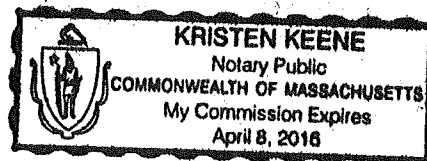
Date: July 9, 2013

Commonwealth of Massachusetts  
County of Middlesex

On this 9 day of July, 2013, before me, the undersigned notary public, personally appeared Albert Charles Pierce, proved to me through satisfactory evidence of identification which was/were:  personal knowledge of identity,  a driver's license,  other (please identify) \_\_\_\_\_, to be the person whose name is signed on this document, and who swore or affirmed to me that the contents of the document are truthful and accurate to the best of his/her knowledge and belief.

Kristen Keene  
Notary Public

My Commission Expires: 4/8/2016.



*Nathan D. Waal*

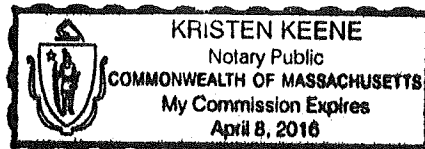
(16) Nathan D. Waal

Date: 7/9/13

Commonwealth of Massachusetts  
County of Middlesex

On this 9 day of July, 2013, before me, the undersigned notary public, personally appeared Nathan D. Waal, proved to me through satisfactory evidence of identification which was/were:  personal knowledge of identity,  a driver's license,  other (please identify) \_\_\_\_\_, to be the person whose name is signed on this document, and who swore or affirmed to me that the contents of the document are truthful and accurate to the best of his/her knowledge and belief.

*Kristen Keene*  
Notary Public  
My Commission Expires: 4/8/2016.





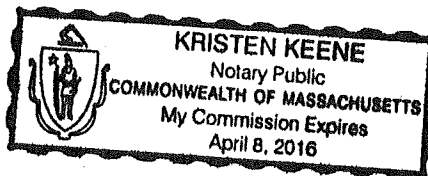
(17) Jinwang Xu

Date: 7/10/2013

Commonwealth of Massachusetts  
County of Middlesex

On this 10 day of July, 2013, before me, the undersigned notary public, personally appeared Jinwang Xu, proved to me through satisfactory evidence of identification which was/were:  personal knowledge of identity,  a driver's license,  other (please identify) \_\_\_\_\_, to be the person whose name is signed on this document, and who swore or affirmed to me that the contents of the document are truthful and accurate to the best of his/her knowledge and belief.

Kristen Keene  
Notary Public  
My Commission Expires: 4/8/2016.



ACKNOWLEDGMENT OF ASSIGNEE

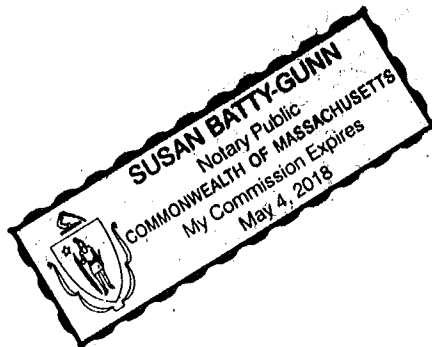
By: [Signature]  
Stephen L. Nesbitt  
Vice President and Chief IP Counsel  
VERTEX PHARMACEUTICALS INCORPORATED

Date: 7/29/13

Commonwealth of Massachusetts  
County of Middlesex

On this 29th day of July, 2013, before me, the undersigned notary public, personally appeared Stephen L. Nesbitt (name of document signer), proved to me through satisfactory evidence of identification which was/were:  personal knowledge of identity,  a driver's license,  other (please identify) \_\_\_\_\_, to be the person whose name is signed on this document, and who swore or affirmed to me that the contents of the document are truthful and accurate to the best of his/her knowledge and belief.

[Signature]  
Notary Public  
My Commission Expires: 5/4/18.



Doc ID: 689718