502743431 03/28/2014

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT2790027

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
PAUL CHARIFSON	08/18/2010
MICHAEL P. CLARK	08/17/2010
UPUL K. BANDARAGE	08/23/2010
RANDY S. BETHIEL	08/16/2010
JOHN J. COURT	08/16/2010
HONGBO DENG	08/30/2010
IOANA DRUTU	08/30/2010
JOHN P. DUFFY	08/16/2010
LUC J. FARMER	08/16/2010
HUAI GAO	08/16/2010
WENXIN GU	08/18/2010
DYLAN H. JACOBS	09/09/2010
JOSEPH M. KENNEDY	08/16/2010
MARK W. LEDEBOER	08/16/2010
BRIAN LEDFORD	08/16/2010
FRANCOIS MALTAIS	08/16/2010
EMANUELE PEROLA	08/17/2010
TIANSHENG WANG	08/17/2010
M. WOODS WANNAMAKER	07/26/2010
RANDAL BYRN	12/05/2011
YI ZHOU	08/30/2011
CHAO LIN	08/29/2011
MIN JIANG	08/18/2011
STEVEN JONES	08/18/2011
URSULA A. GERMANN	08/19/2011
ANN DAK-YEE KWONG	03/14/2014
FRANCESCO SALITURO	05/07/2013

RECEIVING PARTY DATA

Name:	VERTEX PHARMACEUTICALS INCORPORATED	
Street Address:	50 NORTHERN AVENUE, 15TH FLOOR	
City:	BOSTON	PATENT

502743431 REEL: 032549 FRAME: 0001

State/Country:	MASSACHUSETTS
Postal Code:	02210

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	14098867

CORRESPONDENCE DATA

Fax Number:

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent via US Mail.

Email: Frances_Cunningham@vrtx.com

Correspondent Name: VERTEX PHARMACEUTICALS INCORPORATED

Address Line 1:50 NORTHERN AVENUE, 15TH FLOORAddress Line 4:BOSTON, MASSACHUSETTS 02210

ATTORNEY DOCKET NUMBER: VPI/09-103 USW CN1 DV1		
NAME OF SUBMITTER:	FRANCES M. CUNNINGHAM	
SIGNATURE:	/Frances M. Cunningham/	
DATE SIGNED:	03/28/2014	

Total Attachments: 134

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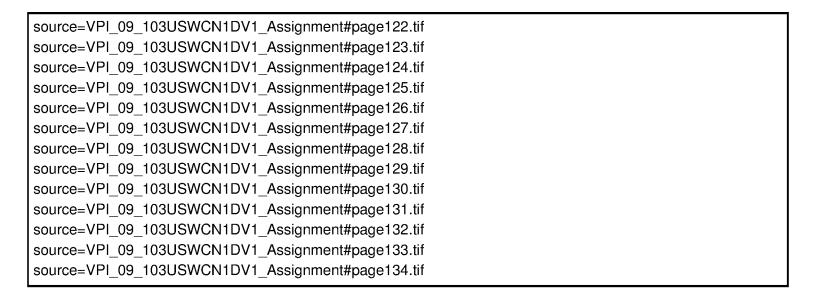
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> PATENT REEL: 032549 FRAME: 0004



PATENT REEL: 032549 FRAME: 0005

Attorney Docket No.: VPI/09-103 WO

ASSIGNMENT

We,

- (1) Paul Charifson, of Framingham, Massachusetts;
- (2) Michael P. Clark, of Concord, Massachusetts;
- (3) Upul K. Bandarage, of Lexington, Massachusetts;
- (4) Randy S. Bethiel, of Lexington, Massachusetts;
- (5) John J. Court, of Littleton, Massachusetts;
- (6) Hongbo Deng, of Southborough, Massachusetts;
- (7) Ioana Drutu, of Watertown, Massachusetts;
- (8) John P. Duffy, of Northborough, Massachusetts;
- (9) Luc J. Farmer, of Foxboro, Massachusetts;
- (10) Huai Gao, of Arlington, Massachusetts;
- (11) Wenxin Gu, of Somerville, Massachusetts;
- (12) Dylan H. Jacobs, of Everett, Massachusetts;
- (13) Joseph M. Kennedy, of Charlestown, Massachusetts;
- (14) Mark W. Ledeboer, of Acton, Massachusetts;
- (15) Brian Ledford, of Norton, Massachusetts;
- (16) François Maltais, of Tewksbury, Massachusetts;
- (17) Emanuele Perola, of Brookline, Massachusetts;
- (18) Tiansheng Wang, of Concord, Massachusetts;
- (19) M. Woods Wannamaker, of Bolton, Massachusetts;
- (20) Randal Byrn, of Wayland, Massachusetts;
- (21) Yi Zhou, of Lexington, Massachusetts;
- (22) Chao Lin, of Winchester, Massachusetts;
- (23) Min Jiang, of Lexington, Massachusetts;
- (24) Steven Jones, of Hyde Park, Massachusetts; and

- (25) Ursula A. Germann, of Newton, 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 my/our inventions, and discoveries disclosed in:
- (a) the application for United States Letters Patent entitled: , and filed in the United States Patent and Trademark Office on , under Application Number ¹, including any renewals, revivals, reissues, reexaminations, extensions, continuations, and divisions thereof, and any substitute applications therefor, and/or
- (b) the International Patent Application entitled: INHIBITORS OF INFLUENZA VIRUSES REPLICATION, filed under the Patent Cooperation Treaty in the United States Receiving Office on June 17, 2010, under Application No. PCT/US2010/038988, 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 my/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;

¹ We authorize and request ASSIGNEE to insert the filing date and/or application number of said application when known.

- (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):

61/187,713	US	June 17, 2009
Application No.	Country	Filing Date
		
61/287,781	US	December 18, 2009
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.

(1) Paul Charifson Date:
Commonwealth of Massachusetts County of
On this day of, 2011, before me, the undersigned notary public, personally appeared Paul 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.
Notary Public My Commission Expires:

	(2) Michael P. Clark Date:
Commonwealth of Massachusetts County of	
On this day of, 2 personally appeared Michael P. Clark, identification which was/were: personal persona	011, before me, the undersigned notary public, proved to me through satisfactory evidence of onal knowledge of identity, _, to be the person whose name is signed on this to me that the contents of the document are truthful
Notary Public My Commission Expires:	

	(3) Upul K. Bandarage Date:
Commonwealth of Massachusetts County of	
personally appeared Upul K. Bandarage identification which was/were: ☐ personally personally appeared Upul K. Bandarage identification which was/were: ☐ personally appeared Upul K. Bandarage identification which was/were: ☐ personally appeared Upul K. Bandarage identification which was/were: ☐ personally appeared Upul K. Bandarage identification which was/were: ☐ personally appeared Upul K. Bandarage identification which was/were: ☐ personally appeared Upul K. Bandarage identification which was/were: ☐ personally appeared Upul K. Bandarage identification which was/were: ☐ personally appeared Upul K. Bandarage identification which was/were: ☐ personally appeared Upul K. Bandarage identification which was/were: ☐ personally appeared Upul K. Bandarage identification which was/were: ☐ personally appeared Upul K. Bandarage identification which was/were: ☐ personally appeared Upul K. Bandarage identification which was/were: ☐ personally appeared Upul K. Bandarage identification which was/were identification which wa	011, before me, the undersigned notary public, e, proved to me through satisfactory evidence of onal knowledge of identity, a driver's license, to be the person whose name is signed on this to me that the contents of the document are truthful yledge and belief.
Notary Public My Commission Expires:	

	(4) Randy S. Bethiel
	Date:
Commonwealth of Massachusetts County of	
other (please identify), to	ed to me through satisfactory evidence of knowledge of identity, a driver's license, be the person whose name is signed on this that the contents of the document are truthful
Notary Public My Commission Expires:	

	(5) John J. Court
	Date:
Commonwealth of Massachusetts County of	
which was/were: personal knowledge of identify), to be the person	before me, the undersigned notary public, me through satisfactory evidence of identification identity, \square a driver's license, \square other (please whose name is signed on this document, and its of the document are truthful and accurate to
Notary Public	
My Commission Expires:	

		(6) Hongbo Deng
		Date:
Commonwealth of County of	Massachusetts	
personally appeared identification which other (please identification) document, and who	d Hongbo Deng, proven was/were: ☐ person fy),	11, before me, the undersigned notary public, ed to me through satisfactory evidence of hal knowledge of identity, \subseteq a driver's license, \subseteq to be the person whose name is signed on this me that the contents of the document are truthful edge and belief.
Notary Public	xpires:	

	(7) Ioana Drutu
	Date:
Commonwealth of Massachusetts County of	
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on this day of	, 2011, before me, the undersigned notary public, oved to me through satisfactory evidence of
identification which was/were: \square pe	rsonal knowledge of identity, \square a driver's license, \square
other (please identify)	to be the person whose name is signed on this
document, and who swore or affirme	d to me that the contents of the document are truthful
and accurate to the best of his/her kn	owledge and belief.
Notary Public	
My Commission Expires:	

	(8) John P. Duffy
	Date:
	,
Commonwealth of Massachusetts County of	
personally appeared John P. Duffy, prove identification which was/were: person other (please identify),	al knowledge of identity, \square a driver's license, \square to be the person whose name is signed on this me that the contents of the document are truthful
Notary Public	
My Commission Expires:	

	(9) Luc J. Farmer
	Date:
Commonwealth of Massachusetts County of	
personally appeared Luc Farmer, proved t identification which was/were: ☐ personal	1, before me, the undersigned notary public, o me through satisfactory evidence of l knowledge of identity, a driver's license, o be the person whose name is signed on this
document, and who swore or affirmed to and accurate to the best of his/her knowled	ne that the contents of the document are truthful
Notary Public	
My Commission Expires:	

	(10) Huai Gao
	Date:
Commonwealth of Massachusetts County of	
personally appeared Huai Gao, proved to which was/were: personal knowledge didentify), to be the personal knowledge of the	1, before me, the undersigned notary public, me through satisfactory evidence of identification of identity, \square a driver's license, \square other (please on whose name is signed on this document, and tents of the document are truthful and accurate to
Notary Public	
My Commission Expires:	

	(11) Wenxin Gu
	Date:
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Commonwealth of Massachusetts County of	
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	(12) Dylan H. Jacobs
	Date:
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Commonwealth of Massachusetts County of	
personally appeared Dylan Jacobs, prover identification which was/were: person	11, before me, the undersigned notary public, d to me through satisfactory evidence of al knowledge of identity, ☐ a driver's license, ☐ to be the person whose name is signed on this
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Notary Public	
My Commission Expires:	

	(13) Joseph M. Kennedy Date:
Commonwealth of Massachusetts County of	
identification which was/were: ☐ personal other (please identify), to	roved to me through satisfactory evidence of knowledge of identity, \square a driver's license, \square be the person whose name is signed on this that the contents of the document are truthful
Notary Public	
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	(14) Mark W. Ledeboer Date:
Commonwealth of Massachusetts County of	
personally appeared Mark W. Ledeboe identification which was/were: ☐ personal perso	2011, before me, the undersigned notary public, er, proved to me through satisfactory evidence of onal knowledge of identity, \(\square\) a driver's license, \(\square\), to be the person whose name is signed on this to me that the contents of the document are truthful wledge and belief.
Notary Public My Commission Expires:	

(1:	5) Brian Ledford
Da	nte:
Commonwealth of Massachusetts	
County of	
On this day of, 2011, bef personally appeared Brian Ledford, proved to midentification which was/were: personal kno other (please identify), to be the latest and the second seco	ne through satisfactory evidence of wledge of identity, \square a driver's license, \square the person whose name is signed on this
document, and who swore or affirmed to me that and accurate to the best of his/her knowledge an	
and wronge as	
Notary Public	
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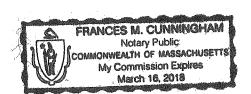
	(16) François Maltais
	Date:
Commonwealth of Massachusetts County of	•
other (please identify), to	ed to me through satisfactory evidence of knowledge of identity, \square a driver's license, \square be the person whose name is signed on this e that the contents of the document are truthful
	, and deficit
Notary Public My Commission Expires:	
My Commission Expires:	

	(17) Emanuele Perola	
	Date:	
Commonwealth of Massachusetts		
County of		
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	roved to me through satisfactory evidence of nal knowledge of identity,	
other (please identify)	, to be the person whose name is signed on this	
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and accurate to the best of his/her know	ledge and belief.	
Notary Public		
My Commission Expires:		

	(18) Tiansheng Wang
	Date:
Commonwealth of Massachusetts County of	
personally appeared Tiansheng Wang, pro- identification which was/were: ☐ persona other (please identify), t	1, before me, the undersigned notary public, ved to me through satisfactory evidence of l knowledge of identity, ☐ a driver's license, ☐ o be the person whose name is signed on this me that the contents of the document are truthful lige and belief.
Notary Public	
My Commission Expires:	

	(19) M. Woods Wannamaker
-	Date:
IN WITNESS WHEREOF, I ha	ve hereunto set hand and seal
Signature of witness:	
Printed Name of Witness:	· · · · · · · · · · · · · · · · · · ·
this day of	igning
Date of s	igning
IN WITNESS WHEREOF, I ha	ve hereunto set hand and seal
Signature of witness:	
Printed Name of Witness:	
this day of	•
Date of s	igning

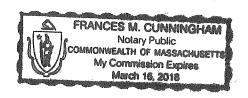
Rudal Hym
(20) Randal Byrn
Date: Lk 5, 2011



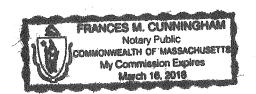
A
(21) Yi Zhou
Date: 8-30-2011

Commonwealth of Massachusetts
County of Middle Sey
On this 30 day of <u>hugust</u> , 2011, before me, the undersigned notary public,
personally appeared Yi Zhou, proved to me through satisfactory evidence of identification
which was/were: personal knowledge of identity, □ a driver's license, □ other (please)
identify) <u>Yi Zhau</u> , 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.
Kelly A. Donnelly
Notary Public My Commission Expires: 6/25/15.
My Commission Expires: $6/25/15$.

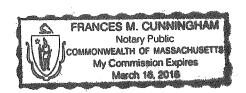
(22) Chao Lin



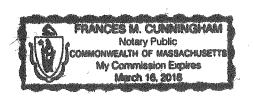
(23) Min Jiang
Date: 8 / 18 / 2011



(24) Steven Jones
Date: 18 Aug 2011

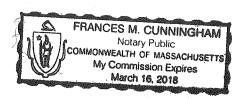


(25) Ursula A. Germann
Date: 19 August 2011



ACKNOWLEDGMENT OF ASSIGNEE

By: Dorlot
Stephen L. Nesbitt
Vice President & Chief Patent Counsel
VERTEX PHARMACEUTICALS INCORPORATED
Date: Allember 6, 2011
Commonwealth of Massachusetts
County of Middlesex
On this day of day, 2011, 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: \[\infty \text{ personal knowledge of identity} \]
☐ 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 Optical Control of the
My Commission Expires: 31/0/18.



Attorney Docket No.: VPI/09-103 WO

ASSIGNMENT

We,

- (1) Paul Charifson, of Framingham, Massachusetts;
- (2) Michael P. Clark, of Concord, Massachusetts;
- (3) Upul K. Bandarage, of Lexington, Massachusetts;
- (4) Randy S. Bethiel, of Lexington, Massachusetts;
- (5) John J. Court, of Littleton, Massachusetts;
- (6) Hongbo Deng, of Southborough, Massachusetts;
- (7) Ioana Drutu, of Watertown, Massachusetts;
- (8) John P. Duffy, of Northborough, Massachusetts;
- (9) Luc J. Farmer, of Foxboro, Massachusetts;
- (10) Huai Gao, of Arlington, Massachusetts;
- (11) Wenxin Gu, of Somerville, Massachusetts;
- (12) Dylan H. Jacobs, of Everett, Massachusetts;
- (13) Joseph M. Kennedy, of Charlestown, Massachusetts;
- (14) Mark W. Ledeboer, of Acton, Massachusetts;
- (15) Brian Ledford, of Norton, Massachusetts;
- (16) François Maltais, of Tewksbury, Massachusetts;
- (17) Emanuele Perola, of Brookline, Massachusetts;
- (18) Tiansheng Wang, of Concord, Massachusetts; and
- (19) M. Woods Wannamaker, of Bolton, 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 my/our inventions, and discoveries disclosed in:
- (a) the application for United States Letters Patent entitled: , and filed in the United States Patent and Trademark Office on , under Application Number ¹, including any renewals, revivals, reissues, reexaminations, extensions, continuations, and divisions thereof, and any substitute applications therefor, and/or
- (b) the International Patent Application entitled: INHIBITORS OF INFLUENZA VIRUSES REPLICATION, filed under the Patent Cooperation Treaty in the United States Receiving Office on June 17, 2010, under Application No. PCT/US2010/038988, 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 my/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,

¹ We authorize and request ASSIGNEE to insert the filing date and/or application number of said application when known.

in and to the above inventions, discoveries and applications including, but not limited to, the following priority application(s):

61/187,713	US	June 17, 2009
Application No.	Country	Filing Date
61/287,781	US	December 18, 2009
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.

	(1) Paul Charifson Date:
Commonwealth of Massachusetts County of	
other (please identify), to	d to me through satisfactory evidence of knowledge of identity, \square a driver's license, \square be the person whose name is signed on this that the contents of the document are truthful
Notary Public My Commission Expires:	

	(2) Michael P. Clark
	Date:
Commonwealth of Massachusetts County of	
personally appeared Michael P. Clark, pridentification which was/were: person other (please identify),	10, before me, the undersigned notary public, roved to me through satisfactory evidence of al knowledge of identity, a driver's license, to be the person whose name is signed on this me that the contents of the document are truthful edge and belief.
Notary Public	
My Commission Expires:	

	(3) Upul K. Bandarage
	Date:
Commonwealth of Massachusetts County of	
personally appeared Upul K. Bandarage identification which was/were: person other (please identify)	old, before me, the undersigned notary public, proved to me through satisfactory evidence of nal knowledge of identity, a driver's license, to be the person whose name is signed on this of me that the contents of the document are truthful ledge and belief.
Notary Public	
My Commission Expires:	

	(4) Randy S. Bethiel
	Date:
Commonwealth of Massachusetts	
County of	
personally appeared Randy S. Bethiel, pridentification which was/were: person other (please identify),	10, before me, the undersigned notary public, roved to me through satisfactory evidence of all knowledge of identity, \subseteq a driver's license, \subseteq to be the person whose name is signed on this me that the contents of the document are truthful edge and belief.
Notary Public	
My Commission Expires:	

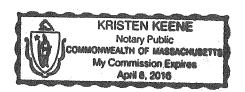
	(5) John J. Court
	Date:
Commonwealth of Massachusetts County of	
personally appeared John Court, prov which was/were: ☐ personal knowle identify), to be the	, 2010, before me, the undersigned notary public, wed to me through satisfactory evidence of identification dge of identity, \square a driver's license, \square other (please person whose name is signed on this document, and econtents of the document are truthful and accurate to lief.
Notary Public	
My Commission Expires:	<u>_</u> .

(6) Hongbo Deng

Commonwealth of Massachusetts County of Middlesex

On this 30^{+6} day of $August$, 2010,	before me, the undersigned notary public
personally appeared Hongbo Deng, proved t	to me through satisfactory evidence of
identification which was/were: 🖵 personal 1	knowledge of identity, \square a driver's license,
☐ other (please identify),	to be the person whose name is signed on
this document, and who swore or affirmed t	o me that the contents of the document are
truthful and accurate to the best of his/her k	nowledge and belief.

My Commission Expires: 4



(7) Ioana Drutu

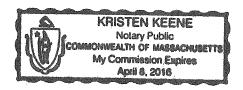
Date: 08/30/2010

Commonwealth of Massachusetts
County of Massachusetts
County of Massachusetts
County of Massachusetts

On this 30 h day of August, 2010, before me, the undersigned notary public, personally appeared Ioana Drutu, 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: 4/8/10/6.



			(8) John P.	Duffy		
			Date:			·
· ·			·			
	•					
	th of Massachuse					
personally application other (please document, and	day of peared John P. Do which was/were: identify) d who swore or a to the best of his/l	uffy, prove ☐ persona , ffirmed to	d to me through the control of the the person that the control of the person that the control of	th satisfactory of identity, n whose namentents of the contractions.	y evidence a driver' le is signe	e of s license, □ d on this
Notary Public My Commiss		·				

	(9) Luc J. Farmer
	Date:
Commonwealth of Massachusetts County of	
personally appeared Luc Farmer, proved to identification which was/were: ☐ personal other (please identify), to	knowledge of identity, \square a driver's license, \square be the person whose name is signed on this he that the contents of the document are truthful
Notary Public	
My Commission Expires:	

		(10) Huai G	ao	
		Date:		
			•	
		•		
Commonwealth County of	of Massachusetts	,		
On this	day of	, 2010, before me, th	ne undersigned nota	ry public,
personally appea	red Huai Gao, pi	oved to me through sati	isfactory evidence o	f identification
		wledge of identity, \square a		
		the person whose name		
		the contents of the docu	ument are truthful a	nd accurate to
the best of his/he	er knowledge and	belief.		
Notary Public				
My Commission	Expires:	· 		

	(11) Wenxin Gu
	Date:
Commonwealth of Massachusetts County of	
personally appeared Wenxin Gu, prove identification which was/were: ☐ personal pers	2010, before me, the undersigned notary public, ed to me through satisfactory evidence of sonal knowledge of identity, a driver's license, to be the person whose name is signed on this to me that the contents of the document are truthful wledge and belief.
Notary Public	
My Commission Expires:	

	(12) Dylan H. Jacobs
	Date:
Commonwealth of Massachusetts County of	
other (please identify), to	to me through satisfactory evidence of knowledge of identity, a driver's license, be the person whose name is signed on this that the contents of the document are truthful
Notary Public My Commission Expires:	

	(13) Joseph M. Kennedy
	Date:
Commonwealth of Massacl	
personally appeared Joseph identification which was/w other (please identify) document, and who swore of	, 2010, before me, the undersigned notary public, Kennedy, proved to me through satisfactory evidence of cre: ☐ personal knowledge of identity, ☐ a driver's license, ☐, to be the person whose name is signed on this or affirmed to me that the contents of the document are truthfais/her knowledge and belief.
Notary Public	
My Commission Expires:	•

(4.6) 3.5, 1.33, 7, 1.1
(14) Mark W. Ledeboer
Date:
Commonwealth of Massachusetts County of
On this day of, 2010, before me, the undersigned notary public, personally appeared Mark W. 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.
Notary Public My Commission Expires:

	(15) Brian Ledford
	Date:
Commonwealth of Massachusetts County of	
personally appeared Brian Ledford, proved identification which was/were: ☐ personal other (please identify), to	knowledge of identity, \square a driver's license, \square be the person whose name is signed on this ne that the contents of the document are truthful
Notary Public My Commission Expires:	

	(16) François Maltais	
	Date:	
Commonwealth of Massachusetts County of		
On this day of, 20 personally appeared François Maltais, pro identification which was/were: person other (please identify), document, and who swore or affirmed to and accurate to the best of his/her knowledge.	oved to me through satisfactory all knowledge of identity, \square a doto be the person whose name is me that the contents of the documents	evidence of river's license, signed on this
Notary Public My Commission Expires:		

		. ((17) Emanı	iele Perc	ola	
]	Date:			
	• *					
	th of Massachus					·
personally appridentification other (please i document, and	dentify)	e Perola, proved :: personal kr , to be affirmed to me to	to me thronowledge on the person that the cor	ough sati of identit n whose ntents of	sfactory y, □ a dr name is	evidence of river's license, □
Notary Public		<u>.</u>				
My Commissi		•				

	(18) Tiansheng Wang
	Date:
•	
Commonwealth of Massachusetts County of	
personally appeared Tiansheng Wang, pro- identification which was/were: personal p	o, before me, the undersigned notary public, wed to me through satisfactory evidence of l knowledge of identity, \subseteq a driver's license, \subseteq o be the person whose name is signed on this ne that the contents of the document are truthful lige and belief.
Notary Public My Commission Expires:	

	(19) M. Woods Wannama	ker
	Date:	
IN WITNESS WHEREOF, I have hereunte	o set hand and seal	
Signature of witness:		
Printed Name of Witness:		
this day of Date of signing		
IN WITNESS WHEREOF, I have hereunto	o set hand and seal	
Signature of witness:		
Printed Name of Witness:		
this day of		•
Date of signing		

ACKNOWLEDGMENT OF ASSIGNEE

By: Dado
Stephen L. Nesbitt
Chief Patent Counsel
VERTEX PHARMACEUTICALS INCORPORATED
Date: September 19, 2000
Commonwealth of Massachusetts
County of Middlesex
On this
Notary Public Roynano My Commission Expires: 5-13-2016 LISA M. ROMANO Notary Public COMMONWEALTH OF MASSACHUSETTS My Commission Expires May 13, 2016

ASSIGNMENT

We,

- (1) Paul Charifson, of Framingham, Massachusetts;
- (2) Michael P. Clark, of Concord, Massachusetts;
- (3) Upul K. Bandarage, of Lexington, Massachusetts;
- (4) Randy S. Bethiel, of Lexington, Massachusetts;
- (5) John J. Court, of Littleton, Massachusetts;
- (6) Hongbo Deng, of Southborough, Massachusetts;
- (7) Ioana Drutu, of Watertown, Massachusetts;
- (8) John P. Duffy, of Northborough, Massachusetts;
- (9) Luc J. Farmer, of Foxboro, Massachusetts;
- (10) Huai Gao, of Arlington, Massachusetts;
- (11) Wenxin Gu, of Somerville, Massachusetts;
- (12) Dylan H. Jacobs, of Everett, Massachusetts;
- (13) Joseph M. Kennedy, of Charlestown, Massachusetts;
- (14) Mark W. Ledeboer, of Acton, Massachusetts;
- (15) Brian Ledford, of Norton, Massachusetts;
- (16) François Maltais, of Tewksbury, Massachusetts;
- (17) Emanuele Perola, of Brookline, Massachusetts;
- (18) Tiansheng Wang, of Concord, Massachusetts; and
- (19) M. Woods Wannamaker, of Bolton, 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 my/our inventions, and discoveries disclosed in:

- (a) the application for United States Letters Patent entitled: , and filed in the United States Patent and Trademark Office on , under Application Number

 1, including any renewals, revivals, reissues, reexaminations, extensions, continuations, and divisions thereof, and any substitute applications therefor, and/or
- (b) the International Patent Application entitled: INHIBITORS OF INFLUENZA VIRUSES REPLICATION, filed under the Patent Cooperation Treaty in the United States Receiving Office on June 17, 2010, under Application No. PCT/US2010/038988, 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 my/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

¹ We authorize and request ASSIGNEE to insert the filing date and/or application number of said application when known.

(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):

61/187,713	US	June 17, 2009
Application No.	Country	Filing Date
61/287,781	US	December 18, 2009
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.

	(1) Paul Charifson
	Date:
Commonwealth of Massachusetts	
County of	
On this day of, 2010, be personally appeared Paul Charifson, proved to identification which was/were: personal ker other (please identify), this document, and who swore or affirmed to truthful and accurate to the best of his/her km	nowledge of identity, \square a driver's license, to be the person whose name is signed on me that the contents of the document are
Notary Public	
My Commission Expires:	

	(2) Michael P. Clark
	Date:
Commonwealth of Massachusetts County of	
On this day of, 2010, personally appeared Michael P. Clark, providentification which was/were: personal other (please identify) this document, and who swore or affirmed the truthful and accurate to the best of his/her key.	ved to me through satisfactory evidence of knowledge of identity, \square a driver's license, to be the person whose name is signed on to me that the contents of the document are
Notary Public	
My Commission Expires:	

	(3) Upul K. Bandarage
	Date:
Commonwealth of Massachusetts	
County of	
personally appeared Upul K. Bandarage, pridentification which was/were: ☐ personal ☐ other (please identify)	, before me, the undersigned notary public, roved to me through satisfactory evidence of knowledge of identity, a driver's license, to be the person whose name is signed on to me that the contents of the document are
truthful and accurate to the best of his/her l	knowledge and belief.
Notary Public	
My Commission Expires:	

	(4) Randy S. Bethiel
	Date:
Commonwealth of Massachusetts County of	
On this day of, 200 personally appeared Randy S. Bethiel, I identification which was/were: personal per	010, before me, the undersigned notary public, proved to me through satisfactory evidence of onal knowledge of identity, , to be the person whose name is signed on need to me that the contents of the document are
Notary Public	
My Commission Evniros	

Notary Public

My Commission Expires: . .

Attorney Docket No.: VPI/09-103 WO

Notary Public

My Commission Expires:_____.

Attorney Docket No.: VPI/09-103 WO

(7) Ioana Drutu Date:

Attorney Docket No.: VPI/09-103 WO

Commonwea	alth of Massachuse	tts
County of		
personally ap	ppeared Ioana Drut	, 2010, before me, the undersigned notary public, u, proved to me through satisfactory evidence of □ personal knowledge of identity, □ a driver's license,
		to be the person whose name is signed on
this documer	nt, and who swore	or affirmed to me that the contents of the document are
truthful and a	accurate to the best	of his/her knowledge and belief.
Notary Publi	c	
My Commis	sion Expires:	•

(8) John P. Duffy
Date:

Attorney Docket No.: VPI/09-103 WO

Commonwea	uth of Massachuse	ETTS
County of		
personally apidentification other (pleathis document)	opeared John P. Do n which was/were: ase identify) nt, and who swore	, 2010, before me, the undersigned notary public, affy, proved to me through satisfactory evidence of personal knowledge of identity, \(\subseteq \) a driver's license, to be the person whose name is signed on or affirmed to me that the contents of the document are tof his/her knowledge and belief.
Notary Publi		
My Commiss	sion Expires:	·

	-	
		(9) Luc J. Farmer
		Date:
Commonwealth of Ma		
personally appeared Lidentification which w ☐ other (please identified)	uc Farmer, proved to mas/were: personal kafy), to swore or affirmed to	before me, the undersigned notary public, me through satisfactory evidence of nowledge of identity, a driver's license, to be the person whose name is signed on me that the contents of the document are owledge and belief.
Notary Public		
My Commission Expir	reg.	

	(10) Huai Gao
	Date:
Commonwealth of Massachusetts County of	
personally appeared Huai Gao, proved identification which was/were: ☐ per ☐ other (please identify)	2010, before me, the undersigned notary public, d to me through satisfactory evidence of sonal knowledge of identity, ☐ a driver's license,, to be the person whose name is signed on med to me that the contents of the document are where knowledge and belief.
Notary Public	
My Commission Expires:	<u>.</u>

	(11) Wenxin Gu
	Date:
Commonwealth of Massachusetts County of	
On this day of, 2010, 10 personally appeared Wenxin Gu, proved to no identification which was/were: personal k other (please identify), this document, and who swore or affirmed to truthful and accurate to the best of his/her known.	ne through satisfactory evidence of chowledge of identity, \square a driver's license, to be the person whose name is signed on o me that the contents of the document are
Notary Public	
My Commission Expires:	

Notary Public

My Commission Expires: . .

Attorney Docket No.: VPI/09-103 WO

(13) Joseph M. Kennedy

Date:

Attorney Docket No.: VPI/09-103 WO

Commonwea	alth of Massachuse	etts
County of		
On this	day of	, 2010, before me, the undersigned notary public,
		nnedy, proved to me through satisfactory evidence of
dentification	which was/were:	personal knowledge of identity, a driver's license,
other (plea	ase identify)	to be the person whose name is signed on
this documen	nt, and who swore	or affirmed to me that the contents of the document are
ruthful and a	accurate to the best	t of his/her knowledge and belief.
Notary Publi	С	
My Commiss	sion Expires:	

	· · · · · · · · · · · · · · · · · · ·
	(14) Mark W. Ledeboer
	Date:
Commonwealth of Massachusetts	
County of	
personally appeared Mark W. Ledeboer identification which was/were: ☐ personal other (please identify)	010, before me, the undersigned notary public, r, proved to me through satisfactory evidence of onal knowledge of identity, a driver's license, to be the person whose name is signed on
this document, and who swore or affirm truthful and accurate to the best of his/h	ned to me that the contents of the document are ner knowledge and belief.
Notary Public	
My Commission Expires:	

Commonwealth of Massachusetts
County of _______
On this _____ day of ______, 2010, before me, the undersigned notary public, personally appeared Brian Ledford, 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:_____.

Attorney Docket No.: VPI/09-103 WO

truthful and accurate to the best of his/her knowledge and belief.

Notary Public

My Commission Expires: . .

Attorney Docket No.: VPI/09-103 WO

	(17) Emanuele Perola
	Date:
Commonwealth of Massachusetts	
County of	
On this day of, 2010, personally appeared Emanuele Perola, prove identification which was/were: personal : other (please identify), this document, and who swore or affirmed t truthful and accurate to the best of his/her kg	ed to me through satisfactory evidence of knowledge of identity, \square a driver's license, to be the person whose name is signed on o me that the contents of the document are
tradital and accurate to the best of ms/her k	nowledge and belief.
Notary Public	
My Commission Expires:	

Notary Public

My Commission Expires: . .

Attorney Docket No.: VPI/09-103 WO

(19) M. Woods Wannamaker

IN WITNESS WHEREOF, I have hereunto set hand and seal

IN WITNESS WHEREOF, I have hereunto set hand and seal

Printed Name of Witness: <u>Pose Persichetti</u>

this 26th day of July, 2010 ...
Date of signing.

Signature of witness:

Printed Name of Witness: Maureen D. Duyer

this 20 day of July 2010

Date of signing

Signature of witness: Muse All t

ACKNOWLEDGMENT OF ASSIGNEE

By: Stephen I. Nesbitt

Chief Patent Counsel

VERTEX PHARMACEUTICALS INCORPORATED

Date: Jeptenber 10, 2000

Commonwealth of Massachusetts County of Middlesex

Notary Public: Lisa m. Romano

My Commission Expires: 5-13-2016

LISA M. ROMANO
Notary Public
OMMONWEALTH OF MASSACHUSETTS
My Commission Expires
May 13, 2016

COMMONY

PATENT

Page 23 of 23

REEL: 032549 FRAME: 0081

ASSIGNMENT

We,

- (1) Paul Charifson, of Framingham, Massachusetts;
- (2) Michael P. Clark, of Concord, Massachusetts;
- (3) Upul K. Bandarage, of Lexington, Massachusetts;
- (4) Randy S. Bethiel, of Lexington, Massachusetts;
- (5) John J. Court, of Littleton, Massachusetts;
- (6) Hongbo Deng, of Southborough, Massachusetts;
- (7) Ioana Drutu, of Watertown, Massachusetts;
- (8) John P. Duffy, of Northborough, Massachusetts;
- (9) Luc J. Farmer, of Foxboro, Massachusetts;
- (10) Huai Gao, of Arlington, Massachusetts;
- (11) Wenxin Gu, of Somerville, Massachusetts;
- (12) Dylan H. Jacobs, of Everett, Massachusetts;
- (13) Joseph M. Kennedy, of Charlestown, Massachusetts;
- (14) Mark W. Ledeboer, of Acton, Massachusetts;
- (15) Brian Ledford, of Norton, Massachusetts;
- (16) François Maltais, of Tewksbury, Massachusetts;
- (17) Emanuele Perola, of Brookline, Massachusetts;
- (18) Tiansheng Wang, of Concord, Massachusetts; and
- (19) M. Woods Wannamaker, of Bolton, 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 my/our inventions, and discoveries disclosed in:

- (a) the application for United States Letters Patent entitled: , and filed in the United States Patent and Trademark Office on , under Application Number

 1, including any renewals, revivals, reissues, reexaminations, extensions, continuations, and divisions thereof, and any substitute applications therefor, and/or
- (b) the International Patent Application entitled: INHIBITORS OF INFLUENZA VIRUSES REPLICATION, filed under the Patent Cooperation Treaty in the United States Receiving Office on June 17, 2010, under Application No. PCT/US2010/038988, 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 my/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

¹ We authorize and request ASSIGNEE to insert the filing date and/or application number of said application when known.

(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):

61/187,713	US	June 17, 2009
Application No.	Country	Filing Date
61/287,781	US	December 18, 2009
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.

Paul Chaufson

(1) Paul Charifson

Date: Aug. 18, 2016

Commonwealth of Massachusetts
County of Middlesex

On this <u>18th</u> day of Pluc	ust, 2010, before me, the undersigned notary public,
personally appeared Paul Charf	fson, 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 bes	t of his/her knowledge and belief.

Notary Public

My Commission Expires: 4/8/2016.



(2) Michael P. Clark

Date: Aug -17-2010

Commonwealth of Massachusetts
County of Middles ex

On this 17th day of Augus	t, 2010, before me, the undersigned notary public,
personally appeared Michael P. Cl	ark, proved to me through satisfactory evidence of
identification which was/were: 🗹 p	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 at	ffirmed to me that the contents of the document are
truthful and accurate to the best of l	his/her knowledge and belief.

Notary Public

My Commission Expires: 4/8/20/6.



melantix

(3) Upul K. Bandarage

Date: 08/23/2010

Commonwealth of Massachusetts
County of Widdlesex

Notary Public

My Commission Expires: 4/8/20/6.



(4) Randy S. Bethiel

Date: 08/16/10

Commonwealth of Massachusetts

County of Middles ex

Notary Public

My Commission Expires: 4/8/2016.



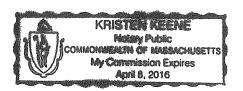
(5) John J. Court

Date: 8/16/2010

Commonwealth of Massachusetts County of Middlesex

	f <i>August</i> , 2010, before me, the undersigned notary public,
personally appeared John	n Court, 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 t	the best of his/her knowledge and belief.

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



(6) Hongbo Deng
Date:

Attorney Docket No.: VPI/09-103 WO

Commonwealth County of	n of Massachuset	ts
personally apperidentification was other (please this document,	eared Hongbo De which was/were: [e identify) and who swore o	, 2010, before me, the undersigned notary public, ng, proved to me through satisfactory evidence of personal knowledge of identity, \[\subseteq a driver's license, \], to be the person whose name is signed on affirmed to me that the contents of the document are of his/her knowledge and belief.
Notary Public My Commissio	n Expires:	

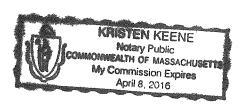
	(7) Ioana Drutu
	Date:
Commonwealth of Massachusetts County of	
On this day of, 2010, personally appeared Ioana Drutu, proved to identification which was/were: personal l other (please identify), this document, and who swore or affirmed to truthful and accurate to the best of his/her ki	me through satisfactory evidence of knowledge of identity, \square a driver's license, to be the person whose name is signed on o me that the contents of the document are
Notary Public	
My Commission Expires:	

(8) John P. Duffy

Commonwealth of Massachusetts County of MiddleSex

On this 16th day of August, 201	0, before me, the undersigned notary public,
personally appeared John P. Duffy, prove	ed to me through satisfactory evidence of
identification which was/were: person	al 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 affirme	d to me that the contents of the document are
truthful and accurate to the best of his/her	r knowledge and belief.

My Commission Expires: 4/8/2016.



(9) Luc J. Farmer
Date: 8/16/2010

My Commission Expires: 4/8/20/6.



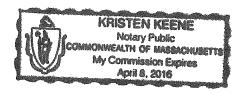
(10) Huai Gao

Date: 08/16/20/0

Commonwealth of Massachusetts County of Middlesex

On this <u>/loth</u> day of <u>August</u> ,	, 2010, before me, the undersigned notary public,
personally appeared Huai Gao, proye	d to me through satisfactory evidence of
identification which was/were: 🔽 per	rsonal 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 affi	rmed to me that the contents of the document are
truthful and accurate to the best of his	s/her knowledge and belief.

Notary Public
My Commission Expires: 4/8/26/6.

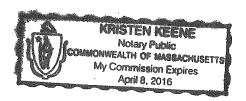


auvens (11) Wenxin Gu Date: 8/18/2010

Commonwealth of Massachusetts
County of Middlesex

On this 18th day of August, 2010	, before me, the undersigned notary public,
personally appeared Wenxin Gu, 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 k	knowledge and belief.

My Commission Expires: 4/8/2016.



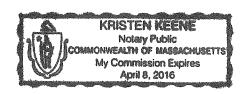
(12) Dylan H. Jacobs
Date: 9/9//0

My Commission Expires
May 13, 2016

(13) Joseph M. Kennedy

Date: 8 16 10

Commonwealth of Massachusetts County of MiddleSe x	
county of ThatAlesex	
On this //eth day of Hugust, 20	10, before me, the undersigned notary public,
personally appeared Joseph Kennedy, pr	oved to me through satisfactory evidence of
identification which was/were: person	nal knowledge of identity, a driver's license
	to be the person whose name is signed on
	ed to me that the contents of the document are
truthful and accurate to the best of his/he	
Kleston (Kono	
Notary Public My Commission Expires: 4/8/20/6	
My Commission Expires: 4/8/2/1/2	



(14) Mark W. Ledeboer

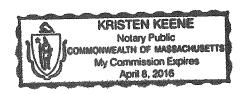
Date: 8/16/2010

Commonwealth of Massachusetts
County of Middlasex

On this ____/__ day of _______, 2010, before me, the undersigned notary public, personally appeared Mark W. 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.

Notary Public

My Commission Expires: 4/8/20/6.



(15) Brian Ledford

Date: 8-16-2010

Commonwealth of Massachusetts County of Middlesex

On this 1/2th day of August	, 2010, before me, the undersigned notary public,
	proved to me through satisfactory evidence of
	personal knowledge of identity, a driver's license,
other (please identify)	
this document, and who swore or at	ffirmed to me that the contents of the document are
truthful and accurate to the best of l	his/her knowledge and belief.
/ / / / /	

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



(16) François Maltais

Date: 8/16/10

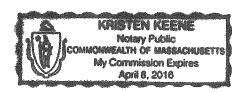
Commonwealth of Massachusetts

County of Middles ex

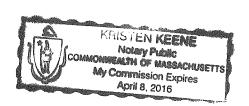
On this <u>Morth</u> day of <u>August</u>, 2010, before me, the undersigned notary public, personally appeared François Maltais, proved to me through satisfactory evidence of identification which was/were: personal knowledge of identity, a driver's license, other (please identify) _____, to be the person 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

Notary Public / | My Commission Expires: 4/8/20/6



	Eneral Rich
	(17) Emanuele Perola
	Date: 8 17 (2010
Commonwealth of Massachusetts County of Middlesex	
On this/7 th day of <u>August</u> , 2010, personally appeared Emanuele Perola, prove identification which was/were: personal k other (please identify)	d to me through satisfactory evidence of
this document, and who swore or affirmed to truthful and accurate to the best of his/her km	me that the contents of the document are
Klistea Kene	
Notary Public	
My Commission Expires: 4/8/20/16	



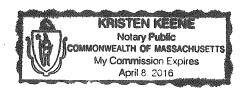
(18) Tiansheng Wang
Date: 8/17/20/0

County of Massachusetts
County of Massachusetts

On this 17th day of August, 2010, before me, the undersigned notary public, personally appeared Tiansheng Wang, 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



	(19	9) M. Woods Wannamaker
	Da	te:
IN WITNESS WHER	EOF, I have hereunto set h	and and seal
Giamatana C. Maria		
Signature of witness:		
Printed Name of Witn	ess:	
<u> au</u> , e1	Date of signing	·
IN WITNESS WHER	EOF, I have hereunto set h	and and seal
	,	
Signature of witness:		
Printed Name of Witn	ess:	- 1,00 C - 1
this day of		
	Date of signing	

ACKNOWLEDGMENT OF ASSIGNEE

By:

Stephen L. Nesbitt Chief Patent Counsel

VERTEX PHARMACEUTICALS INCORPORATED

Commonwealth of Massachusetts

County of Middlesex

, 2010, before me, the undersigned notary public, On this personally appeared Stephen L. Nesbitt (name of document signer), proved to me through satisfactory evidence of identification which was/were: \(\subseteq \text{personal knowledge} \) 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's 150

My Commission Expires: 5-13-2014

LISA M. ROMANO Notary Public COMMONWEALTH OF MASSACHUSETTS My Commission Expires May 13, 2016

ASSIGNMENT

I,

- (1) Ann Dak-Yee Kwong, of Cambridge, 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 50 Northern Avenue, Boston, Massachusetts 02210, 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 the application for United States Letters Patent entitled: INHIBITORS OF INFLUENZA VIRUSES REPLICATION, and filed in the United States Patent and Trademark Office on December 6, 2013, under Application Number 14/098,867, 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 my/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):

13/327,206	US	December 15, 2011
Application No.	Country	Filing Date
PCT/US2010/038988	US	June 17, 2010
Application No.	Country	Filing Date
61/287,781	US	December 18, 2009
Application No.	Country	Filing Date
61/187,713	US	June 17, 2009
Application No.	Country	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 me/us had this assignment, sale and transfer not been made.

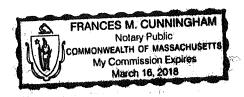
We agree, at any time, upon the request of the ASSIGNEE to execute and to deliver to the ASSIGNEE any additional applications for patents for said inventions and discoveries, or any part or parts thereof, and any applications for patents of confirmation, registration and importation based on any Letters 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.

	Am your feel was
	(1) Ann Dak-Yee Kwong
	Date: 3/14/14
Commonwealth of Massachusetts County of Suffolk	
personally appeared Ann Dak-Yee Kwong, identification which was/were: personal (please identify) MA DR. Wek	2014, before me, the undersigned notary public, proved to me through satisfactory evidence of knowledge of identity, ∑a driver's license, ☐ other to me that the contents of the document are truthfulge and belief.
Notary Public My Commission Expires: //25/20	O/9 WATARY AND THE STATE OF TH
	MASSACALITY

ACKNOWLEDGMENT OF ASSIGNEE

By: Derry A Hym
Kerry A Flynn
Vice President and Chief IP Counsel
VERTEX PHARMACEUTICALS INCORPORATED
Date: March 27, 2014
Commonwealth of Massachusetts
County of Suffolk
On this Ath day of Much, 2014, before me, the undersigned notary public, personally
appeared Kerry A. Flynn (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.
Frances M. Cuningham
Notary Public /1/
My Commission Expires: 3/11/2018.



Attorney Docket No.: VPI/09-103 WO

ASSIGNMENT

We,

- (1) Paul Charifson, of Framingham, Massachusetts;
- (2) Michael P. Clark, of Concord, Massachusetts;
- (3) Upul K. Bandarage, of Lexington, Massachusetts;
- (4) Randy S. Bethiel, of Lexington, Massachusetts;
- (5) John J. Court, of Littleton, Massachusetts;
- (6) Hongbo Deng, of Southborough, Massachusetts;
- (7) Ioana Drutu, of Watertown, Massachusetts;
- (8) John P. Duffy, of Northborough, Massachusetts;
- (9) Luc J. Farmer, of Foxboro, Massachusetts;
- (10) Huai Gao, of Arlington, Massachusetts;
- (11) Wenxin Gu, of Somerville, Massachusetts;
- (12) Dylan H. Jacobs, of Everett, Massachusetts;
- (13) Joseph M. Kennedy, of Charlestown, Massachusetts;
- (14) Mark W. Ledeboer, of Acton, Massachusetts;
- (15) Brian Ledford, of Norton, Massachusetts;
- (16) François Maltais, of Tewksbury, Massachusetts;
- (17) Emanuele Perola, of Brookline, Massachusetts;
- (18) Tiansheng Wang, of Concord, Massachusetts;
- (19) M. Woods Wannamaker, of Bolton, Massachusetts;
- (20) Randal Byrn, of Wayland, Massachusetts;
- (21) Yi Zhou, of Lexington, Massachusetts;
- (22) Chao Lin, of Winchester, Massachusetts;
- (23) Min Jiang, of Lexington, Massachusetts;
- (24) Steven Jones, of Hyde Park, Massachusetts;

- (25) Ursula A. Germann, of Newton, Massachusetts; and
- (26) Francesco G. Salituro, of Marlborough, 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 my/our inventions, and discoveries disclosed in:
- (a) the application for United States Letters Patent entitled: , and filed in the United States Patent and Trademark Office on , under Application Number ¹, including any renewals, revivals, reissues, reexaminations, extensions, continuations, and divisions thereof, and any substitute applications therefor, and/or
- (b) the International Patent Application entitled: INHIBITORS OF INFLUENZA VIRUSES REPLICATION, filed under the Patent Cooperation Treaty in the United States Receiving Office on June 17, 2010, under Application No. PCT/US2010/038988, 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 my/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;

¹ We authorize and request ASSIGNEE to insert the filing date and/or application number of said application when known.

- (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):

61/187,713	US	June 17, 2009
Application No.	Country	Filing Date
61/287,781	US	December 18, 2009
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.

•	(1) Paul Charifson
	Date:
Commonwealth of Massachusetts County of	
personally appeared Paul Charifson, providentification which was/were: person other (please identify),	10, before me, the undersigned notary public, yed to me through satisfactory evidence of all knowledge of identity, \sum a driver's license, \sum to be the person whose name is signed on this me that the contents of the document are truthful edge and belief.
Notary Public	
My Commission Expires:	

	(2) Michael P. Clark
	Date:
Commonwealth of Massachusetts County of	
personally appeared Michael P. Clark, predidentification which was/were: personal other (please identify)	0, before me, the undersigned notary public, oved to me through satisfactory evidence of all knowledge of identity, a driver's license, to be the person whose name is signed on this me that the contents of the document are truthful dge and belief.
Notary Public	
My Commission Expires:	

	(3) Upul K. Bandarage
	Date:
Commonwealth of Massachusetts County of	
identification which was/were: ☐ personal other (please identify), to	roved to me through satisfactory evidence of knowledge of identity, \square a driver's license, \square be the person whose name is signed on this e that the contents of the document are truthful
Notary Public My Commission Expires:	
wry Commission Expires	

	(4) Randy S. Bethiel
	Date:
•	•
Commonwealth of Massachusetts	
County of	
personally appeared Randy S. Bethiel, predidentification which was/were: person other (please identify)	10, before me, the undersigned notary public, oved to me through satisfactory evidence of al knowledge of identity, \square a driver's license, \square to be the person whose name is signed on this me that the contents of the document are truthful edge and belief.
Notary Public	
My Commission Expires:	

	(5) John J. Court
	Date:
Commonwealth of Massachusetts County of	
personally appeared John Court, prove which was/were: personal knowledge identify, to be the personal knowledge identify.	2010, before me, the undersigned notary public, d to me through satisfactory evidence of identification ge of identity, \square a driver's license, \square other (please erson whose name is signed on this document, and contents of the document are truthful and accurate to ef.
Notary Public	
My Commission Expires:	

	(6) Hongbo Deng
	Date:
Commonwealth of Massachusetts County of	
other (please identify), to	to me through satisfactory evidence of knowledge of identity, \square a driver's license, \square be the person whose name is signed on this e that the contents of the document are truthful
Notary Public My Commission Expires:	

	(7) Ioana Drutu
	Date:
	·
Commonwealth of Massachusetts County of	
other (please identify), to	me through satisfactory evidence of knowledge of identity, \square a driver's license, \square be the person whose name is signed on this e that the contents of the document are truthful
Notary Public My Commission Expires:	

. (8	B) John P. Duffy
П	Pate:
•	
Commonwealth of Massachusetts County of	
On this day of, 2010, be personally appeared John P. Duffy, proved to identification which was/were: personal kn other (please identify), to be document, and who swore or affirmed to me the	me through satisfactory evidence of owledge of identity, \square a driver's license, \square the person whose name is signed on this
and accurate to the best of his/her knowledge	
Notary Public	
My Commission Expires:	

· ·	(9) Luc J. Farmer Date:	
Commonwealth of Massachusetts County of		
personally appeared Luc Farmer, proved identification which was/were: personatter (please identify)	nal knowledge of identity, \(\subseteq \) a driver's license, \(\subseteq \), to be the person whose name is signed on this me that the contents of the document are truthful	
Notary Public		
My Commission Expires:		

	(10) Huai Gao
	Date:
Commonwealth of Massachusetts County of	
which was/were: personal knowledge of identify), to be the person	before me, the undersigned notary public, the through satisfactory evidence of identification identity, \square a driver's license, \square other (please a whose name is signed on this document, and not of the document are truthful and accurate to
Notary Public	
My Commission Expires:	

	(11) Wenxin Gu
	Date:
Commonwealth of Massachusetts County of	
personally appeared Wenxin Gu, proved identification which was/were: ☐ personal per	010, before me, the undersigned notary public, d to me through satisfactory evidence of onal knowledge of identity, \(\square \text{a driver's license, } \square \), to be the person whose name is signed on this o me that the contents of the document are truthful eledge and belief.
Notary Public My Commission Expires:	
Til Commission Empires.	

	(12) Dylan H. Jacobs
	Date:
Commonwealth of Massachusetts County of	
personally appeared Dylan Jacobs, providentification which was/were: persoother (please identify)	210, before me, the undersigned notary public, ed to me through satisfactory evidence of nal knowledge of identity, ☐ a driver's license, ☐ a to be the person whose name is signed on this o me that the contents of the document are truthful ledge and belief.
Notary Public	
My Commission Expires:	

	(13) Joseph M. Kennedy
	Date:
Commonwealth of Massachusetts County of	
personally appeared Joseph Kenne identification which was/were: other (please identify)	, 2010, before me, the undersigned notary public, edy, proved to me through satisfactory evidence of personal knowledge of identity, \[\subseteq a driver's license, \[\subseteq \], to be the person whose name is signed on this med to me that the contents of the document are truthful knowledge and belief.
	-
Notary Public My Commission Expires:	

/	
•	(14) Mark W. Ledeboer
•	Date:
Commonwealth of Massachusetts County of	
personally appeared Mark W. Ledeboer identification which was/were: personal persona	010, before me, the undersigned notary public, c, proved to me through satisfactory evidence of onal knowledge of identity, \[\sqrt{a} \] a driver's license, \[\sqrt{a} \], to be the person whose name is signed on this o me that the contents of the document are truthful eledge and belief.
Notary Public	
My Commission Expires:	

	(15) Brian Ledford
3	Date:
- 11 03 F 1	
Commonwealth of Massachusetts County of	
personally appeared Brian Ledford, providentification which was/were: ☐ personother (please identify)	10, before me, the undersigned notary public, red to me through satisfactory evidence of nal knowledge of identity, \square a driver's license, \square , to be the person whose name is signed on this o me that the contents of the document are truthful edge and belief.
Notary Public	
My Commission Expires:	•

	(16) François Maltais
	Date:
Commonwealth of Massachusetts	
Commonwealth of Massachusetts County of	
personally appeared François Maltais, pridentification which was/were: personally personal	o10, before me, the undersigned notary public, roved to me through satisfactory evidence of nal knowledge of identity, a driver's license, to be the person whose name is signed on this
document, and who swore or affirmed to and accurate to the best of his/her knowl	me that the contents of the document are truthful
Notary Public	
My Commission Expires:	

	(17) Emanuele Perola
	Date:
Commonwealth of Massachusetts County of	
personally appeared Emanuele Perola, providentification which was/were: ☐ personal other (please identify), to	knowledge of identity, \square a driver's license, \square be the person whose name is signed on this that the contents of the document are truthful
Notary Public	
My Commission Expires:	

	(18) Tiansheng Wang
	Date:
	,
Commonwealth of Massachusetts County of	
personally appeared Tiansheng Wang, predidentification which was/were: ☐ person other (please identify),	10, before me, the undersigned notary public, oved to me through satisfactory evidence of al knowledge of identity, \square a driver's license, \square to be the person whose name is signed on this me that the contents of the document are truthful edge and belief.
Notary Public	
My Commission Expires:	

	(19) M. Woods Wannamaker
	Date:
IN WITNESS WHEREOF, I have hered	unto set hand and seal
Signature of witness:	.
Printed Name of Witness:	
this day of	
Date of signing	
IN WITNESS WHEREOF, I have hered	unto set hand and seal
Signature of witness:	
Printed Name of Witness:	
this day of	
this day of Date of signing	

	(20) Randal Byrn
	Date:
Commonwealth of Massachusetts County of	
·	
On this day of, 2010, personally appeared Randal Byrn, proved to	before me, the undersigned notary public, o 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
and accurate to the best of his/her knowledge	e that the contents of the document are truthful to and belief.
	,
Notary Public	
My Commission Expires:	

	(21) Yi Zhou	
	Date:	
Commonwealth of Massachusetts County of		
personally appeared Yi Zhou, proved to which was/were: personal knowledge identify), to be the per	10, before me, the undersigned notary public, me through satisfactory evidence of identification e of identity, a driver's license, other (please son whose name is signed on this document, and ntents of the document are truthful and accurate to .	
Notary Public		
My Commission Expires:		

	(22) Chao Lin
	Date:
G 14 CM 1 4	
Commonwealth of Massachusetts County of	
personally appeared Chao Lin, proved to n which was/were: personal knowledge of identify) to be the personal knowledge of identify)	b, before me, the undersigned notary public, ne through satisfactory evidence of identification identity, \sum a driver's license, \sum other (please in whose name is signed on this document, and ents of the document are truthful and accurate to
Notary Public	
My Commission Expires:	

· · · · · · · · · · · · · · · · · · ·	
	23) Min Jian
· j	Date:
Commonwealth of Massachusetts County of	
On this day of, 2010, be personally appeared Min Jiang, proved to me which was/were: personal knowledge of identify), to be the person who swore or affirmed to me that the contents the best of his/her knowledge and belief.	through satisfactory evidence of identification lentity, a driver's license, other (please whose name is signed on this document, and
	•
Notary Public	
My Commission Expires:	

	(24) Steven Jones
	Date:
•	
Commonwealth of Massachusetts County of	
personally appeared Steven Jones, proved identification which was/were: ☐ person other (please identify)	al knowledge of identity, \square a driver's license, \square to be the person whose name is signed on this me that the contents of the document are truthful
Notary Public My Commission Expires:	

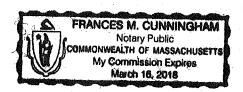
	(25) Ursula A. Germann
	Date:
Commonwealth of Massachusetts County of	
other (please identify), to	knowledge of identity, \square a driver's license, \square be the person whose name is signed on this that the contents of the document are truthful
Notary Public	
My Commission Expires:	

Franco & Stil
(26) Francesco G. Salituro
Date: 5-7-2013

IN WITNESS WHEREOF, I have hereunto set hand and seal	
Signature of witness:	
Printed Name of Witness: Carlos Loya	
this 7 day of May 2013 Date of signing	
IN WITNESS WHEREOF, I have hereunto set hand and seal	
Signature of witness: Jelief Telfort Printed Name of Witness: Gabriel Bellort	
this 7 day of May, 2013 Date of signing	

ACKNOWLEDGMENT OF ASSIGNEE

By:
Stephen II. Nesbitt
Vice President & Chief IP Counsel
VERTEX PHARMACEUTICALS INCORPORATED
Date:May 29, 2013
Commonwealth of Massachusetts
County of Middlesex
On this day of, 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: \[\infty \text{ personal knowledge of identity,} \]
☐ 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.
Francis M. Cunningham
Notary Public My Commission Expires: 3/11/2018
My Commission Expires: 11814018



Page 31 of 31