

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT4384704

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
JOSHUA ROBERT LEEMAN	02/10/2017
RANDAL BYRN	02/20/2017
HAMILTON BARLOW BENNETT	02/26/2017
DOUGLAS JOHN BARTELS	02/21/2017
<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>	15475326
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(269)337-7861
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.</i>	
<b>Phone:</b>	(269) 337-7838
<b>Email:</b>	patent@honigman.com
<b>Correspondent Name:</b>	ANDREW N. WEBER
<b>Address Line 1:</b>	350 EAST MICHIGAN AVENUE
<b>Address Line 2:</b>	SUITE 300
<b>Address Line 4:</b>	KALAMAZOO, MICHIGAN 49007-3800
<b>ATTORNEY DOCKET NUMBER:</b>	223306/14-105USWC1/410713
<b>NAME OF SUBMITTER:</b>	ANDREW N. WEBER
<b>SIGNATURE:</b>	/Andrew N. Weber/
<b>DATE SIGNED:</b>	04/26/2017
<b>Total Attachments: 21</b>	
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## ASSIGNMENT

We,

- (1) Joshua Robert Leeman, of Winchester, Massachusetts;
- (2) Randal Byrn, of Wayland, Massachusetts;
- (3) Hamilton Barlow Bennett, of Malden, Massachusetts; and
- (4) Douglas John Bartels of North Liberty, Iowa;

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 International Patent Application entitled: INFLUENZA A VIRUS VARIANTS, filed under the Patent Cooperation Treaty in the United States Receiving Office on October 1, 2015, under Application No. PCT/US2015/53393, 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, in and to the above inventions, discoveries and applications including, but not limited to, the following priority application(s):

62/058,945	US	October 2, 2014
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.

\_\_\_\_\_  
(1) Joshua Robert Leeman

Date: \_\_\_\_\_

Commonwealth of Massachusetts  
County of Suffolk

On this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, before me, the undersigned notary public, personally appeared Joshua Robert Leeman, 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: \_\_\_\_\_

Randal Byrn

(2) Randal Byrn

Date: Feb 20, 2017

IN WITNESS WHEREOF, I have hereunto set hand and seal

Signature of witness: Elaine B. Krueger

Printed Name of Witness: Elaine B. Krueger

this 20<sup>th</sup> day of February 2017  
Date of signing

IN WITNESS WHEREOF, I have hereunto set hand and seal

Signature of witness: Nancy H. Jones

Printed Name of Witness: Nancy H. Jones

this 20<sup>th</sup> day of February 2017  
Date of signing

\_\_\_\_\_  
(3) Hamilton Barlow Bennett

Date: \_\_\_\_\_

IN WITNESS WHEREOF, I have hereunto set hand and seal

Signature of witness: \_\_\_\_\_

Printed Name of Witness: \_\_\_\_\_

this \_\_\_\_ day of \_\_\_\_\_  
Date of signing

IN WITNESS WHEREOF, I have hereunto set hand and seal

Signature of witness: \_\_\_\_\_

Printed Name of Witness: \_\_\_\_\_

this \_\_\_\_ day of \_\_\_\_\_  
Date of signing

\_\_\_\_\_  
(4) Douglas John Bartels

Date: \_\_\_\_\_

IN WITNESS WHEREOF, I have hereunto set hand and seal

Signature of witness: \_\_\_\_\_

Printed Name of Witness: \_\_\_\_\_

this \_\_\_\_ day of \_\_\_\_\_  
Date of signing

IN WITNESS WHEREOF, I have hereunto set hand and seal

Signature of witness: \_\_\_\_\_

Printed Name of Witness: \_\_\_\_\_

this \_\_\_\_ day of \_\_\_\_\_  
Date of signing



ACKNOWLEDGMENT OF ASSIGNEE

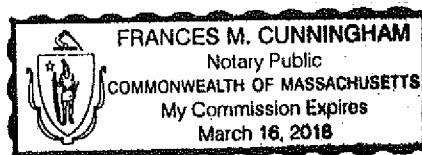
By: Kerry A. Flynn  
Kerry A. Flynn  
Vice President and Chief IP Counsel  
on behalf of Vertex Pharmaceuticals Incorporated

Date: March 3, 2017

Commonwealth of Massachusetts  
County of Suffolk

On this 3<sup>rd</sup> day of March, 2017, 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. Cunningham  
Notary Public  
My Commission Expires: 3/16/2018 *smc*



## ASSIGNMENT

We,

- (1) Joshua Robert Leeman, of Winchester, Massachusetts;
- (2) Randal Byrn, of Wayland, Massachusetts;
- (3) Hamilton Barlow Bennett, of Malden, Massachusetts; and
- (4) Douglas John Bartels of North Liberty, Iowa;

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:

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(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):

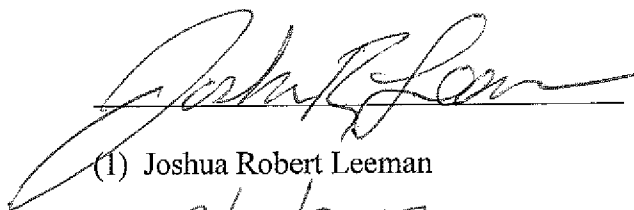
62/058,945	US	October 2, 2014
Application No.	Country	Filing Date

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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.

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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.

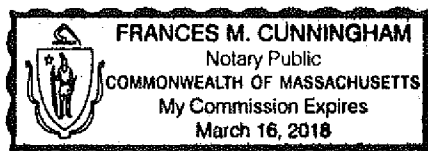
  
(1) Joshua Robert Leeman

Date: 2/10/2017

Commonwealth of Massachusetts  
County of Suffolk

On this 10<sup>th</sup> day of February, 2017, before me, the undersigned notary public, personally appeared Joshua Robert Leeman, 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: 3/16/2018



\_\_\_\_\_  
(2) Randal Byrn

Date: \_\_\_\_\_

IN WITNESS WHEREOF, I have hereunto set hand and seal

Signature of witness: \_\_\_\_\_

Printed Name of Witness: \_\_\_\_\_

this \_\_\_\_ day of \_\_\_\_\_  
Date of signing

IN WITNESS WHEREOF, I have hereunto set hand and seal

Signature of witness: \_\_\_\_\_

Printed Name of Witness: \_\_\_\_\_

this \_\_\_\_ day of \_\_\_\_\_  
Date of signing

\_\_\_\_\_  
(3) Hamilton Barlow Bennett

Date: \_\_\_\_\_

IN WITNESS WHEREOF, I have hereunto set hand and seal

Signature of witness: \_\_\_\_\_

Printed Name of Witness: \_\_\_\_\_

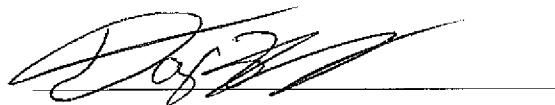
this \_\_\_\_ day of \_\_\_\_\_  
Date of signing

IN WITNESS WHEREOF, I have hereunto set hand and seal

Signature of witness: \_\_\_\_\_

Printed Name of Witness: \_\_\_\_\_

this \_\_\_\_ day of \_\_\_\_\_  
Date of signing



(4) Douglas John Bartels

Date: 21 February 2017

IN WITNESS WHEREOF, I have hereunto set hand and seal

Signature of witness: Cindy Bartels

Printed Name of Witness: Cindy Bartels

this 21 day of Feb. 2017  
Date of signing

IN WITNESS WHEREOF, I have hereunto set hand and seal

Signature of witness: Marisa J. Keeney

Printed Name of Witness: Marisa J. Keeney

this 21 day of Feb. 2017  
Date of signing

ACKNOWLEDGMENT OF ASSIGNEE

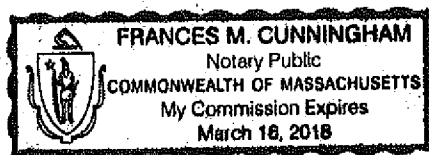
By: Kerry A. Flynn  
Kerry A. Flynn  
Vice President and Chief IP Counsel  
on behalf of Vertex Pharmaceuticals Incorporated

Date: March 3, 2017

Commonwealth of Massachusetts  
County of Suffolk

On this 3rd day of March, 2017, 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. Cunningham  
Notary Public  
My Commission Expires: 3/16/2018





## ASSIGNMENT

We,

- (1) Joshua Robert Leeman, of Winchester, Massachusetts;
- (2) Randal Byrn, of Wayland, Massachusetts;
- (3) Hamilton Barlow Bennett, of Malden, Massachusetts; and
- (4) Douglas John Bartels of North Liberty, Iowa;

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:

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\_\_\_\_\_  
(1) Joshua Robert Leeman

Date: \_\_\_\_\_

Commonwealth of Massachusetts  
County of Suffolk

On this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, before me, the undersigned notary public, personally appeared Joshua Robert Leeman, 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) Randal Byrn

Date: \_\_\_\_\_

IN WITNESS WHEREOF, I have hereunto set hand and seal

Signature of witness: \_\_\_\_\_

Printed Name of Witness: \_\_\_\_\_

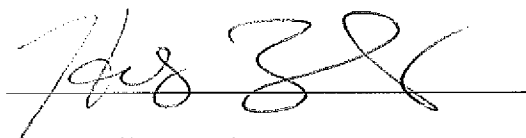
this \_\_\_\_ day of \_\_\_\_\_  
Date of signing

IN WITNESS WHEREOF, I have hereunto set hand and seal

Signature of witness: \_\_\_\_\_

Printed Name of Witness: \_\_\_\_\_


this \_\_\_\_ day of \_\_\_\_\_  
Date of signing



(3) Hamilton Barlow Bennett

Date: 26 Feb 2017

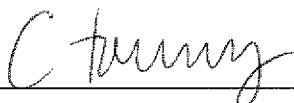
IN WITNESS WHEREOF, I have hereunto set hand and seal

Signature of witness: 

Printed Name of Witness: Robert CD Cummings

this 26<sup>th</sup> day of February, 2017  
Date of signing

IN WITNESS WHEREOF, I have hereunto set hand and seal

Signature of witness: 

Printed Name of Witness: Carenanne Torrey

this 26 day of Feb 2017  
Date of signing

\_\_\_\_\_  
(4) Douglas John Bartels

Date: \_\_\_\_\_

IN WITNESS WHEREOF, I have hereunto set hand and seal

Signature of witness: \_\_\_\_\_

Printed Name of Witness: \_\_\_\_\_

this \_\_\_\_ day of \_\_\_\_\_  
Date of signing

IN WITNESS WHEREOF, I have hereunto set hand and seal

Signature of witness: \_\_\_\_\_

Printed Name of Witness: \_\_\_\_\_

this \_\_\_\_ day of \_\_\_\_\_  
Date of signing

ACKNOWLEDGMENT OF ASSIGNEE

By: Kerry A. Flynn  
Kerry A. Flynn  
Vice President and Chief IP Counsel  
on behalf of Vertex Pharmaceuticals Incorporated

Date: March 3, 2017

Commonwealth of Massachusetts  
County of Suffolk

On this 3<sup>rd</sup> day of March, 2017, 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. Cunningham  
Notary Public  
My Commission Expires: 3/16/2018

