504794643 02/27/2018

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4841375

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
ALISTAIR J STEWART	03/15/2017
BENJAMIN A MAYES	03/28/2017
ADEL M MOUSSA	03/16/2017

RECEIVING PARTY DATA

Name:	IDENIX PHARMACEUTICALS LLC
Street Address:	320 BENT STREET
Internal Address:	FLOOR 4
City:	CAMBRIDGE
State/Country:	MASSACHUSETTS
Postal Code:	02141

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15519846

CORRESPONDENCE DATA

Fax Number:

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

Email: us efs@merck.com

Correspondent Name: MERCK SHARP & DOHME CORP.

Address Line 1: 126 EAST LINCOLN AVE

Address Line 4: RAHWAY, NEW JERSEY 07065

ATTORNEY DOCKET NUMBER:	23849
NAME OF SUBMITTER:	TANYA L TORRES
SIGNATURE:	/Tanya L. Torres/
DATE SIGNED:	02/27/2018

Total Attachments: 9

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PATENT 504794643 REEL: 045045 FRAME: 0085

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source=23849-IDENIX-ASSIGN#page9.tif

PATENT REEL: 045045 FRAME: 0086

WORLDWIDE ASSIGNMENT

WHEREAS, I/WE,

- (1) Alistair J. Stewart, located at Wayland, Massachusetts,
- (2) Benjamin A. Mayes, located at Boston, Massachusetts,
- (3) Adel M. Moussa, located at Burlington, Massachusetts,

(hereinafter ASSIGNOR(S)), together with <u>Bryon L. Simmons</u>, located at <u>Hamilton, NJ</u>, <u>Kevin R. Campos</u>, located at <u>Berkeley Heights, NJ</u>, <u>Artis Klapars</u>, located at <u>Edison, NJ</u>, <u>Peter E. Maligres</u>, located at <u>Fanwood, NJ</u>, <u>Alan Hyde</u>, located at <u>Jersey City, NJ</u>, <u>Steven Mark Silverman</u>, located at <u>Jersey City, NJ</u>, <u>Yong-Li Zhong</u>, located at <u>Edison, NJ</u>, <u>Kenneth Baker</u>, located at <u>Syracuse</u>, <u>New York</u>, and <u>Kara Van Valkenburg</u>, located at <u>Syracuse</u>, <u>New York</u>, are the inventors of the invention described in an application for Patents having the Attorney Docket Number indicated above and the following Title of the Invention:

PROCESS FOR MAKING NUCLEOSIDE PHOSPHORAMIDATE COMPOUNDS

and in the following application(s):

- U.S. Provisional Application No. 62/066,049 filed on 10/20/2014;
- U.S. Provisional Application No. 62/130,834 filed on 03/10/2015;
- U.S. Application No. ______ having a filing date of _____; and
- PCT International Application No. PCT/US2015/056333 having a filing date of 10/20/1015.

WHEREAS I/WE covenant that the rights and property herein conveyed are free and clear of any encumbrance, and that I/we have the full right to convey the same as herein expressed.

WHEREAS, IDENIX Pharmaceuticals LLC, a company organized under the laws of the United States, having an office at 320 Bent Street, Floor 4, Cambridge, Massachusetts 02141, and its successors, assigns and legal representatives (hereinafter **ASSIGNEE**), is desirous of obtaining the entire right, title and interest in, to and under the invention disclosed in said application or applications;

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, I/we, said ASSIGNOR(S), do each hereby sell, assign and transfer or confirm the grant and assignment to said ASSIGNEE my/our entire right, title and interest in all countries of the world in and to my/our invention described in said application for Patents, in and to the right to file patent applications in the name of ASSIGNEE, its designee, or in any or all of our names, at its election, on the aforesaid invention in all countries of the world, together with all rights of priority in the aforesaid countries deriving from the above-identified application for Patents under the International Convention for the Protection of Industrial Property, under the Inter-American Convention relating to Inventions, Patents, Designs and Industrial Models and under any other international arrangement relating to patents or intellectual property, in and to any and all Letters Patent that are granted from the aforesaid application for Patents, in and to any applications claiming priority benefits to a provisional patent application or other applications filed on said invention, and in and to any continuations, divisions, reexaminations, reissues, renewals and extensions thereof of any of said Letters Patent, the same to be held and enjoyed by said ASSIGNEE, to the full ends of the terms for which all Letters Patent therefore may be granted, as fully and entirely as the same would have been held and enjoyed by us if this assignment and sale had not been made.

AND I/WE HEREBY covenant and agree that we will at any time, upon the request and at the expense of ASSIGNEE, without further compensation or charge to said ASSIGNEE, execute and deliver any and all documents that may be necessary or desirable to perfect the title to the foregoing invention, patent applications, and Letters Patent and continuations, divisions, reexaminations, reissues, renewals and extensions thereof in the name of ASSIGNEE, including the execution and procurement of any and all further documents evidencing this assignment and sale as may be necessary or desirable for recording the same in the Patent Office of any country concerned, and will make all rightful oaths and declarations and do all lawful acts requisite for procuring the same or for aiding therein.

I/WE HEREBY authorize **ASSIGNEE** to insert in this instrument the Application Number(s) and the filing date(s) of said application for Patents when officially notified thereof.

This document may be executed in any number of counterparts, each of which so executed shall be deemed to be an original, but all such components shall together constitute but one and the same document.

Computer Generated Template "Assignment-Blank Multiple Assignees Worldwide" (Assignment) Merck Sharp & Dohme Corp. 07/09/2010

Executed this 15 day of MARC V	, 20_17.	
Als The		
Alistair J. Stewart		
ACKNOWLEDGEMENT		
Commonwealth of Massachusetts		
County Name, ss. MADDL6つビス		
MARKWOMECANIZACETTS	_, 20	sonally appeared se preceding
document, and actinomic aged to me that he	e/she signed it voluntarily for its stated purpose.	
A SECOND	Notary Public: My Commission Expires: 17 JULY 2020	
PUBLIC OF THE PU	My Commission Expires.	
Executed this day of	, 20	
Benjamin A. Mayes		
ACKNOWLEDGEMENT		
Commonwealth of Massachusetts		
County Name, ss.		
On this day of Benjamin A. Mayes, proved to me through	_, 20, before me, the undersigned notary public, pers satisfactory evidence of identification, which was , to be the person whose name is signed on th	sonally appeared
document, and acknowledged to me that he	to be the person whose name is signed on the signed it voluntarily for its stated purpose.	
	Notary Public: My Commission Expires:	

Executed this day	y of	, 20
Adel M. Moussa	100 ° 6 d · · · · · · · · · · · · · · · · · ·	
ACKNOWLEDGEMEN	ıτ	
Commonwealth of Mas	sachusetts	
County Name, ss		
Adel M. Moussa, prov	ed to me through satisfact	, before me, the undersigned notary public, personally appeared ory evidence of identification, which was, to be the person whose name is signed on the preceding
document, and acknow	ledged to me that he/she	signed it voluntarily for its stated purpose.
		ary Public:
	Mv	Commission Expires:

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NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, I/we, said ASSIGNOR(S), do each hereby sell, assign and transfer or confirm the grant and assignment to said ASSIGNEE my/our entire right, title and interest in all countries of the world in and to my/our invention described in said application for Patents, in and to the right to file patent applications in the name of ASSIGNEE, its designee, or in any or all of our names, at its election, on the aforesaid invention in all countries of the world, together with all rights of priority in the aforesaid countries deriving from the above-identified application for Patents under the International Convention for the Protection of Industrial Property, under the Inter-American Convention relating to Inventions, Patents, Designs and Industrial Models and under any other international arrangement relating to patents or intellectual property, in and to any and all Letters Patent that are granted from the aforesaid application for Patents, in and to any applications claiming priority benefits to a provisional patent application or other applications filed on said invention, and in and to any continuations, divisions, reexaminations, reissues, renewals and extensions thereof of any of said Letters Patent, the same to be held and enjoyed by said ASSIGNEE, to the full ends of the terms for which all Letters Patent therefore may be granted, as fully and entirely as the same would have been held and enjoyed by us if this assignment and sale had not been made.

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Computer Generated Template "Assignment-Blank Multiple Assignees Worldwide" (Assignment) Merck Sharp & Dohme Corp. 07/09/2010

Executed this day of	, 20
Alistair J. Stewart	
ACKNOWLEDGEMENT	
Commonwealth of Massachusetts	
County Name, ss	
Alistair J. Stewart, proved to me through sat	20, before me, the undersigned notary public, personally appeared isfactory evidence of identification, which was, to be the person whose name is signed on the preceding the signed it voluntarily for its stated purpose.
document, and acknowledged to me that he/s	sile signed it voluntarily for its stated purpose.
	Notary Public: My Commission Expires:
Executed this 28 day of MAZCH	, 20 <u>-17</u>
Benjamin A. Mayes	
ACKNOWLEDGEMENT	
Commonwealth of Massachusetts	
County Name, ss. <u>Suffolk</u>	
Benjamin A. Mayes, proved to me through sa	20 <i>j</i> Z, before me, the undersigned notary public, personally appeared atisfactory evidence of identification, which was, to be the person whose name is signed on the preceding the signed it voluntarily for its stated purpose.
document, and acknowledged to me that he/s	ne signed it voluntarily for its stated purpose.
COMMONWEALTH OF MASSACHUSET My Commission Expires January 4, 2024	(Jules M. W. e July July West State of July 12024) Notary Public: My Commission Expires: 0//04/2024

Page 2 of 3
Computer Generated Template "Assignment-Blank Multiple Assignees Worldwide" (Assignment) Merck Sharp & Dohme Corp. 07/09/2010

Executed this d	ay of	, 20
Adel M. Moussa		
ACKNOWLEDGEME	ENT	
Commonwealth of Ma	assachusetts	
County Name, ss		
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Executed this	_ day of	, 20
Alistair J. Stewar	t	
ACKNOWLEDGE	MENT	
Commonwealth of	Massachusetts	
County Name, ss.	New York Control of the Control of t	
On this	day of t, proved to me through knowledged to me that h	, 20, before me, the undersigned notary public, personally appeared satisfactory evidence of identification, which was, to be the person whose name is signed on the preceding ne/she signed it voluntarily for its stated purpose.
		Notary Public: My Commission Expires:
Executed this	_day of	, 20
Benjamin A. Maye	es	
ACKNOWLEDGE	MENT	
Commonwealth of	Massachusetts	
County Name, ss.		
	s, proved to me through	, 20, before me, the undersigned notary public, personally appeared n satisfactory evidence of identification, which was, to be the person whose name is signed on the preceding e/she signed it voluntarily for its stated purpose.
		Notary Public: My Commission Expires:

Executed this 16 day of 3	, 20	
Adel'M. Moussa		
ACKNOWLEDGEMENT		
Commonwealth of Massachusetts		
County Name, ss. Su Holk		
On this //s th day of March Adel M. Moussa, proved to me through Massachuse ths Driver's Licent document, and acknowledged to me that	s< , to be the person w	ersigned notary public, personally appeared ication, which was whose name is signed on the preceding rits stated purpose.
	Cornel a	
	Notary Public: \(\) My Commission Expires:	CYNTHIA B. GAGNE
		Notary Public
		Commonwealth of Massachusetts
		My Commission Expires September 22, 2017

RECORDED: 02/27/2018