05/31/2018 504938525

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4985271

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
SAMUEL V. AGRESTA	04/23/2018
YUE CHEN	04/18/2018
MARVIN B. COHEN	05/03/2018
LENNY DANG	04/19/2018
CHARLES KUNG	04/13/2018
ELIZABETH A. MERICA	04/25/2018
BRUCE A. SILVER	05/03/2018
HUA YANG	04/13/2018

RECEIVING PARTY DATA

Name:	AGIOS PHARMACEUTICALS, INC.	
Street Address:	88 SIDNEY STREET	
City:	CAMBRIDGE	
State/Country:	MASSACHUSETTS	
Postal Code:	02139	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15735036

CORRESPONDENCE DATA

(617)523-1231 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.

Phone: (617) 570-3920 Email: jle@goodwinlaw.com **GOODWIN PROCTER LLP Correspondent Name:** Address Line 1: 100 NORTHERN AVENUE

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ATTORNEY DOCKET NUMBER:	AGS-077US
NAME OF SUBMITTER:	IOANA DAVIES
SIGNATURE:	/loana Davies/

PATENT REEL: 045948 FRAME: 0918

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DATE SIGNED:	05/31/2018	
Total Attachments: 9		
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PATENT REEL: 045948 FRAME: 0919

ASSIGNMENT

For good and valuable consideration, the sufficiency and receipt of which are hereby acknowledged, We, Samuel V. Agresta of 24 Coolidge Road, Lexington, Massachusetts 02420; Yue Chen of 2001 Falls Boulevard, Apt. 321, Quincy, Massachusetts 02169; Marvin B. Cohen of MBC Pharma Solutions, LLC, a Pennsylvania limited liability company of 110 North Lincoln Avenue, Newtown, Pennsylvania 18940; Lenny Dang of 30 Union Park Street, #201, Boston, Massachusetts 02118; Charles Kung of 39 Rockmont Road, Arlington, Massachusetts 02474; Elizabeth A. Merica of 227B Lamartine Street, Boston, Massachusetts 02130; Bruce A. Silver of Bruce A. Silver Clinical Science and Development, LLC, a Maryland limited liability company of 12132 Palisades Drive, Dunkirk, Maryland 20754; and Hua Yang of 48 Conant Street, Acton, Massachusetts 01720 (hereinafter the "Undersigned"), do hereby irrevocably and unconditionally:

CONVEY, ASSIGN AND TRANSFER to Agios Pharmaceuticals, Inc., a Delaware corporation having a place of business at 88 Sidney Street, Cambridge, Massachusetts 02139, United States of America, its successors, assigns and legal representatives (collectively hereinafter the "Assignee"), the Undersigned's entire right, title and interest throughout the world in the inventions and improvements which are subject of an application for the United States Patent entitled METHODS OF USING PYRUVATE KINASE ACTIVATORS, with a national stage entry date of December 8, 2017, and assigned U.S. Serial Number 15/735.036, including:

the inventions disclosed in the above-identified application(s);

such application(s), and all divisional, continuing (including continuation-in-part), substitute, renewal, reissue, and all other applications for a patent or patents which have been or shall be filed in the United States (including without limitation International Application No. PCT/US2016/036893, filed June 10, 2016 and entitled METHODS OF USING PYRUVATE KINASE ACTIVATORS; and U.S. Provisional Application No. 62/174,216, filed June 11, 2015 and entitled METHODS OF USING PYRUVATE KINASE ACTIVATORS), and in all foreign countries and jurisdictions based in whole or in part on any of the said inventions and improvements (including any application for a utility model, design registration(s), and inventor's certificate(s));

the right to claim priority to the above-identified application(s) in relation to subject matter based in whole or in part on the above-identified application(s) and any of the foregoing under the International Convention for the Protection of Industrial Property, the Patent Cooperation Treaty, the European Patent Convention, and all other treaties of like purposes;

the right to file in my name or in its own name for patents, utility models, design registrations and like rights of exclusion and for inventor's certificate(s) for said inventions and improvements in the United States and all foreign countries under the International Convention for the Protection of Industrial Property, the Patent Cooperation Treaty, the European Patent Convention, and all other treaties of like purposes; and

the right to all causes of action, remedies, and other enforcement rights related to the above-identified application(s), including without limitation the right to sue for past, present, or future infringement, misappropriation, or violation of any and all rights related to the above-identified application(s) and any of the foregoing, including the right to obtain and collect damages for past, present, or future infringement.

The Undersigned authorizes and requests the U.S. and foreign patent issuing authority to issue any and all United States and foreign patents (including any application for a utility model, design registrations, and inventor's certificate(s)) on the said inventions and improvements to the Assignee.

Assignment Page 1 of 9

The Undersigned covenants, that when requested and at the reasonable expense of the Assignee, in order to carry out in good faith the intent and purpose of this Assignment, the Undersigned shall (I) execute all provisional, non-provisional, divisional, continuing (including continuation-in-part), substitute, renewal, reissue, and all other patent applications for the inventions and improvements which are subject of the said application(s), as the Assignee may reasonably request to effectuate fully this Assignment; (2) execute all rightful oaths, declarations, assignments, powers of attorney and other papers for the inventions and improvements which are subject of the said application(s); (3) communicate to the Assignee all facts known to the Undersigned relating to the inventions and improvements which are subject of the said application(s), and the history thereof; (4) cooperate with the Assignee in any interference, reexamination, reissue, opposition, dispute, or litigation involving any of the applications or patents for the inventions and improvements which are subject of the said application(s); and (5) take such further actions as the Assignee shall reasonably consider necessary or desirable for vesting title to the said inventions and improvements in the Assignee, or for securing, maintaining and enforcing proper patent protection for the said inventions and improvements.

The Undersigned covenants, that should the execution date, filing date and/or Application Number be not entered or be incorrect at the time the Undersigned executed this document, the Undersigned hereby authorizes and requests an attorney of Assignee to insert the information or make the correction.

> Assignment Page 2 of 9

My Commission Expires January 6, 2023 My Commission Expires

IN TESTIMONY WHEREOF, I, Yue C	Then, have executed this document on the date indicated below.
Signature of Inventor	4/18/2018
Signature of Inventor	Date
Quin Cy M/4 Inventor's City, State of Residence	
Inventor's City, State of Residence	
COMMONWEALTH OF MASSACHU COUNTY OF MIDDLESEX: On this 18 day of April appeared 14 Cherry which were 2000 and 15 cherry preceding or attached document in my preceding or attached document in my preceding or attached document in my preceding and the county of the count	, 2018, before me, the undersigned notary public, personally proved to me through satisfactory evidence of identification, to be the person whose name is signed on the
SEAL DIANE M. RI Notary Pu COMMONWEALTH OF MA	IORDAN Notary Public
My Commission January 6.	Expires My Commission Expires ////2023

Assignment Page 3 of 9

IN TESTIMONY WHEREOF, I, Marvi below.	n B. Cohen, have executed this document on the date indicated
Ajama (da	03 May 2012
Signature of Inventor	Date
Newtown, May	
Inventor's City, State of Residence	
STATE OF PA	:
COUNTY OF	
which were	2018, before me, the undersigned notary public, personally proved to me through satisfactory evidence of identification, to be the person whose name is signed on the essence and acknowledged to me that he executed the same in his ignature on the instrument the person, or the entity upon behalf of rument.
SEAL	Notary Public
Commonwealth of Pennsylvania	My Commission Expires 10/9/2» 2
NOTARIAL SEAL Brian Adelberger, Notary Public Doylestown, Bucks County My Commission Expires Oblober 09, 2021	<i>* *</i>
Commence and the commen	

IN TESTIMONY WHEREOF, I, Lenny Dang	g, have executed this document on the date indicated below 4 / / 3 / 1 8
Signature of Inventor	Date
BSS77N MA Inventor's City, State of Residence	
COMMONWEALTH OF MASSACHUSETT COUNTY OF MIDDLESEX:	`S:
On this 19 ⁺¹ day of April appeared Legay Dang which were preceding or attached document in my presence	2018, before me, the undersigned notary public, personal proved to me through satisfactory evidence of identification to be the person whose name is signed on the ce.
SEAL	AN Notary Publi
DIANE M. RIORD, Notary Public COMMONWEALTH OF MASSACHUS My Commission Expire January 6, 2023	JSETTS My Commission Evnires 1/1. / 2/12

IN TESTIN	MONY WHEREOF, I, Charl	les Kung, hav	e executed this document on the	date indicated below
de de la companya de	of Inventor			
Signature o	of Inventor		Date	
Adin	Jan WA			
Inventor's	City, State of Residence			
	WEALTH OF MASSACHU OF MIDDLESEX:	JSETTS:		
appeared which were	Charles Kuna	, provec	pefore me, the undersigned notal to me through satisfactory evid to be the person whose r	ence of identification
SEAL	DIANE M. R	IOKUAN 🦜	Disi M Rusi	Notary Public
	Notary Po COMMONWEALTH OF M My Commissio January 6,	ASSACHUSETTS 🐧 : n Expires	My Commission Expires	1/4/2023

IN TESTIMONY WHEREOF, I, Elizabeth A. Merie	a, have executed this document on the date indicated
below.	
Myster a. merica	25 April 2016
Signature of Inventor	Date
Buston, MA	
Inventor's City, State of Residence	
COMMONWEALTH OF MASSACHUSETTS: COUNTY OF MASSACHUSETTS:	
On this 25 day of 40. , 2018, t appeared 21. 24. 644 Me. , proved which were 30. 36. 64. 64. 64. 64. 64.	before me, the undersigned notary public, personally to me through satisfactory evidence of identification, to be the person whose name is signed on the
preceding or attached document in my presence.	
SEAL	A A A A Notary Public
	My Commission Expires <u>もなべも 7</u> 9,20 シラ

IN TESTIMONY WHEREOF, I, Bruce A. S	Silver, have executed this document on the date indicated
Blue 9. Silv	03-9147-2018
Signature of Inventor DVVKIRK, MARKAND	Date
Inventor's City, State of Residence	
STATE OF MARY LOND COUNTY OF CALLERT	
preceding or automed document in my presence	2018, before me, the undersigned notary public, personally proved to me through satisfactory evidence of identification, so to be the person whose name is signed on the e and acknowledged to me that he executed the same in his are on the instrument the person, or the entity upon behalf of at.
SEAL	Leah J. Heller Notary Public
Leab J. Miller NOTARY PUBLIC Calvert County Sale of Maryland My Commission Expires November 87, 2021	My Commission Expires November 07, 20

Assignment Page 8 of 9

IN TESTIMONY WHEREOF, I, Hua Yang, have executed this document on the date indicated below.	
	13 Apr 2018
Signature of Inventor	Date
AAAAA , NA Inventor's City, State of Residence	
COMMONWEALTH OF MASSACHUSETTS: COUNTY OF MIDDLESEX:	
On this day of has not	
SEAL DIANE M. RIORDAN Notary Public COMMONWEALTH OF MASSACHUSETTS My Commission Expires January 6, 2023	Notary Public My Commission Expires //6/2023
ACCEPTED AND AGREED TO BY ASSIGNEE: Agios Pharmaceuticals, Inc.:	
Signature:	Date: 19 30 2018
Printed name: Min Wang, Ph.D., J.D.	
Title: General Counsel	

Assignment Page 9 of 9