

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT5027210

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
EKAMBAR KANDIMALLA	01/15/2014
DAQING WANG	01/14/2014
DONG YU	01/14/2014
IRENEUSZ NOWAK	04/29/2014
SUDHIR AGRAWAL	01/14/2014
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	IDERA PHARMACEUTICALS, INC.
<b>Street Address:</b>	167 SIDNEY STREET
<b>City:</b>	CAMBRIDGE
<b>State/Country:</b>	MASSACHUSETTS
<b>Postal Code:</b>	02139
<b>PROPERTY NUMBERS Total: 2</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	14990929
<b>Application Number:</b>	15209333
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(212)755-7306
<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>Email:</b>	wtokmakidis@jonesday.com, cboyle@jonesday.com
<b>Correspondent Name:</b>	WENDY TOKMAKIDIS
<b>Address Line 1:</b>	250 VESEY STREET
<b>Address Line 2:</b>	JONES DAY
<b>Address Line 4:</b>	NEW YORK, NEW YORK 10281
<b>ATTORNEY DOCKET NUMBER:</b>	14323-008-999/009-999
<b>NAME OF SUBMITTER:</b>	CRAIG D. BOYLE
<b>SIGNATURE:</b>	/CRAIG D. BOYLE/
<b>DATE SIGNED:</b>	06/27/2018
<b>Total Attachments: 5</b>	

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## ASSIGNMENT

**WHEREAS** we, **Kandimalla, Ekambar**, being a citizen of the United States of America and residing at 3 Overlook Road, Hopkinton, Massachusetts 01748; **Wang, Daqing**, being a citizen of the United States of America and residing at 14 Liberty Lane, North Reading, Massachusetts 01864; **Yu, Dong**, being a citizen of China and residing at 25 Indian Pond Road, Westboro, Massachusetts 01581; **Nowak, Ireneusz**, being a citizen of Poland and residing at 592 Cambridge Street, #22, Allston, Massachusetts 02134; and **Agrawal, Sudhir**, being a citizen of the United States of America and residing at 61 Lamplighter Drive, Shrewsbury, Massachusetts 01545; are inventors of certain new and useful inventions and discoveries, for which we have made an application for Letters Patent entitled **IMMUNE REGULATORY OLIGONUCLEOTIDE (IRO) COMPOUNDS TO MODULATE TOLL-LIKE RECEPTOR BASED IMMUNE RESPONSE**, which application was filed in the United States Patent and Trademark Office on January 8, 2014, and assigned Serial No. 14/149,899 and

**WHEREAS** Idera Pharmaceuticals, Inc., a corporation existing under the laws of Delaware, whose address is 167 Sidney Street, Cambridge, MA 02139, which together with its successors and assigns is hereinafter called "ASSIGNEE," is desirous of acquiring all right, title, interest, benefits, and privileges to and under said inventions and discoveries as hereinafter recited;

**NOW THEREFORE**, for and in consideration of good and valuable consideration furnished by ASSIGNEE to us, receipt and sufficiency of which we hereby acknowledge, we hereby, without reservations:

1. Assign, transfer and convey to ASSIGNEE the entire right, title and interest in and to said inventions and discoveries, said application for Letters Patent, any and all other applications for Letters Patent on said inventions and discoveries in whatsoever countries, including all divisional, renewal, substitute, continuation, continuation-in-part, and convention applications based in whole or in part upon said inventions or discoveries, or upon said applications, and any and all Letters

- Patent, reissues and extensions of Letters Patent granted for said inventions and discoveries or upon said applications, and every priority right that is or may be predicated upon, or arise from, said inventions, said discoveries, said applications and said Letters Patent;
2. Authorize ASSIGNEE to file patent applications in any or all countries on any or all of said inventions and discoveries in my name or in the name of ASSIGNEE or otherwise as ASSIGNEE may deem advisable, under International Conventions or otherwise;
  3. Authorize and request the Commissioner of Patents and Trademarks of the United States of America and the empowered official of any other government throughout the world to issue or transfer all said Letters Patent to ASSIGNEE as ASSIGNEE of the entire right, title and interest therein or otherwise as ASSIGNEE may direct;
  4. Warrant that we have the full right to convey the entire right, title and interest herein assigned without encumbrance and have not knowingly conveyed to others any right, title or interest in said inventions, discoveries, applications or patents or any license to use the same, or to make, use, sell or import anything embodying or utilizing any of said inventions or discoveries;
  5. Bind my heirs, legal representatives and assigns, as well as myself, to do, upon ASSIGNEE's request and at ASSIGNEE's expense, but without additional consideration to us or them, all acts reasonably serving to assure that said inventions and discoveries, said patent applications, and said Letters Patents shall be held and enjoyed by ASSIGNEE as fully and entirely as the same could have been held and enjoyed by us, our heirs, legal representatives and assigns as if this Assignment had not been made; and particularly to execute and deliver to ASSIGNEE all lawful application documents including petitions, specifications and oaths, and all assignments, disclaimers and lawful affidavits in form and substance as may be requested by ASSIGNEE; and to communicate to ASSIGNEE all facts known to me relating to said inventions and discoveries or

the history thereof, and to testify as to the same in any court or proceeding; and to furnish ASSIGNEE any and all documents, photographs, models, samples and other physical exhibits in my control or in the control of my heirs, legal representatives or assigns which may be useful for establishing the facts of my conceptions, disclosures, and reduction to practice of said invention and discoveries.

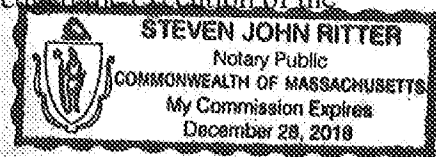
**IN TESTIMONY WHEREOF, we have hereunto set our hands and seals.**

Date: 1/15/14



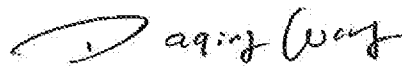
Kandimalla, Ekambar

Then personally appeared before me this 15<sup>th</sup> day of January, 2014, the above named Ekambar Kandimalla who acknowledged the execution of the foregoing instrument to be his free act and deed.



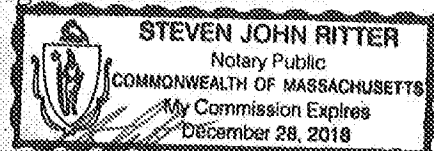
Notary Public

Date: January 14, 2014



Wang, Daqing

Then personally appeared before me this 14<sup>th</sup> day of January, 2014, the above named Daqing Wang who acknowledged the execution of the foregoing instrument to be his free act and deed.



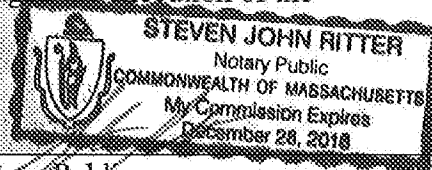
Notary Public

Date: 01-14-2014

[Signature]

Yu, Dong

Then personally appeared before me this 14<sup>th</sup> day of January, 2014,  
the above named Dong Yu who acknowledged the execution of the  
foregoing instrument to be his free act and deed.



Notary Public

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

Nowak, Ireneusz

Then personally appeared before me this \_\_\_\_\_ day of \_\_\_\_\_, 2014,  
the above named \_\_\_\_\_ who acknowledged the execution of the  
foregoing instrument to be his free act and deed.

Notary Public

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

[Signature]

Agrawal, Sudhir

Then personally appeared before me this 14<sup>th</sup> day of Jan, 2014,  
the above named Sudhir Agrawal who acknowledged the execution of the  
foregoing instrument to be his free act and deed.

[Signature]  
Notary Public

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

Yu, Dong

Then personally appeared before me this \_\_\_\_\_ day of \_\_\_\_\_, 2014,  
the above named \_\_\_\_\_ who acknowledged the execution of the  
foregoing instrument to be his free act and deed.

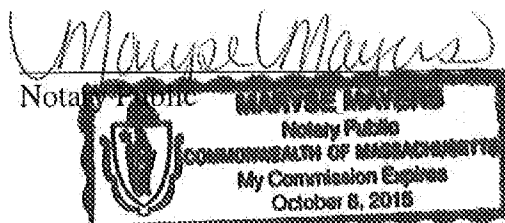
\_\_\_\_\_  
Notary Public

Date: Apr 28, 2014

Nowak

Nowak, Ireneusz

Then personally appeared before me this 29<sup>th</sup> day of April, 2014,  
the above named Ireneusz Nowak who acknowledged the execution of the  
foregoing instrument to be his free act and deed.



\_\_\_\_\_  
Agrawal, Sudhir

Then personally appeared before me this \_\_\_\_\_ day of \_\_\_\_\_, 2014,  
the above named \_\_\_\_\_ who acknowledged the execution of the  
foregoing instrument to be his free act and deed.

\_\_\_\_\_  
Notary Public

(DOCKET NO.)

RECORDED: 06/07/2018

PATENT  
REEL: 030240 FRAME: 0468