

## PATENT ASSIGNMENT COVER SHEET

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EPAS ID: PAT4212515

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
JILIANG GAO	07/22/2015
PHILIP M. MURPHY	07/22/2015
DAVID H. MCDERMOTT	07/22/2015
MARIE SIWICKI	07/23/2015
HARRY L. MALECH	07/23/2015
JOY LIU	07/22/2015
PAEJONETTE JACOBS	07/22/2015
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	The United States of America, as represented by the Secretary, Department of Health and Human Services
<b>Street Address:</b>	6011 Executive Boulevard, Suite 325, MSC 7660
<b>Internal Address:</b>	Office of Technology Transfer, National Institutes of Health,
<b>City:</b>	Bethesda
<b>State/Country:</b>	MARYLAND
<b>Postal Code:</b>	20892-7660
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
Application Number:	15324219
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(503)595-5301
<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>	503-595-5300
<b>Email:</b>	deborah.martin@klarquist.com
<b>Correspondent Name:</b>	S.L. RYBAK, PH.D, KLARQUIST SPARKMAN LLP
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<b>ATTORNEY DOCKET NUMBER:</b>	4239-93173-03
<b>NAME OF SUBMITTER:</b>	SHEREE LYNN RYBAK, PH.D.

<b>SIGNATURE:</b>	/Sheree Lynn Rybak/
<b>DATE SIGNED:</b>	01/05/2017
<b>Total Attachments: 5</b> source=Assignment#page1.tif source=Assignment#page2.tif source=Assignment#page3.tif source=Assignment#page4.tif source=Assignment#page5.tif	

**ASSIGNMENT FOR NIH/FDA/CDC INVENTIONS AIA  
(NIH OR FDA OR CDC CO-INVENTORS ONLY)**

**WHEREAS**, we, Jiliang Gao, Philip M. Murphy, David H. McDermott, Marie Siwicki, Harry L. Malech, Joy Liu, and Paejonette Jacobs, employees of the National Institutes of Health, are each employed by a component of the United States Department of Health and Human Services having an address at the Office of Technology Transfer, National Institutes of Health, 6011 Executive Boulevard, Suite 325, MSC 7660, Bethesda, MD 20892-7660, and have made certain inventions as described and claimed in:

U.S. Provisional Patent Application No. 62/026,138, filed on July 18, 2014, entitled "REDUCING CXCR4 EXPRESSION AND/OR FUNCTION TO ENHANCE ENGRAFTMENT OF HEMATOPOIETIC STEM CELLS," and

PCT Patent Application No. PCT/US2015/040954, filed on July 17, 2015, entitled "REDUCING CXCR4 EXPRESSION AND/OR FUNCTION TO ENHANCE ENGRAFTMENT OF HEMATOPOIETIC STEM CELLS,"

both of which applications are collectively referred to herein as "**The Patent Application(s)**"; and

**WHEREAS**, we are the inventors named in **The Patent Application(s)**; and

**WHEREAS**, the inventions described and claimed in **The Patent Application(s)** were made under conditions such as to entitle **THE UNITED STATES OF AMERICA**, as represented by the Secretary, Department of Health and Human Services [hereinafter **THE GOVERNMENT**] under Executive Order 10096 and its amendments, 35 U.S.C. §§200-201, §§206-207, and §210 and 37 C.F.R. Part 501 to the entire right, title, and interest in such inventions; and

**WHEREAS**, **THE GOVERNMENT** is desirous of acquiring all domestic and foreign right, title, and interest in the inventions described and claimed in **The Patent Application(s)**;

**NOW, THEREFORE**, having the legal obligation to assign our right, title and interest in the inventions described and claimed in **The Patent Application(s)** to **THE GOVERNMENT**, having a place of business at the Office of Technology Transfer, National Institutes of Health, 6011 Executive Boulevard, Suite 325, MSC 7660, Bethesda, MD 20892-7660 and for consideration, the receipt and sufficiency of which are hereby acknowledged, we hereby assign and transfer to **THE GOVERNMENT**:

the entire right, title, and interest in and to any and all inventions described and claimed in **The Patent Application(s)** and any and all Letters Patent which may be granted thereon, and any and all continuations, divisions, reissues or extensions thereof; and

all rights to claim priority on the basis of **The Patent Application(s)** including but not limited to applications filed through the provisions of the Patent Cooperation Treaty ("PCT Applications"); and

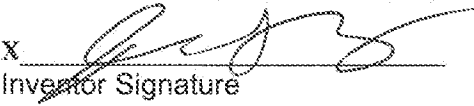
all applications for Letters Patent that may be filed for any and all inventions described and claimed in **The Patent Application(s)** that may be filed in any foreign country and all Letters

Patent that may be granted thereon in any foreign country and all extensions, renewals, and reissues thereof; and

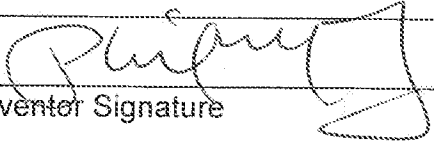
any and all such Letters Patent as may be granted in the United States or any foreign country to be held by **THE GOVERNMENT** to the end of the term for which the same would have been held by the inventor(s) had this assignment not been made.

We further agree to make, execute, and deliver to **THE GOVERNMENT**, upon request, any and all papers, documents, affidavits, or other instruments that may be necessary in the prosecution of any application or applications for improvements or reissues of Letters Patent, and to assist **THE GOVERNMENT** in every way as may be requested in protecting said invention.

**IN WITNESS WHEREOF** we subscribe our hands and seals on the dates shown below:

Inventor: Jiliang Gao	
Date <u>July 22, 2015</u>	X  Inventor Signature
County of _____	
State of _____	
Subscribed and sworn to before me this _____ day of _____, _____.	
Seal	
	Notary Signature: _____
	Notary Public for the State of: _____
	My Commission Expires: _____

Inventor: Philip M. Murphy

Date July 22, 2015 X   
Inventor Signature

County of \_\_\_\_\_

State of \_\_\_\_\_

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_

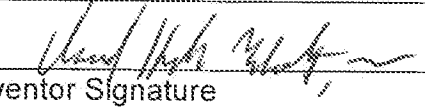
Seal

Notary Signature: \_\_\_\_\_

Notary Public for the State of: \_\_\_\_\_

My Commission Expires: \_\_\_\_\_

Inventor: David H. McDermott

Date July 22, 2015 X   
Inventor Signature

County of \_\_\_\_\_

State of \_\_\_\_\_

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_

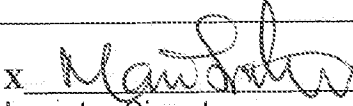
Seal

Notary Signature: \_\_\_\_\_

Notary Public for the State of: \_\_\_\_\_

My Commission Expires: \_\_\_\_\_

Inventor: Marie Siwicki

Date July 23, 2015      x   
Inventor Signature

County of \_\_\_\_\_

State of \_\_\_\_\_

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

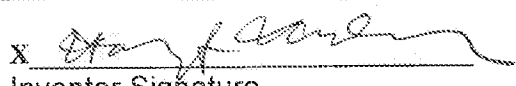
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Notary Signature: \_\_\_\_\_

Notary Public for the State of: \_\_\_\_\_

My Commission Expires: \_\_\_\_\_

Inventor: Harry L. Malech

Date 7/23/2015      x   
Inventor Signature

County of \_\_\_\_\_

State of \_\_\_\_\_

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

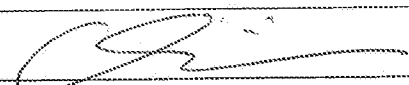
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Notary Signature: \_\_\_\_\_

Notary Public for the State of: \_\_\_\_\_

My Commission Expires: \_\_\_\_\_

Inventor: Joy Liu

Date 7/22/2015 X   
Inventor Signature

County of \_\_\_\_\_

State of \_\_\_\_\_

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_,


Seal

Notary Signature: \_\_\_\_\_

Notary Public for the State of: \_\_\_\_\_

My Commission Expires: \_\_\_\_\_

Inventor: Paejonette Jacobs

Date 7/22/15 X   
Inventor Signature

County of \_\_\_\_\_

State of \_\_\_\_\_

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_,

Seal

Notary Signature: \_\_\_\_\_

Notary Public for the State of: \_\_\_\_\_

My Commission Expires: \_\_\_\_\_