PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT	
NATURE OF CONVEYANCE:	ASSIGNMENT	

CONVEYING PARTY DATA

Name	Execution Date
PAUL GADUE	12/02/2015
DEBORAH FRENCH	12/02/2015
XIN CHENG	04/08/2015

RECEIVING PARTY DATA

Name:	The Children's Hospital of Philadelphia		
Street Address:	34th & Civic Center Boulevard		
City:	Philadelphia		
State/Country:	PENNSYLVANIA		
Postal Code:	19104		

PROPERTY NUMBERS Total: 3

Property Type	Number	
Application Number:	14138963	
Application Number:	61500442	
PCT Number:	US2012044096	

CORRESPONDENCE DATA

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Address Line 4: PHILADELPHIA, PENNSYLVANIA 19104

NAME OF SUBMITTER:STEPHANIE LASTESIGNATURE:/STEPHANIE LASTE/DATE SIGNED:06/17/2016

Total Attachments: 4

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PATENT REEL: 038937 FRAME: 0976

ASSIGNMENT OF INVENTION

WHEREAS, WE, Paul Gadue, Deborah French, and Xin Cheng, hereafter referred to as INVENTORS, have made a certain new and useful invention in Self-renewing Endodermal Progenitor Lines Generated from Human Pluripotent Stem Cells and Methods of Use Thereof and have filed an application Serial No. 14/138,963 for Letters Patent of the United States based thereon on June 25, 2012. This application is a continuation in part of PCT/US2012/44096 filed Jun. 25, 2012, which in turn claims priority to U.S. Provisional Application No. 61/500,442 filed Jun. 23, 2011. The entire contents being incorporated herein by reference as though set forth in full.

WHEREAS, WE, the INVENTORS, are associated with THE CHILDREN'S HOSPITAL OF PHILADELPHIA as employees of THE CHILDREN'S HOSPITAL OF PHILADELPHIA or were employees at the time of the conceived invention at THE CHILDREN'S HOSPITAL OF PHILADELPHIA.

WHEREAS, THE CHILDREN'S HOSPITAL OF PHILADELPHIA, a non-profit Corporation, organized and existing under the laws of the Commonwealth of Pennsylvania and having an office and place of business at 34th Street & Civic Center, Boulevard, Philadelphia, Pennsylvania 19104, is desirous of acquiring the entire right, title and interest in and to the invention and all improvements thereon which may be made, conceived or acquired by INVENTORS, during the course of their association with THE CHILDREN'S HOSPITAL OF PHILADELPHIA, aforesaid and for one year thereafter, in and throughout the United States, its territories and all countries foreign thereto, and in and to said application for Letters Patent, and in and to any and all utility patent applications and Letters Patents of the United States and all countries foreign thereto which have been granted or may be granted on said invention or any part thereof, including the right to claim priority and assignment of all rights under the provisions of the International Convention.

NOW, THEREFORE, IN CONSIDERATION of one or more of the following: (i) my continued employment at THE CHILDREN'S HOSPITAL OF PHILADELPHIA including its Research Institute (collectively, "THE CHILDREN'S HOSPITAL OF PHILADELPHIA"); (ii) my continued participation in research at THE CHILDREN'S HOSPITAL OF PHILADELPHIA; (iii) my continued access to THE CHILDREN'S HOSPITAL OF PHILADELPHIA facilities, funds, and other resources; and/or (iv) my continued opportunity to share in royalties and other inventor/author rights outlined in THE CHILDREN'S HOSPITAL OF PHILADELPHIA's current "Patent Policy" (the "Patent Policy), and intending to be legally bound, hereby agree to be legally bound by the Patent Policy and all of its terms conditions, wherein the receipt of such consideration is hereby acknowledged; INVENTORS, by these presents do hereby sell, assign and transfer unto the said THE CHILDREN'S HOSPITAL OF PHILADELPHIA the entire right, title, and interest in and throughout the United States, its territories and all countries foreign thereto in and to said invention, in and to said application for Letters Patent and any and all utility patent applications and Letters Patents and extensions thereof, of the United States and countries foreign thereto which have been or may be granted on said invention or any part thereof and any international priority rights associated therewith; including the right to claim priority and assignment of all rights under the provisions of the International Convention.

TO BE HELD AND ENJOYED by the said THE CHILDREN'S HOSPITAL OF

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PHILADELPHIA and its legal representatives and assigns to the full ends of the terms United States Patent Application No. 14/138,963 for which said Letters Patent, or any of them, have been granted as fully and entirely as the same would have been held and enjoyed by INVENTORS, had no sale and assignment of said interest been made; and INVENTORS, do hereby authorize and request the Commissioner of Patents and Trademarks to issue any and all Letters Patents which may be granted upon the said application above referred to, or any of them or upon said invention or any part thereof, to THE CHILDREN'S HOSPITAL OF PHILADELPHIA, and INVENTORS, hereby agree for myself, my heirs, executors and administrators, to execute without further consideration, any further legal documents and any further assignments and any releases, reissues, renewals or other application for Letters Patents that may be deemed necessary by THE CHILDREN'S HOSPITAL OF PHILADELPHIA, its interest as aforesaid in and to said invention or any part thereof and in and to several Letters Patent or any of them.

INVENTORS, do hereby covenant for their self and their legal representatives, and agree with THE CHILDREN'S HOSPITAL OF PHILADELPHIA and its legal representatives, that INVENTORS, has granted no license to make or sell the said invention, that prior to the execution of this deed our right, title and interest in the said invention has not been encumbered, that INVENTORS, then had good right and title in and to the invention and that INVENTORS, have not executed and will not execute any instrument in conflict therewith.

IN WITNESS WHEREOE, I, Paul Gadue intending to be legally bound, have hereunto affixed my
hand and seal this day of 2015.
L. J. Bran
Paul Gadue
STATE OF HMS/Kinh CITY OF Philadelphia ss.
CITY OF Philadelphia SS.
Before me personally appeared said Houl Godue, and acknowledged the
foregoing instrument to be his free act and deed this day 200 of 26cm 2015.
Stephanie dott (SEAL)
Notary Public D. L. 13 JAN
My Commission Expires: Lcenbes 23, 2018
COMMONWEALTH OF PENNSYLVANIA
NOTARIAL SEAL
STEPHANIE LASTE, Notary Public City of Philadelphia, Phila. County
My Commission Expires December 22, 2040

IN WITNESS WHEREOF, I, Debokah French intending to be legally bound, have hereunto affixed
my hand and seal this day of Ncomplet 2015.
Dehoral
Deborah French
STATE OF LANGE VAN K
STATE OF Philadephie ss.
Before me personally appeared said block for and acknowledged the
foregoing instrument to be his free act and deed this day of 100 2015.
Stephanie (SEAL)
Notary Public Dans College Will
My Commission Expires: 100 My Commission Expires
NOTARIAL SEAL STEPHANIE LASTE, Notary Public
City of Philadelphia, Phila. County My Commission Expires December 23, 2018
my commission Expires December 23, 2018
IN WITNESS WHEREOF, I, Xin Cheng, intending to be legally bound, have hereunto affixed my
hand and seal this day of2015.
Xin Cheng
STATE OF
SS. CITY OF
CITY OF
Before me personally appeared said and acknowledged the
foregoing instrument to be his free act and deed this day of2015.
(SEAL)
Notary Public
My Commission Expires:

IN WITNESS WHEREOF, my hand and seal this day _		ench intending to be legally bou 2015.	ınd, have hereunto affixed
-			
		Deborah French	
STATE OF	SS.		
CITY OF			
Before me personally appea foregoing instrument to be h	red said is free act and	d deed this day of	and acknowledged the
		(SEAL)	
Notary Public My Commission Expires:			
IN WITNESS WHEREOF, hand and seal this day <u>Sth</u>		intending to be legally bound, 2015. Xin Cheng	have hereunto affixed my
STATE OF			
CITY OF	SS.		
Before me personally appear foregoing instrument to be l	red said	d deed this day & Hof	and acknowledged the 2015.
YING ZHOU	阻基	(SEAL)	•
Notary Public			
My Commission Expires:			

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