

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT5640890

|   |  |
|---|--|
| <b>SUBMISSION TYPE:</b>   | NEW ASSIGNMENT   |
| <b>NATURE OF CONVEYANCE:</b>  | ASSIGNMENT   |
| <b>CONVEYING PARTY DATA</b>   |  |
| <b>Name</b>   | <b>Execution Date</b>                                  |
| HOWARD HUGHES MEDICAL INSTITUTE   | 01/28/2013   |
| <b>RECEIVING PARTY DATA</b>   |  |
| <b>Name:</b>  | CHILDREN'S MEDICAL CENTER CORPORATION                  |
| <b>Street Address:</b>  | 55 SHATTUCK STREET                                     |
| <b>City:</b>  | BOSTON   |
| <b>State/Country:</b>   | MASSACHUSETTS  |
| <b>Postal Code:</b>   | 02115  |
| <b>PROPERTY NUMBERS Total: 1</b>  |  |
| <b>Property Type</b>  | <b>Number</b>  |
| <b>Application Number:</b>  | 16275534   |
| <b>CORRESPONDENCE DATA</b>  |  |
| <b>Fax Number:</b>  |  |
| <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>   | bostonpatent@nixonpeabody.com , hcook@nixonpeabody.com |
| <b>Correspondent Name:</b>  | DAVID RESNICK  |
| <b>Address Line 1:</b>  | EXCHANGE PLACE 53 STATE ST                             |
| <b>Address Line 2:</b>  | NIXON PEABODY  |
| <b>Address Line 4:</b>  | BOSTON, MASSACHUSETTS 02109                            |
| <b>ATTORNEY DOCKET NUMBER:</b>  | 701039-091120USC4                                      |
| <b>NAME OF SUBMITTER:</b>   | DAVID RESNICK  |
| <b>SIGNATURE:</b>   | /David Resnick/  |
| <b>DATE SIGNED:</b>   | 07/26/2019   |
| <b>Total Attachments: 3</b>   |  |
| source=2018-08-28-Assignment-HHMI-to-CMCC-701039-091120-C3#page1.tif  |  |
| source=2018-08-28-Assignment-HHMI-to-CMCC-701039-091120-C3#page2.tif  |  |
| source=2018-08-28-Assignment-HHMI-to-CMCC-701039-091120-C3#page3.tif  |  |

**CONFIRMATORY PCT ASSIGNMENT**

**ASSIGNOR:**

Name : **HOWARD HUGHES MEDICAL INSTITUTE**  
Address: 4000 Jones Bridge Road, Chevy Chase, MD 20815  
Nationality: US

WHEREAS, HHMI has appointed Stuart H. Orkin as its Agent for the purpose of assigning the rights HHMI has or may acquire in the Invention by reason of the research program conducted at Institution to Institution (ASSIGNEE) in accordance with and subject to the conditions of the Agreement between HHMI and the ASSIGNEE, confirm that we have sold and assigned and transfer to

**ASSIGNEE:**

Name: **CHILDREN'S MEDICAL CENTER CORPORATION**  
Address: 55 Shattuck Street, Boston, MA 02115  
Nationality: US

the ASSIGNEE the entire right, title and interest in the United States and in all foreign countries, including all rights to claim priority in and to any and all improvements which are disclosed in the invention entitled **MODULATION OF BCL11A FOR TREATMENT OF HEMOGLOBINOPATHIES** and which is found in U.S. Patent Application No. 13/063,524 filed on April 14, 2011, which is a USC § 371 National Entry of International Application No. PCT/US2009/056770 filed on September 14, 2009, and which claims benefit under 35 USC § 119(e) of U.S. Provisional Application No. 61/097,017 filed September 15, 2008 and U.S. Provisional Application No. 61/222,571 filed on July 2, 2009, and any subsequent non-provisional application including all National Stage applications claiming priority therefrom, and any legal equivalent thereof in any designated country, including the right to claim priority, in and to, all Letters Patent to be obtained for said invention by the above application or any continuation, division, renewal, or substitute thereof, and as to Letters Patent any re-issue or re-examination thereof, and do hereby sell, assign and transfer to the successor, assigns and legal representatives of the ASSIGNEE all right, title and interest in said invention;

ASSIGNOR(S) hereby confirm(s) and covenant(s) that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this confirmatory assignment;

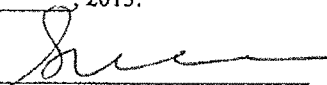
ASSIGNOR(S) further covenant(s) that ASSIGNEE will, upon its request, be provided promptly with all pertinent facts and documents relating to said invention and said Letters Patent and legal equivalents as may be known and accessible to ASSIGNOR(S) and will testify as to the same in any interference, litigation or proceeding related thereto and will promptly execute and deliver to ASSIGNEE or its legal representatives any and all papers, instruments or affidavits required to apply for, obtain, maintain, issue and enforce said application, said invention and said Letters Patent and said equivalents thereof which may be necessary or desirable to carry out the purposes thereof.

The undersigned hereby grant(s) the law firm of Nixon Peabody LLP of 100 Summer Street, Boston, Massachusetts 02110-2131, U.S.A., the power to insert on this Confirmatory Assignment any further identification which may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

WHEREAS, HHMI has appointed Stuart H. Orkin as its agent for the purpose of assigning the rights HHMI has or may acquire in the Invention by reason of the research program conducted at Institution to Institution (ASSIGNEE) in accordance with and subject to the conditions of the Agreement between HHMI and the ASSIGNEE.

**ASSIGNOR**

IN TESTIMONY WHEREOF, WE, **HOWARD HUGHES MEDICAL INSTITUTE**, hereunto set our signature this 28 day of January, 2013.

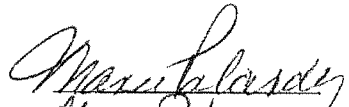
  
\_\_\_\_\_  
Signature

Printed Name: Stuart H. Orkin  
Title: Appointed Agent for Howard Hughes Medical Institute

**WITNESS**

Witness Signature:

Printed Name:

  
\_\_\_\_\_  
Marie Palardy

Date: 1/28/2013

APPOINTMENT OF INVESTIGATOR AS AGENT

Appointment by the Howard Hughes Medical Institute ("HHMI") of Stuart H. Orkin, MD, an employee of HHMI, as its agent for the purpose of assigning certain rights to The Children's Medical Center Corporation ("Institution").

WHEREAS, HHMI and Institution collaborate in the active conduct of medical research pursuant to an Agreement between them dated as of January 1, 1987 (the "Agreement");

WHEREAS, pursuant to the Agreement, HHMI has agreed to assign to Institution HHMI's rights with respect to inventions, discoveries, improvements, and other intellectual property, whether patentable or copyrightable (each a "Subject Property"), conceived or reduced to practice in the course of the research program conducted under the Agreement by employees of HHMI;

WHEREAS, research conducted pursuant to the Agreement by Stuart H. Orkin, MD while employed by HHMI at Institution has resulted in the invention of a certain Subject Property entitled "Modulation of BCL11A and Associated Protein Expression or Function for Induction of Fetal Hemoglobin Levels," which may be the subject of a patent application (the "Invention"), and the Invention is a Subject Property; and

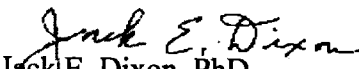
WHEREAS, HHMI wishes Stuart H. Orkin, MD to act as its agent for the purpose of assigning to Institution the rights HHMI has in the Invention by reason of the research program conducted at Institution.

NOW THEREFORE, HHMI hereby appoints Stuart H. Orkin, MD as its agent for the purpose of assigning the rights HHMI has or may acquire in the Invention by reason of the research program conducted at Institution to Institution in accordance with and subject to the conditions of the Agreement.

Executed: August 13, 2008


HOWARD HUGHES MEDICAL INSTITUTE

By:

  
Jack E. Dixon, PhD

Vice President and Chief Scientific Officer

ATTESTED:

  
Craig A. Alexander  
Vice President and General Counsel

CMCC 1729  
HHMI 03989