505763246 11/07/2019

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
DEBORAH HUNG	10/01/2019

RECEIVING PARTY DATA

Name:	THE BROAD INSTITUTE, INC.
Street Address:	415 MAIN STREET
City:	CAMBRIDGE
State/Country:	MASSACHUSETTS
Postal Code:	02142
Name:	THE GENERAL HOSPITAL CORPORATION
Name: Street Address:	THE GENERAL HOSPITAL CORPORATION 55 FRUIT STREET
Street Address:	55 FRUIT STREET

PROPERTY NUMBERS Total: 3

Property Type	Number	
Application Number:	61794544	
Application Number:	14775296	
PCT Number:	US2014027158	

CORRESPONDENCE DATA

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ATTORNEY DOCKET NUMBER: | BROD-0230P-0230US-0230WP

NAME OF SUBMITTER: CHENAE M. BYRD

PATENT REEL: 050952 FRAME: 0664

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SIGNATURE:	/CHENAE M. BYRD/		
DATE SIGNED:	11/07/2019		
Total Attachments: 3			
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PATENT REEL: 050952 FRAME: 0665

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ASSIGNMENT - WORLDWIDE

For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, each undersigned inventor (hereinafter referred to singly and collectively as "ASSIGNOR") has sold, assigned, and transferred, and by these presents hereby sells, assigns, and transfers, unto

THE BROAD INSTITUTE, INC.

415 Main Street Cambridge, Massachusetts 02142

THE GENERAL HOSPITAL CORPORATION

55 Fruit Street Boston, Massachusetts 02114

(hereinafter referred to singly and collectively as "ASSIGNEES") its successors and assigns, the full and exclusive right, title and interest for the United States, its territories and possessions, and all foreign countries in and to the inventions as set for in the following Patent Applications:

Appl. No.	Filing Date	Title
US 14/775,296	September 11, 2015	Ribosomal Ribonucleic Acid Hybridization for Organism Identification
PCT/US2014/027158	March 14, 2014	Ribosomal Ribonucleic Acid Hybridization for Organism Identification
US 61/794,544	March 15, 2013	Ribosomal Ribonucleic Acid Hybridization for Organism Identification

as well as in and to (a) all improvements and modifications of the above-identified invention or inventions, (b) the above-identified applications and all other applications for Letters Patent of the United States and countries foreign thereto for above-identified invention or inventions and all improvements and modifications thereof, (c) all Letters Patent which may issue from said applications in the United States and countries foreign thereto, (d) all divisions, continuations, reissues, and extensions of said applications and Letters Patent, and (e) the right to claim for any of said applications the full benefits and priority rights under the Patent Cooperation Treaty, the Paris Convention and any other international agreement; such right, title, and interest to be held and enjoyed by ASSIGNEES, its successors and assigns, to the full end of the term or terms for which any and all such Letters Patent may be granted as fully and entirely as would have been held and enjoyed by ASSIGNOR had this Assignment not been made.

ASSIGNOR HEREBY AUTHORIZES ASSIGNEES to file patent applications in any or all countries on the above-identified invention or inventions in the name of the undersigned or in the name of ASSIGNEES or otherwise as ASSIGNEES may deem advisable under the International Convention or otherwise.

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ASSIGNOR HEREBY AUTHORIZES AND REQUESTS the Commissioner of Patents and Trademarks to issue said Letters Patent to ASSIGNEES as ASSIGNEES of the entire interest, for the sole use and benefit of ASSIGNEES, its successors and assigns.

ASSIGNOR HEREBY AGREES (a) to communicate to ASSIGNEES, its successors and assigns, or their representative or agents, all facts and information known or available to ASSIGNOR respecting said invention or inventions, improvements, and modifications including evidence for interference, reexamination, reissue, opposition, revocation, extension, or infringement purposes or other legal, judicial, or administrative proceedings, whenever requested by ASSIGNEES; (b) to testify in person or by affidavit as required by ASSIGNEES, its successors and assigns, in any such proceeding in the United States or a country foreign thereto; (c) to execute and deliver, upon request by ASSIGNEES, all lawful papers including, but not limited to, original, divisional, continuation, and reissue applications, renewals, assignments, powers of attorney, oaths, affidavits, and declarations, depositions; and (d) to provide all reasonable assistance to ASSIGNEES, its successors and assigns, in obtaining and enforcing proper title in and protection for said invention or inventions, improvements, and modifications under the intellectual property laws of the United States and countries foreign thereto.

ASSIGNOR HEREBY REPRESENTS AND WARRANTS that ASSIGNOR has the full and unencumbered right to sell, assign, and transfer the interests sold, assigned, and transferred herein, and that ASSIGNOR has not executed and will not execute any document or instrument in conflict herewith.

ASSIGNOR HEREBY GRANTS to the law firm of **Johnson**, **Marcou & Isaacs**, **LLC** the power and authority to insert in this Assignment any further identification which may be necessary or desirable to comply with the rules of the U.S. Patent and Trademark Office for recordation of this Assignment.

ASSIGNOR UNDERSTANDS AND AGREES that the attorneys and agents of the law firm of **Johnson**, **Marcou & Isaacs**, **LLC** do not personally represent ASSIGNOR OR ASSIGNOR's legal interests, but instead represent the interests of ASSIGNEES; since said attorneys and agents cannot provide legal advice to ASSIGNOR with respect to this Assignment, ASSIGNOR acknowledges its right to seek its own independent legal counsel.

In testimony whereof, I hereunte	set my hand and seal the day	and year opposite my respective
signature.	DEBORAH HUNG	<u>10/1/20199</u>

COMMONWEALTH OF MASSACHUSETTS COUNTY OF MIDDLESEX

Before me, a Notary Public in and for the aforementioned state, on this 1 day of 1, 20/9, personally appeared **DEBORAH HUNG**, who, being duly sworn, signed and acknowledged the foregoing Assignment.

NOTARY PUBLIC

My Commission Expires:

