505165587 10/30/2018

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
DAVID K. THOMAS	05/17/2018

RECEIVING PARTY DATA

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

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15101865

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ATTORNEY DOCKET NUMBER:	167741.011605/US
NAME OF SUBMITTER:	MELISSA HUNTER-ENSOR, PH.D.
SIGNATURE:	/MELISSA HUNTER-ENSOR, PH.D./
DATE SIGNED:	10/30/2018

Total Attachments: 4

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PATENT 505165587 REEL: 047349 FRAME: 0464

Attorney Docket No.: 167741.011605/US Broad Ref. No.: BI-2013/020

ASSIGNMENT BY INVENTOR(S)

THIS ASSIGNMENT, by David K. Thomas, (hereinafter referred to as Assignor), c/o The Broad Institute, Inc., 415 Main Street, Cambridge, MA 02142, (hereinafter referred to as Assignor(s)).

WHEREAS, Assignor has invented certain new and useful improvements in "COMPOSITIONS AND METHODS FOR IDENTIFYING AND TREATING CACHEXIA AND PRE-CACHEXIA," is the subject of applications for United States Patent, as PCT Patent Application No.: PCT/US2014/068631, filed December 4, 2014, designating U.S. Serial Number 61/912,338, filed December 5, 2013; U.S. Serial Number 61/949,139, filed March 6, 2014 and U.S. Serial Number 61/994,677, filed May 16, 2014, respectively.

WHEREAS, The Broad Institute, Inc., a Corporation, organized under and pursuant to the laws of Massachusetts having a principal place of business at 415 Main Street, Cambridge, MA 02142, (hereinafter referred to as Assignee), is desirous of acquiring the entire right, title and interest in and to said inventions and said Application for Letters Patent of the United States, and in and to any Letters Patent of the United States to be obtained therefore and thereon.

NOW, THEREFORE, Assignor has sold, assigned, transferred and set over, and by these presents do sell, assign, transfer and set over, unto Assignee, his successors, legal representatives and assign, the entire right, title and interest in and to the above-mentioned inventions and application for Letters Patent, and in and to any and all direct and indirect divisions, continuations and continuations-in-part of said application, and any and all Letters Patent in the United States and all foreign countries which may be granted therefor and thereon, and reissues, reexaminations and extensions of said Letters Patent, and all rights under the International Convention for the Protection of Industrial Property, the same to be held and enjoyed by Assignee, for his own use and benefit and the use and benefit of their successors, legal representatives and assigns, to the full end of the term or terms for which Letters Patent

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may be granted and/or extended, as fully and entirely as the same would have been held and enjoyed by Assignors, had this sale and assignment not been made.

AND for the same consideration, Assignor hereby represents and warrants to Assignees, their successors, legal representatives and assigns, that, at the time of execution and delivery of these presents, except for any rights, titles and/or interests that have arisen to Assignees under law or that have already been transferred to Assignees, Assignor are the sole and lawful owners of the entire right, title and interest in and to the said inventions and application for Letters Patent above- mentioned, and that the same are unencumbered and that Assignors have good and full right and lawful authority to sell and convey the same in the manner herein set forth.

AND for the same consideration, Assignor hereby covenants and agrees to and with Assignees, their successors, legal representatives and assigns, that Assignor will sign all papers and documents, take all lawful oaths and do all acts necessary or required to be done for the procurement, maintenance, enforcement and defense of any Letters Patent and applications for Letters Patent for said inventions, without charge to Assignees, their successors, legal representatives and assigns, whenever counsel of Assignees, or counsel of their successors, legal representatives and assigns, shall advise: that any proceeding in connection with said inventions, or said Provisional application for Letters Patent, or any proceeding in connection with any Letters Patent or applications for Letters Patent for said inventions in any country, including but not limited to interference proceedings, is lawful and desirable; or, that any division, continuation or continuation-in-part of any application for Letters Patent, or any reissue, reexamination or extension of any Letters Patent, to be obtained thereon, is lawful and desirable.

AND Assignor hereby requests the Commissioner of Patent and Trademarks to issue said Letters Patent of the United States to Assignee, as Assignee of said inventions and the Letters Patent to be issued thereon, for the sole use and benefit of Assignee, their successors, legal representative and assign.

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AND Assignor hereby grants the following individuals the power to insert on this 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:

GREENBERG TRAURIG LLP

All practitioners at Customer Number 35893

AND Assignor acknowledges an obligation of assignment of this invention to Assignees at the time the invention was made.

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Date: 5/17/18

David K. Thomas

IN TESTIMONY WHEREOF, the Assignor(s) have signed their names on the dates

indicated.

Date: 5/////

Witness:

Date: <u>5/17/18</u>

Witness:

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