

## CONFIRMATION OF ASSIGNMENT

Confirmation of Assignment made February 3, 2017, by Michael R. Green, MD, PhD ("Inventor") to the Howard Hughes Medical Institute, a Delaware corporation ("HHMI").

### Recitals

WHEREAS, Inventor is an employee of HHMI and, as a condition of his employment, has signed the Intellectual Property Assignment Agreement (the "Intellectual Property Agreement");

WHEREAS, pursuant to the Intellectual Property Agreement, Inventor (a) assigned to HHMI all rights he had in any intellectual property resulting from research by HHMI employees, alone or with others, whether or not patentable or copyrightable, and whether funded in whole or in part by HHMI (each a "Subject Property") and (b) agreed to execute any agreements that may be desired by HHMI in connection with such assignment;

WHEREAS, Inventor has, alone or with others invented "Self-Regulating AAV Vectors for Safe Expression of MeCP2 in Rett Syndrome" which may be the subject of a patent application (the "Invention"), and the Invention is a Subject Property; and

WHEREAS, Inventor seeks to confirm the assignment of his interest in the Invention to HHMI, and HHMI desires the execution of a confirmatory assignment of all of Inventor's right, title, and interest in the Invention.

NOW, THEREFORE, in consideration of the promises contained in and the acts performed and to be performed pursuant to the Intellectual Property Agreement and of other good and valuable consideration, the receipt of which is hereby acknowledged by Inventor, Inventor agrees as follows:

1. Assignment. Inventor hereby confirms the assignment to HHMI of his entire right, title, and interest in the Invention; any United States patent applications and all corresponding foreign patent applications which are directed to the Invention and any and all patents issued therefrom; all United States or foreign division and continuation applications based on any of the foregoing, and any and all patents issued therefrom; and all claims which are directed to the Invention and which may be contained in continuation-in-part applications or in patents which issue therefrom.

2. Cooperation. Inventor further confirms that Inventor agreed to execute upon request such further confirmatory assignments, documents, and other instruments as may be requested by HHMI in connection with the Invention and to assist HHMI (or others at the direction of HHMI) in applying for, obtaining, and enforcing patents, copyrights, or other rights in the United States and in any foreign country with respect to the Invention.

3. Parties. The terms and provisions of the Assignment shall inure to the benefit of HHMI and its successors and assigns and shall be binding on the Inventor and his heirs, personal representatives, successors and assigns.

4. Warranty. Inventor warrants and represents that he has not entered into any assignment, contract, or understanding in conflict herewith.

Inventor:

  
Michael R. Green, MD, PhD

Witness:



Date:

2-3-2017

Witness:



Date:

2-3-17

UMMC 17-27  
HHMI 06512



## UNITED STATES PATENT AND TRADEMARK OFFICE

UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND  
DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE

JUNE 10, 2019

PTAS

MATTHEW S. BEYERSDORF  
WOLF GREENFIELD & SACKS PC  
600 ATLANTIC AVENUE  
BOSTON, MA 02210

**505514353**

### UNITED STATES PATENT AND TRADEMARK OFFICE NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT

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PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE ASSIGNMENT RECORDATION BRANCH AT 571-272-3350. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, MAIL STOP: ASSIGNMENT RECORDATION BRANCH, P.O. BOX 1450, ALEXANDRIA, VA 22313.

RECORDATION DATE: 06/07/2019

REEL/FRAME: 049403/0700  
NUMBER OF PAGES: 3

BRIEF: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

DOCKET NUMBER: U0120.70091W000

ASSIGNOR:

GREEN, MICHAEL R.

DOC DATE: 02/03/2017

ASSIGNEE:

HOWARD HUGHES MEDICAL INSTITUTE  
4000 JONES BRIDGE ROAD  
CHEVY CHASE, MARYLAND 20815

APPLICATION NUMBER:

FILING DATE: 06/06/2018

PATENT NUMBER:

ISSUE DATE:

PCT NUMBER: US1836200

TITLE: SELF-REGULATING AAV VECTORS FOR SAFE EXPRESSION OF MECP2 IN RETT SYNDROME

ASSIGNMENT RECORDATION BRANCH  
PUBLIC RECORDS DIVISION

## ASSIGNMENT

For good and valuable consideration, the receipt of which is hereby acknowledged, I, the undersigned Assignor, hereby:

1. Sell, assign and transfer to **University of Massachusetts**, having a place of business at **One Beacon Street, 31st Floor, Boston, Massachusetts 02108**, its successors, assigns and legal representatives, all hereinafter referred to as the Assignee, my entire right, title and interest for the United States and all foreign countries, in and to any and all inventions and designs which are disclosed in the International Application filed on **June 6, 2018** under International Application No. **PCT/US2018/036200**, bearing Attorney Docket No. **U0120.70091WO00**, and entitled **SELF-REGULATING AAV VECTORS FOR SAFE EXPRESSION OF MECP2 IN RETT SYNDROME**, and in and to the application and all corresponding provisional, non-provisional, divisional, continuing, substitute, renewal, reissue and all other applications for Letters Patent, utility models, industrial designs or similar intellectual property rights which have been or shall be filed in the United States, internationally, and in any foreign country, including but not limited to China, Japan and Korea, on any of the inventions and designs; and in and to all original and reissued patents which have been or shall be issued in the United States or any other jurisdiction on the inventions and designs, including the right to apply for patent rights in each foreign country and all rights to priority, including the right to claim priority for China, Japan and Korea; as well as the right to sue in its own name and recover damages for past infringement of any United States Letters Patent and foreign patent, including a reasonable royalty relating to provisional rights under 35 U.S.C. § 154(d) that have attached to any published United States patent application, on the inventions and designs;
2. Agree that the Assignee may apply for and receive Letters Patent and utility model and industrial design registrations for the inventions and designs in its own name; and when requested, without charge to but at the expense of the Assignee, agree to carry out in good faith the intent and purpose of this Assignment, by executing all non-provisional, divisional, continuing, substitute, renewal, reissue, and all other patent, utility model and industrial design applications on any and all the inventions and designs, by executing all rightful oaths, assignments, powers of attorney and other papers, by communicating to the Assignee all facts known to me relating to the inventions and designs and the history thereof, and generally by doing everything reasonably possible which the Assignee shall consider desirable for aiding in securing and maintaining proper protection for the inventions and designs and for vesting title to the inventions and designs and all applications for patents and all patents on the inventions and designs, in the Assignee;
3. Request the Director of the United States Patent and Trademark Office and foreign patent authorities to issue the Letters Patent or other intellectual property rights, including foreign patents, to the Assignee;
4. Authorize and request Wolf, Greenfield & Sacks, P.C. to supply any missing application identification information or correct any errors in the application identification information provided above, whether discovered prior to or after recordation;

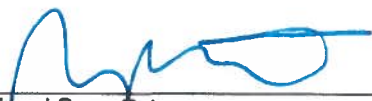
Attorney Docket No. **U0120.70091WO00**

5. Covenant with the Assignee that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been made to others by me and that full right to convey the same as herein expressed is possessed by me; and

6. Appoint Assignee, through its designee, my attorney-in-fact to execute, in my name and on my behalf, any and all documents required to effectuate this Assignment, specifically including, but not limited to, those documents specified above and any necessary corrective assignments.

This instrument is executed under seal and signed under the pains and penalties of perjury under the laws of the United States of America.

9/18/18  
Date

  
Inventor: Miguel Sena Esteves  
Address: 7 Shipley Circle  
Westford, Massachusetts 01886  
UNITED STATES OF AMERICA  
Citizenship: Portugal

STATE/Commonwealth of MASSACHUSETTS  
COUNTY OF WORCESTER :

On this 18<sup>th</sup> day of September, 2018, before me, the undersigned notary public,  
personally appeared Miguel Sena Esteves, proved to me through satisfactory evidence of  
identification, which were personally known,  
to be the person who signed the preceding or attached document in my presence and swore or affirmed  
to me that the contents of the document are truthful and accurate to the best of (his) (her) knowledge  
and belief and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

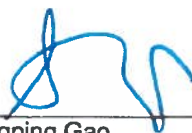
SEAL

  
Notary Public

My commission expires: MAY 30, 2019

Attorney Docket No. **U0120.70091W000**

Date 9/17/2018

Inventor:   
Address: 4 Edward Dunn Way  
Westborough, Massachusetts 01581  
UNITED STATES OF AMERICA  
Citizenship: US

STATE/Commonwealth of MASSACHUSETTS  
COUNTY OF WORCESTER :

On this 17<sup>th</sup> day of September, 2018, before me, the undersigned notary public, personally appeared Guangping Gao, proved to me through satisfactory evidence of identification, which were personally known, to be the person who signed the preceding or attached document in my presence and swore or affirmed to me that the contents of the document are truthful and accurate to the best of (his) (her) knowledge and belief and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

SEAL

  
Notary Public

My commission expires: MAY 30, 2019

Attorney Docket No. U0120.70091WO00

9.17.2018

Date

*Michael R. Green*

Inventor: Michael R. Green

For himself and as agent for Howard Hughes  
Medical Institute

Address: 368 Green Street

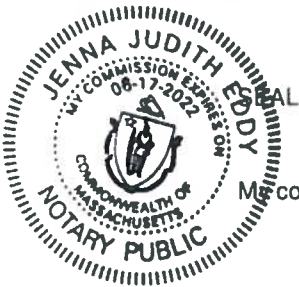
Boylston, Massachusetts 01505

UNITED STATES OF AMERICA

Citizenship: US

STATE/Commonwealth of Massachusetts  
COUNTY OF Worcester

On this 17 day of September, 2018, before me, the undersigned notary public,  
personally appeared Michael R. Green, proved to me through satisfactory evidence of  
identification, which were MA State license  
to be the person who signed the preceding or attached document in my presence and swore or affirmed  
to me that the contents of the document are truthful and accurate to the best of (his) (her) knowledge  
and belief and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.



*Jenna Judith Eddy*  
Notary Public

My commission expires:

6/17/22

Attorney Docket No. U0120.70091WO00

Date 9/17/18

  
Inventor: Dan Wang  
Address: 6 Dogwood Drive  
Belchertown, Massachusetts 01007  
UNITED STATES OF AMERICA  
Citizenship: People's Republic of China

STATE/Commonwealth of MASSACHUSETTS  
COUNTY OF WORCESTER :

On this 17<sup>th</sup> day of September, 2018, before me, the undersigned notary public,  
personally appeared Dan Wang, proved to me through satisfactory evidence of  
identification, which were personally known  
to be the person who signed the preceding or attached document in my presence and swore or affirmed  
to me that the contents of the document are truthful and accurate to the best of (his) (her) knowledge  
and belief and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

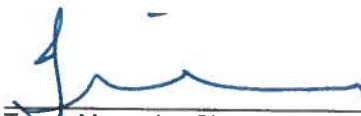
SEAL

  
Notary Public

My commission expires: MAY 30, 2019

Attorney Docket No. U0120.70091WO00

Date 9/17/18

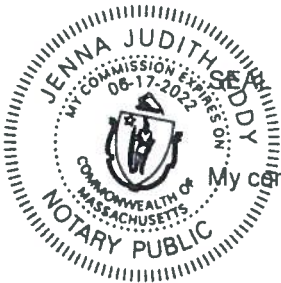
Inventor:   
Tessa Mercedes Simone

Address: 54 Massachusetts Ave.  
Worcester, Massachusetts 01602  
UNITED STATES OF AMERICA

Citizenship: US

STATE/COMMONWEALTH OF Massachusetts  
COUNTY OF Worcester :

On this 17 day of September, 2018, before me, the undersigned notary public,  
personally appeared Tessa Mercedes Simone, proved to me through satisfactory evidence of  
identification, which were MA State license,  
to be the person who signed the preceding or attached document in my presence and swore or affirmed  
to me that the contents of the document are truthful and accurate to the best of (his) (her) knowledge  
and belief and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.



  
Notary Public  
My commission expires: 6/17/22

Attorney Docket No. U0120.70091WO00

## APPOINTMENT OF INVESTIGATOR AS AGENT

Appointment by the Howard Hughes Medical Institute ("HHMI") of Michael Green, MD, PhD, an employee of HHMI, as its agent for the purpose of assigning certain rights to University of Massachusetts ("Institution").

WHEREAS, HHMI and Institution collaborate in the active conduct of medical research pursuant to an Agreement between them dated as of September 1, 2013 (the "Agreement");

WHEREAS, pursuant to the Agreement, HHMI has agreed to assign to Institution HHMI's rights in Subject Property (as defined in the Agreement) in accordance with and subject to the conditions of the Agreement;

WHEREAS, research conducted pursuant to the Agreement by Michael Green, MD, PhD while employed by HHMI at Institution has resulted in the invention of a certain Subject Property entitled "Self-Regulating AAV Vectors for Safe Expression of MeCP2 in Rett Syndrome," which may be the subject of a patent application, (the "Invention"), and the Invention is a Subject Property; and

WHEREAS, HHMI wishes Michael Green, MD, PhD 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 Michael Green, MD, PhD as its agent for the purpose of assigning the rights HHMI has or may acquire in the Invention to Institution in accordance with and subject to the conditions of the Agreement.

Executed: March 6, 2017

HOWARD HUGHES MEDICAL INSTITUTE



By:

David E. Clapham, MD, PhD  
Vice President and Chief Scientific Officer

ATTESTED:



Heidi E. Henning  
Vice President and General Counsel



## UNITED STATES PATENT AND TRADEMARK OFFICE

UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND  
DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE

JUNE 10, 2019

PTAS

MATTHEW S. BEYERSDORF  
WOLF GREENFIELD & SACKS PC  
600 ATLANTIC AVENUE  
BOSTON, MA 02210

**505514351**

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BRIEF: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

DOCKET NUMBER: U0120.70091W000

ASSIGNOR:  
ESTEVES, MIGUEL SENA

DOC DATE: 09/18/2018

ASSIGNOR:  
GAO, GUANGPING

DOC DATE: 09/17/2018

ASSIGNOR:  
GREEN, MICHAEL R.

DOC DATE: 09/17/2018

ASSIGNOR:  
WANG, DAN

DOC DATE: 09/17/2018

ASSIGNOR:  
SIMONE, TESSA MERCEDES

DOC DATE: 09/17/2018

ASSIGNOR:  
HOWARD HUGHES MEDICAL INSTITUTE

DOC DATE: 09/17/2018

ASSIGNEE:

UNIVERSITY OF MASSACHUSETTS  
ONE BEACON STREET  
31ST FLOOR  
BOSTON, MASSACHUSETTS 02108

APPLICATION NUMBER:

FILING DATE: 06/06/2018

PATENT NUMBER:

ISSUE DATE:

PCT NUMBER: US1836200

TITLE: SELF-REGULATING AAV VECTORS FOR SAFE EXPRESSION OF MECP2 IN RETT  
SYNDROME

ASSIGNMENT RECORDATION BRANCH  
PUBLIC RECORDS DIVISION