

JOINT ASSIGNMENT

WHEREAS, each of the below-named inventors whose name and residence is set forth in the following Table 1:

Inventor Name	City, State
1. Vivian Choi	Cambridge, MA
2. Xing Li	Cambridge, MA

Table 1

hereby declares and agrees, on behalf of himself/herself and all of his/her successors and assigns that each is aware of the patent application(s) entitled:

ADENO ASSOCIATED VIRUS VECTORS FOR THE TREATMENT OF HUNTER DISEASE

☐ prepared for filing in the United States Patent and Trademark Office; or

☒ identified by United States Application Serial No. 62/945,920
filed in the United States Patent and Trademark Office on; December 10, 2019;

☐ identified by International Patent Application No. _____
filed on _____; and

☐ and is also aware of the following priority applications:

Serial No.	Filed

WHEREAS Shire Human Genetic Therapies, Inc. (hereinafter "ASSIGNEE"), having a usual place of business at 300 Shire Way, Lexington, Massachusetts 02421, desires to acquire or confirm an interest therein;

NOW, THEREFORE, to all whom it may concern be it known that, in consideration of agreements previously and duly entered into between the parties, and/or for other good and valuable consideration, the receipt of which is hereby acknowledged, each of us has sold, assigned, and transferred and/or do hereby sell, assign, and transfer unto said ASSIGNEE, its successors, assigns, and legal representatives, my entire right, title, and interest in and throughout the United States of America, its territories and all foreign countries, in and to any and all inventions described in the

patent application, and/or any priority applications noted above, including any right of priority thereto; and hereby confirm that my sale, assignment and transfer is and was effective at least as of the filing date of the patent application and/or priority application. Our sale, assignment and transfer applies to the above-referenced patent application, and to any application that is based in whole or in part on the patent application, including any divisional, continuing, substitute, renewal, reissue, reexamination and other applications, for example that claim priority to the patent application. Also, this sale, assignment and transfer pertains to any and all other rights arising under or pursuant to any and all international agreements, treaties, or laws relating to the protection of industrial property, including all rights of priority under the International Convention for the Protection of Industrial Property, and in and to any such patent(s) as may issue thereon including any and all original and reissued patents which have been or shall be issued in the United States and foreign countries; said inventions, applications, and patent(s) to be held and enjoyed by ASSIGNEE for its own use and for its successors, assigns and legal representatives, to the full end of the term for which said patent(s) may be granted as fully and entirely as the same would have been held by each of us had this sale, assignment and transfer not been made;

AND, each of us hereby acknowledges that this Assignment, being of our entire right, title, and interest in and to the inventions, carries with it the right in ASSIGNEE, by attorneys and agents of ASSIGNEE selection, to apply for and receive any and all patent(s) for said inventions in its own name;

AND, each of us hereby further agrees for ourselves and our executors and administrators to execute upon request any other lawful documents and likewise to perform any other lawful acts which may be deemed necessary to secure fully the patent(s) to ASSIGNEE, its successors, assignees, and legal representatives, but at its expense and charges, including the execution of application for patents in foreign countries, the execution of substitution, reissue, divisional or continuation applications, and the giving of testimony, preliminary statements, or other statements in any interference or other proceeding in which the inventions or any applications or patents directed to the inventions may be involved by communicating to the ASSIGNEE all facts we know relating to the inventions and their history, and generally by doing everything possible which ASSIGNEE shall consider desirable for aiding in securing and maintaining proper patent protection for the inventions and for vesting title in the inventions and applications for patent and all patents on the inventions in ASSIGNEE;

AND, each of us further hereby authorizes ASSIGNEE or its attorneys or agents to insert the correct serial number(s) and/or filing date(s) into this assignment document, if appropriate;

AND, each of us hereby appoints ASSIGNEE as my common agent for purposes of prosecuting international patent applications and any national patent applications for which such common agency is recognized;

AND, each of us hereby requests the Commissioner for Patents of the United States Patent and Trademark Office to issue any and all patent(s) as shall be granted upon said application or applications based thereon to ASSIGNEE, its successors, assigns, and legal representatives;

AND, each of us covenants with said ASSIGNEE that no assignment, grant, mortgage, license, or other agreement affecting the rights and property herein conveyed has been made to others by us, and that full right to convey the same as herein expressed is possessed by us.

Acknowledged and agreed to by:
Shire Human Genetic Therapies, Inc.

By:

Name:

Title:

Date:

Mg 2

Margo Furman

Vice President - IP Legal

Nov. 16, 2020

STATE OF Massachusetts

SS.

COUNTY OF Middlesex

Before me this 16th day of November, 2020, personally appeared Margo Furman, and proved to me through satisfactory evidence of identity which was personally known to me to be the person whose name is signed on the preceding or attached document, and acknowledged that he/she executed the same, of his/her own free will and for the purposes set forth.

NOTARY PUBLIC

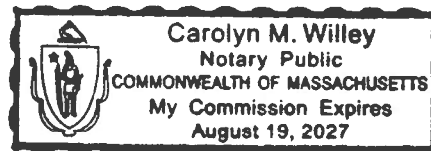
Name:

My Commission Expires:

Carolyn M. Willey

Carolyn M. Willey

August 19, 2027



SIGNED this 23rd day of Jan, 2020

Vivian Choi

Vivian Choi

STATE OF Massachusetts SS.

COUNTY OF Middlesex

Before me this 23rd day of January, 2020, personally appeared
Vivian Choi, and proved to me through satisfactory
evidence of identity which was drivers license to be the person whose name is
signed on the preceding or attached document, and acknowledged that he/she executed the
same, of his/her own free will and for the purposes set forth.

NOTARY PUBLIC

Daphne S. Howe
Name: DAPHNE S. HOWE

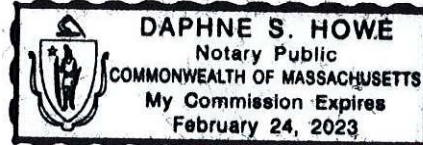
My Commission Expires: February 24, 2023

WITNESSES

Witness Signature: _____

Witness Name: _____

Witness Date: _____



SIGNED this 16th day of December, 2019

Xing Li

STATE OF _____ SS.

COUNTY OF _____

Before me this _____ day of _____, 20____, personally appeared
Xing Li, and proved to me through satisfactory
evidence of identity which was _____ to be the person whose name is
signed on the preceding or attached document, and acknowledged that he/she executed the
same, of his/her own free will and for the purposes set forth.

NOTARY PUBLIC

Name: _____
My Commission Expires: _____

WITNESSES

Witness Signature: [Signature]
Witness Name: Xing Li 410
Witness Date: 12/16/2019

ASSIGNMENT

In accordance with the **Intercompany Agreement on Assignment of Legal Title to Patents** dated effective as of April 1st, 2020 (the “Agreement”), made by and between Shire Human Genetics Therapies, Inc., a company organized under the laws of Delaware, having a place of business at 300 Shire Way, Lexington, Massachusetts (“ASSIGNOR”), and TAKEDA PHARMACEUTICAL COMPANY LIMITED, a company organized under the laws of Japan, having a place of business at 1-1, Doshomachi 4-chome, Chuo-ku, Osaka 540-8645 Japan (“ASSIGNEE”), ASSIGNOR confirms its transfer and assignment to ASSIGNEE of legal title to the patent or patent application, and inventions (as defined in 35 USC Sec. 100) in such patent or patent application (“Inventions”), identified below...

ADENO ASSOCIATED VIRUS VECTORS FOR THE TREATMENT OF HUNTER DISEASE;

- ☐ prepared for filing in the United States Patent and Trademark Office; or
- ☒ identified by United States Application No. *17/116,098* filed in the United States Patent and Trademark Office on *December 9, 2020*; and
- ☒ identified by Taiwan Application No. *109143730* filed in the Taiwan Patent and Trademark Office on *December 10, 2020*; and
- ☒ identified by Lebanon Application No. *3378* filed in the Lebanon Patent and Trademark Office on *December 8, 2020*; and
- ☒ identified by Gulf Cooperation Council (GCC) Application No. *2020/41069* filed in the GCC Patent and Trademark Office on *December 8, 2020*; and
- ☒ identified by Argentina Application No. *P200103430* filed in the Argentina Patent and Trademark Office on *December 10, 2020*; and
- ☒ identified by International Patent Application No. *PCT/US2020/063887* filed on *December 9, 2020*; and
- ☒ is also aware of the following priority applications:

Serial No.: *62/945,920*; Filed: *December 10, 2019*

NOW, THEREFORE, to all whom it may concern be it known that, in consideration of agreements previously and duly entered into between the parties, the receipt of which is hereby acknowledged, ASSIGNOR hereby confirms and/or declares that it holds legal title to the patent application, the same to be held and enjoyed by ASSIGNEE, its successors and assigns, in and to any and all Inventions described in the patent application, and/or any priority applications noted above. Assignor hereby confirms that assignment and transfer of such legal title is and was effective not later than the filing date of the patent or patent application and/or priority application. ASSIGNOR’S assignment and transfer applies to the above-referenced patent or patent application, any Inventions disclosed and/or claimed in this patent or patent application, any and all patents and patent applications arising from such application and any

addition, division, continuation, continuation in part, substitution, extension, renewal, reissue, confirmation thereof, including their patent term adjustments (PTA), extensions (PTE) or supplementary protection certificates (SPC). Such legal title includes the right to claim the priority of the said applications in any applicable country in connection with filing a patent application in any applicable country. Also, this assignment and transfer pertains to any legal title ownership rights arising under or pursuant to any and all international agreements, treaties, or laws relating to the protection of industrial property, including: (i) all rights of priority under the International Convention for the Protection of Industrial Property; (ii) in and to any such patent(s) as may issue thereon including any and all original and reissued patents which have been or shall be issued. ASSIGNEE shall hold and enjoy legal title in said Inventions, applications, and patent(s) for its own use and for its successors, assigns and legal representatives, to the full end of term for which said patent(s) may be granted and extended by any patent term adjustment, extension or supplemental protection certificate.

AND, ASSIGNOR hereby acknowledges that this assignment carries with it the right in ASSIGNEE to apply for, and receive Legal Title to, any and all patent(s) for said Inventions in ASSIGNEE'S own name;

IN TESTIMONY WHEREOF, ASSIGNOR by its duly authorized representative acting on his/her own free will have caused this instrument to be duly executed and have hereunto set his/her hand and affixed his/her seal on the date set forth below.

SIGNED this 10th day of February, 2022.

ASSIGNOR

By: 
Name: Maya Cole
Title: IP Region Head

TAKEDA PHARMACEUTICAL COMPANY LIMITED

By: 
Name: Constance Yeung
Title: IP Region Head