

INSTRUCTIONS FOR RECEIVING MATERIALS FROM PENN/VECTOR CORE

1. Please complete the Material Transfer Agreement (MTA) including EXHIBIT A.
2. The Principal Investigator of the requesting laboratory and an authorized official from the institution (e.g. from the institution's technology licensing or grants & contracts office) should sign where indicated.

Please note that the MTA should not be signed by students, postdoctoral researchers or fellows.

3. A PDF of the partially executed (signed) MTA should be emailed to vector@mail.med.upenn.edu
4. If the institution requires hard copies, please mail two partially executed copies to the following address:

Penn Vector Core – Gene Therapy Program
University of Pennsylvania
Suite 2000 - 125 S. 31st Street
Philadelphia, PA 19104
Phone: 215-573-0633
Email: vector@mail.med.upenn.edu

5. This MTA is only for use by **academic** and **non-profit** institutions, including government agencies.
6. We require that a FedEx account number be provided which may be used to cover the cost of shipping.

Please note that a quote for services may also include a packaging materials fee associated with the cost of shipping compliant packaging and dry ice.

7. This MTA is modeled after the Uniform Biological Material Transfer Agreement (UBMTA).
8. If there is a need to request any changes to the MTA, please contact:

Ekaterina V. Wickersham, Ph.D.
Gene Therapy Program
University of Pennsylvania
Phone: 860-218-4053 (c)
Email: wickersh@upenn.edu

MATERIAL TRANSFER AGREEMENT

This Material Transfer Agreement (“Agreement”) is entered into as of _____ (“Effective Date”) between The Trustees of the University of Pennsylvania (“PENN”), with administrative offices located at Office of Research Services, 3451 Walnut Street, Franklin Building, 5th Floor, Philadelphia, PA 19104-6205, on behalf of Dr. James Wilson (“PROVIDING SCIENTIST”), and _____ (“RECIPIENT INSTITUTION”, also referred hereinafter as “RECIPIENT”), with offices located at _____, on behalf of Dr. _____ (“RECIPIENT SCIENTIST”).

I. Definitions

1. **ORIGINAL MATERIAL:** The material(s) being transferred under this Agreement, more specifically described in EXHIBIT A which is attached hereto and incorporated herein by reference, excluding any materials provided by or on behalf of the RECIPIENT herein.
2. **PROGENY:** Unmodified descendants from the ORIGINAL MATERIAL, including but not limited to, virus from virus, cell from cell, or organism from organism.
3. **UNMODIFIED DERIVATIVES:** Substances created by the RECIPIENT which constitute an unmodified functional subunit or product expressed by the ORIGINAL MATERIAL. This includes, but is not limited to: purified or fractionated subsets of the ORIGINAL MATERIAL, proteins expressed/encoded by DNA/RNA supplied by PENN, viral based vectors (assembled particles with or without genomes) generated from unmodified DNA supplied by PENN.
4. **MODIFICATIONS:** Substances created by the RECIPIENT which contain/incorporate the MATERIAL or which represent a modified form of the MATERIAL, including a molecular modification of the DNA supplied by PENN and/or a viral based vector generated from unmodified or modified DNA supplied by PENN. This includes, but is not limited to: viral based vectors generated from both DNA supplied by PENN and DNA provided by the RECIPIENT (eg. PENN AAV serotype vectors expressing genes provided by the RECIPIENT) and/or viral based vectors generated from DNA supplied by PENN and modified by the RECIPIENT.
5. **MATERIAL:** ORIGINAL MATERIAL, PROGENY, and UNMODIFIED DERIVATIVES. The MATERIAL shall not include: (a) MODIFICATIONS, or (b) other substances created by the RECIPIENT through the use of the MATERIAL which are not MODIFICATIONS, PROGENY, or UNMODIFIED DERIVATIVES.
6. **DOMAIN ANTIBODIES:** Polypeptides which are capable of binding to a target, where such polypeptide comprises at least one binding domain, wherein that binding domain is a single variable domain of an antibody or functional fragment thereof.
7. **COMMERCIAL PURPOSES:** The sale, lease, license, or other transfer of the MATERIAL or MODIFICATIONS to a for-profit organization. COMMERCIAL PURPOSES shall also include uses of the MATERIAL or MODIFICATIONS by any organization, including RECIPIENT, to perform contract research, to screen compound libraries, to produce or manufacture products for general sale, or to conduct research activities that result in any sale, lease, license, or transfer of the MATERIAL or MODIFICATIONS to a for-profit organization. However, industrially sponsored academic research shall not be considered a use of the

MATERIAL or MODIFICATIONS for COMMERCIAL PURPOSES per se, unless any of the above conditions of this definition are met.

8. NON-PROFIT ORGANIZATION(S): A university or other institution of higher education or an organization of the type described in section 501(c)(3) of the Internal Revenue Code of 1954 (26 U.S.C. 501(c)) and exempt from taxation under section 501(a) of the Internal Revenue Code (26 U.S.C. 501(a)) or any nonprofit scientific or educational organization qualified under a state nonprofit organization statute. As used herein, the term also includes government agencies.

II. Terms and Conditions of this Agreement

1. PENN retains ownership of the MATERIAL, including any MATERIAL contained or incorporated in MODIFICATIONS.

2. In the event that the MATERIAL provided by PENN incorporates any third party materials, any additional terms that may pertain to such third party materials, if applicable, will be listed in EXHIBITS B and C which are attached hereto and incorporated herein by reference.

3. The RECIPIENT retains ownership of: (a) MODIFICATIONS (except that, PENN retains ownership rights to the MATERIAL included therein), and (b) those substances created through the use of the MATERIAL or MODIFICATIONS, but which are not PROGENY, UNMODIFIED DERIVATIVES or MODIFICATIONS (i.e., do not contain the ORIGINAL MATERIAL, PROGENY, UNMODIFIED DERIVATIVES). If either 3(a) or 3(b) results from the collaborative efforts of PENN and the RECIPIENT, joint ownership may be negotiated, subject to any preexisting obligations.

4. The RECIPIENT agrees and the RECIPIENT SCIENTIST acknowledges that the MATERIAL:

(a) is to be used solely for the research described in EXHIBIT A of this Agreement (“RESEARCH”). The RECIPIENT and the RECIPIENT SCIENTIST acknowledge and agree that if the RESEARCH should at any point involve use of the MATERIAL, including such incorporated in MODIFICATIONS, for work related to or involving DOMAIN ANTIBODIES, prior to commencing any such work the RECIPIENT and the RECIPIENT SCIENTIST shall contact PENN to request a separate material transfer agreement for such use;

(b) WILL NOT BE USED IN HUMAN SUBJECTS, IN CLINICAL TRIALS, OR FOR DIAGNOSTIC PURPOSES INVOLVING HUMAN SUBJECTS WITHOUT THE PRIOR WRITTEN CONSENT OF PENN;

(c) is to be used only at the RECIPIENT organization and only in the RECIPIENT SCIENTIST’s laboratory under the direction of the RECIPIENT SCIENTIST or others working under his/her direct supervision; and

(d) will not be transferred to anyone else within the RECIPIENT organization without the prior written consent of PENN.

5. The RECIPIENT and the RECIPIENT SCIENTIST agree to refer to PENN any request for the MATERIAL from anyone other than those persons working under the RECIPIENT SCIENTIST’s direct supervision. To the extent supplies are available, PENN agrees to make the MATERIAL available, under a separate agreement, to other scientists (at least those at NON-PROFIT ORGANIZATION(S)) who wish to replicate the RECIPIENT

SCIENTIST's research; provided that such other scientists reimburse PENN for any costs relating to the preparation and distribution of the MATERIAL.

6.

(a) The RECIPIENT and/or the RECIPIENT SCIENTIST shall have the right, without restriction, to distribute substances created by the RECIPIENT through the use of the ORIGINAL MATERIAL only if those substances are not PROGENY, UNMODIFIED DERIVATIVES, or MODIFICATIONS.

(b) Under a separate agreement (at least as protective of PENN's rights as this Agreement), the RECIPIENT may distribute MODIFICATIONS to NON-PROFIT ORGANIZATION(S) for research and teaching purposes only; provided however, that prior to transfer of any MODIFICATIONS, the NON-PROFIT ORGANIZATION receiving such MODIFICATIONS has to execute a material transfer agreement with PENN for the MATERIAL contained in such MODIFICATIONS.

(c) Without prior written consent from PENN, the RECIPIENT and/or the RECIPIENT SCIENTIST may NOT use, distribute or permit others to use MODIFICATIONS for COMMERCIAL PURPOSES. It is recognized by the RECIPIENT that such COMMERCIAL PURPOSES may require a commercial license from PENN and PENN has no obligation to grant a commercial license to its ownership interest in the MATERIAL incorporated in the MODIFICATIONS or to any of PENN's intellectual property rights related thereto. Nothing in this paragraph, however, shall prevent the RECIPIENT from granting commercial licenses under the RECIPIENT's intellectual property rights claiming such MODIFICATIONS, or methods of their manufacture or their use, except to the extent that any of the foregoing would infringe any of PENN's intellectual property rights.

7. The RECIPIENT acknowledges that the MATERIAL is or may be the subject of a patent application. Except as provided in this Agreement, no express or implied licenses or other rights are provided to the RECIPIENT under any patents, patent applications, trade secrets or other proprietary rights of PENN, including any altered forms of the MATERIAL made by PENN. In particular, no express or implied licenses or other rights are provided to use the MATERIAL, MODIFICATIONS, or any related patents of PENN for COMMERCIAL PURPOSES.

8. If the RECIPIENT desires to use or license the MATERIAL or MODIFICATIONS for COMMERCIAL PURPOSES, the RECIPIENT agrees, in advance of such use, to negotiate in good faith with PENN to establish the terms of a commercial license. It is understood by the RECIPIENT that PENN shall have no obligation to grant such a license to the RECIPIENT, and may grant exclusive or non-exclusive commercial licenses to others, or sell or assign all or part of the rights in the MATERIAL to any third party(ies), subject to any pre-existing rights held by others and obligations to the Federal Government.

9. The RECIPIENT is free to file patent application(s) claiming inventions made by the RECIPIENT through the use of the MATERIAL but agrees to notify PENN upon filing a patent application claiming MODIFICATIONS or method(s) of manufacture or use(s) of the MATERIAL.

10. Any MATERIAL delivered pursuant to this Agreement is understood to be experimental in nature and may have hazardous properties. PENN MAKES NO REPRESENTATIONS AND EXTENDS NO WARRANTIES OF ANY KIND, EITHER EXPRESSED OR IMPLIED. THERE ARE NO EXPRESS OR IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR THAT THE USE OF THE MATERIAL WILL NOT INFRINGE ANY PATENT, COPYRIGHT, TRADEMARK, OR OTHER PROPRIETARY RIGHTS.

11. Except to the extent prohibited by law, the RECIPIENT assumes all liability for damages which may arise from its use, storage or disposal of the MATERIAL. PENN will not be liable to the RECIPIENT for any loss, claim or demand made by the RECIPIENT, or made against the RECIPIENT by any other party, due to or arising from the use of the MATERIAL by the RECIPIENT, except to the extent permitted by law when caused by the gross negligence or willful misconduct of PENN.

12. This Agreement shall not be interpreted to prevent or delay publication of research findings resulting from the use of the MATERIAL or the MODIFICATIONS. The RECIPIENT SCIENTIST agrees to provide appropriate acknowledgement of the source of the MATERIAL in all publications.

13. The RECIPIENT agrees to use the MATERIAL in compliance with all applicable statutes and regulations, including Public Health Service and National Institutes of Health regulations and guidelines such as, for example, those relating to research involving the use of animals or recombinant DNA.

14. This Agreement will terminate on the earliest of the following dates:

(a) when the MATERIAL becomes generally available from third parties, for example, through reagent catalogs or public depositories, or (b) on completion of the RECIPIENT's current RESEARCH with the MATERIAL or if the RECIPIENT SCIENTIST becomes no longer affiliated with the RECIPIENT due to termination of employment or otherwise, or (c) on thirty (30) days written notice by either party to the other, provided that:

(i) if termination should occur under 14(a), the RECIPIENT shall be bound to PENN by the least restrictive terms applicable to the MATERIAL obtained from the then-available resources; and

(ii) if termination should occur under 14(b), the RECIPIENT will discontinue its use of the MATERIAL and will, upon direction of PENN, return or destroy any remaining MATERIAL. The RECIPIENT, at its discretion, will also either destroy the MODIFICATIONS or remain bound by the terms of this Agreement as they apply to MODIFICATIONS; and

(iii) in the event PENN terminates this Agreement under 14(c), other than for breach of this Agreement or for cause such as an imminent health risk or patent infringement, PENN will defer the effective date of termination for a period of up to one (1) year, upon request from the RECIPIENT, to permit completion of the RESEARCH in progress. Upon the effective date of termination, or if requested, the deferred effective date of termination, the RECIPIENT will discontinue its use of the MATERIAL and will, upon direction of PENN, return or destroy any remaining MATERIAL. The RECIPIENT, at its discretion, will also either destroy the MODIFICATIONS or remain bound by the terms of this Agreement as they apply to MODIFICATIONS.

15. Paragraphs of this Agreement that are intended to survive, including but not limited to paragraphs 6(c), 7, 10 and 11, shall survive termination.

16. The MATERIAL is provided at no cost, or with an optional transmittal fee solely to reimburse PENN for its preparation and distribution costs. If a fee is requested by PENN, a separate quote will be provided to RECIPIENT.

17. This Agreement contains the entire agreement between the parties relating to the subject matter hereof and supersedes all prior understandings and agreements, whether written or oral, with respect to such subject matter. This Agreement may not be modified except by a written amendment signed by duly authorized representatives of both parties.

18. This Agreement may be executed by electronic signature and/or in two (2) or more counterparts, each of which shall be an original and all such counterparts together shall constitute the entire Agreement. Electronically transmitted and facsimile transmitted signatures shall have the full force and effect of an original signature. Facsimile signatures and photocopied signatures transmitted by email shall have the full force and effect of an original signature.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement by their respective duly authorized officers as of the Effective Date written above. The RECIPIENT agrees and the RECIPIENT SCIENTIST acknowledges, by signing below, to abide by the terms and conditions of this Agreement including EXHIBITS A, B and C, as applicable.

**THE TRUSTEES OF THE
UNIVERSITY OF PENNSYLVANIA**

By: _____
Signature

Name of Authorized Representative

Title

Date

Read and Acknowledged by:

PROVIDING SCIENTIST

Signature

James M. Wilson, M.D., Ph.D. _____
Name

Date

RECIPIENT INSTITUTION

By: _____
Signature

Name of Authorized Representative

Title

Date

Read and Acknowledged by:

RECIPIENT SCIENTIST

Signature

Name

Title

Date

EXHIBIT A

***PLEASE NOTE: IF YOUR RESEARCH SHOULD, AT ANY POINT, INVOLVE THE USE OF THE MATERIAL OR MODIFICATIONS OF THE MATERIAL FOR WORK RELATED TO OR INVOLVING DOMAIN ANTIBODIES, CONTACT PENN PRIOR TO COMMENCING SUCH WORK TO REQUEST A SEPARATE MATERIAL TRANSFER AGREEMENT FOR SUCH USE.**

Original Materials: *(Please check all applicable boxes)*

AAV capsid serotype 1___ 2___ 5___ 6___ 6.2___ 7___ 8___ 9___ PHP.B___ PHP.B2___ PHP.B3___
PHP.eB___ PHP.S___ rh10___ hu11___ other_____ vectors and plasmids expressing reporter genes and genes described in the Summary of Work

Adenoviral species Hu5___ other _____ vectors and plasmids expressing reporter genes and genes described in the Summary of Work.

Lentiviral vector pseudotyped with VSVG___ other _____ and plasmids expressing reporter genes and genes described in the Summary of Work

Other plasmids pAdDeltaF6 _____ AAV cis plasmids (not encoding capsid genes) _____
lentiviral transfer constructs (not encoding env genes) _____ described in the Summary of Work

**To make a request for any or all of the materials listed above, please fill out an Inventory or Custom Vector Request form. (Available on our website <http://www.med.upenn.edu/gtp/vectorcore/PlacingAnOrder.shtml>)*

Summary of Work (RESEARCH): *(*Please provide a short description and list relevant genes/gene families)*

Recipient Scientist's Name *(Principal Investigator):* _____

Address: _____

Phone/Fax: _____

Email: _____

Recipient Scientist's Technology Transfer Contact *(To whom the fully executed MTA shall be returned):*

Name: _____

Address: _____

Phone/Fax: _____

Email: _____

For the fully executed MTA: is a PDF copy acceptable? _____ YES _____ NO

A PDF of the partially executed (signed) MTA should be emailed to vector@mail.med.upenn.edu
If your institution requires hard copies, please mail two partially executed copies to the following address:
Penn Vector Core – Gene Therapy Program - University of Pennsylvania - Suite 2000 - 125 S. 31st Street
Philadelphia, PA 19104, Phone: 215-573-0633

EXHIBIT B

1. The MATERIAL transferred to RECIPIENT under this Agreement may incorporate one or more of the following AAV PHP serotypes (“AAV-PHP”), and/or variants thereof, provided by the California Institute of Technology (“CALTECH”):

- (a) PHP.B
- (b) PHP.B2
- (c) PHP.B3
- (d) PHP.eB
- (e) PHP.S

AAV-PHP is a modification of AAV9 ORIGINAL MATERIAL previously provided by PENN to CALTECH. CALTECH has granted PENN permission to transfer AAV-PHP to third parties under this Agreement.

2. In consideration of receipt of AAV-PHP, alone or incorporated in any MATERIAL provided by PENN, RECIPIENT agrees to include the following citation in publications arising from this Agreement:

“The California Institute of Technology (Caltech) has generously allowed these vectors, based on AAV-PHP and/or variants, AAV-PHP.B, AAV-PHP.B2, AAV-PHP.B3, AAV-PHP.eB, AAV-PHP.S, to be distributed with the understanding that requesting investigators need to acknowledge Caltech in any publications in which AAV-PHP was used, specifically Viviana Gradinaru, Ph.D. and Benjamin E. Deverman, Ph.D., and cite Chan et al., 2017 Nat Neurosci, 20(8):1172-1179. (Pubmed) for AAV-PHP.eB and AAV-PHP.S and/or Deverman et al., 2016 Nature Biotechnology 34: 204-209 for vectors AAV-PHP.B, AAV-PHP.B2 and AAV-PHP.B3. AAV-PHP is a modification of AAV9 provided by the University of Pennsylvania to Caltech.”

EXHIBIT C

1. The MATERIAL transferred to RECIPIENT under this Agreement may incorporate one or more of the following materials developed and/or controlled by the Allen Institute for Brain Science (“Allen Institute Materials”):

- (a) pCAG-LSL-EGFP
- (b) pCAG-LSL-tdTomato
- (c) pCAG-FLEX-EGFP-WPRE
- (d) pCAG-FLEX-tdTomato-WPRE
- (e) pSyn-tdTomato-WPRE

2. The Allen Institute for Brain Science has granted PENN permission to transfer the Allen Institute Materials and their modifications and derivatives to third parties.

3. In consideration of receipt of the Allen Institute Materials, alone or incorporated in any MATERIAL provided by PENN, RECIPIENT agrees to acknowledge in publications arising from this Agreement that the Allen Institute Materials were made available by Dr. Hongkui Zeng, Ph.D. of the Allen Institute for Brain Science.