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 shipping 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.
   Office of Research Services
   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, Room P221, 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. 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 2 (a) or 2 (b) results from the collaborative efforts of PENN and the RECIPIENT, joint ownership may be negotiated, subject to any preexisting obligations.

3. 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.

4. 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.

5.

(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.

6. 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.

7. 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.

8. 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.

9. 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.

10. 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.

11. 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.

12. 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.

13. 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, or (c) on thirty (30) days written notice by either party to the other, provided that:

(i) if termination should occur under 13(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 13(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 13(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.

14. Paragraphs of this Agreement that are intended to survive, including but not limited to paragraphs 5(c), 6, 9 and 10, shall survive termination.

15. 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.

16. This Agreement may be executed 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 and EXHIBIT A.

THE TRUSTEES OF THE UNIVERSITY OF PENNSYLVANIA

By:_____
Signature

_____
Name of Authorized Representative

_____
Title

_____
Date

_____
RECIPIENT INSTITUTION

By:_____
Signature

_____
Name of Authorized Representative

_____
Title

_____
Date

Read and Acknowledged by:

PROVIDING SCIENTIST

_____
Signature

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

_____
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___ 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: *(*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