

MTA

UTMB:

PROVIDER:

Export Control:

Materials Out: Zika

Tesh

Wuhan Institute of Virology, Chinese
Academy of Sciences

N/A

MATERIAL TRANSFER AND LIMITED USE AGREEMENT

The World Reference Center for Emerging Viruses and Arboviruses ("WRCEVA"), through the University of Texas Medical Branch at Galveston, d/b/a UTMB Health ("UTMB"), a health institution of The University of Texas System ("System"), an agency of the state of Texas, located at 301 University, Galveston, TX 77555-0926, is willing to transfer the requested materials to you on the following conditions.

The parties to this Agreement are Wuhan Institute of Virology, Chinese Academy of Sciences, hereinafter "RECIPIENT", and UTMB. The research (as hereinafter defined) will be conducted by RECIPIENT under the supervision of Fei Deng, hereinafter "SCIENTIST".

1. The Material that is covered by this Agreement includes 2 strains of Zika virus that will be provided by UTMB or received by RECIPIENT from UTMB, hereinafter "Material." For the purpose of this Agreement, "Material" means any material or portion thereof shipped to the RECIPIENT by WRCEVA. For the purpose of this Agreement, "Replicates" means any biological or chemical material that represents a substantially unmodified copy of the Material. Replicates include but are not limited to material produced by growth of cells or microorganisms or amplification of Material. For the purpose of this Agreement, "Derivative" means material created from the Material that is substantially modified to have new properties. Derivative includes, but is not limited to, recombinant DNA clones made using a vector. UTMB shall be free, in its sole discretion, to distribute the Material to others and to use it for its own purpose.
2. This Agreement applies to the use, handling, sale, distribution and any disposition of the Material, Replicates, and Derivatives.
3. Subject to the terms and conditions of this Agreement and any statutory, regulatory or other restriction imposed by law or any third party interest, the RECIPIENT may use the Material, Replicates, or Derivatives in any lawful manner for the purpose of scientific research.
4. RECIPIENT agrees that all of its SCIENTISTS who are involved in the Research, will have read the terms and conditions of this Agreement, and are obligated to abide by the terms and conditions of this Agreement as if each were a signatory hereto.
5. If a scientific disclosure or publication comes about, RECIPIENT agrees to acknowledge World Reference Center for Emerging Viruses and Arboviruses (WRCEVA), as academically and scientifically appropriate, based on provision of the Material or other direct contribution to the Research.
6. RECIPIENT represents that within their laboratory (i) access to the Material, Replicates or Derivatives will be restricted to personnel capable and qualified to safely handle the Material, Replicates, or Derivatives and (ii) RECIPIENT shall exercise the utmost care, taking into account

the unique characteristics of the Material, to maintain and use the Material, Replicates, or Derivatives and appropriate precautions to minimize any risk of harm to persons and property and to safeguard them from theft or misuse. RECIPIENT agrees that Material or Replicates designated Class II, III, or IV constitute known pathogens and that other Material, not so designated or Derivatives may be pathogenic under certain conditions.

7. RECIPIENT represents, that all information provided to WRCEVA in connection with this request is true, correct and complete, including, without limitation, any information provided for use in obtaining any license, permit or other authorization with respect to orders hereunder or otherwise complying with applicable law and regulations. RECIPIENT agrees to comply with all restrictions on export from the United States and re-export from other countries set forth in the export license and any other permit or authorization required by law for the Material, Replicates, and Derivatives and/or any information provided therewith or derived there from, and are responsible for obtaining any re-export authorization before transferring the Material, Replicates, or Derivatives provided hereunder or derived therefrom to another country or national thereof. With respect to transfers of Material, Replicates, or Derivatives to destinations outside the United States, (i) RECIPIENT assumes all risk and responsibility in connection with complying with applicable US and foreign laws and regulations concerning the import, handling, transportation, storage, use, and misuse or other wrongdoing with respect to Material, Replicates or Derivatives and (ii) RECIPIENT has advised WRCEVA, when placing its order, of any foreign legal or regulatory requirements pertaining to the requested shipment to be implemented within the United States in connection with such shipment.

8. **THE RECIPIENT RECOGNIZES THE POTENTIAL HAZARD OF UTILIZING THE MATERIAL AND UNDERSTANDS THAT THE APPROPRIATE PRECAUTIONS TO MINIMIZE ANY HEALTH RISK BECOMES FULLY THE RECIPIENT'S RESPONSIBILITY. THE RECIPIENT ASSUMES ALL RISK AND RESPONSIBILITY IN CONNECTION WITH THE RECEIPT, HANDLING, STORAGE, DISPOSAL, USE AND ANY MISUSE OR OTHER WRONGDOING WITH RESPECT TO MATERIAL TRANSFERRED HEREUNDER, THE REPLICATES, AND ANY DERIVATIVES.** In no event shall UTMB, including the UT System, UT Regents, officers, agents, employees and contributors of materials, nor the US government be liable for any use by SCIENTIST or RECIPIENT of the Material or any loss, claim, damage or liability, of whatsoever kind of nature, which may arise from or in connection with RECIPIENT's breach of this Agreement or RECIPIENT's use, handling or storage, including the receipt and/or improper, inappropriate, negligent or other wrongful handling or use of the Material, and/or from any misidentification, misrepresentation, lack of purity or typicality of the Material, unless such loss, claim, damage or liability results from the negligence of The University of Texas System, UTMB, their Regents, officers, agents and employees. Unless a US State or Federal agency, RECIPIENT agrees to indemnify and hold harmless The US Government, The University of Texas System, UTMB, their Regents, officers, agents and employees and the contributors of the Materials, from any liability, loss or damage they may suffer as a result of claims, demands, costs or judgments

against them arising out of the RECIPIENT's activities to be carried out pursuant to this Agreement and the use by RECIPIENT of the results obtained from Research.

9. RECIPIENT ACKNOWLEDGES, AGREES AND REPRESENTS THAT THE MATERIAL IS NOT INTENDED FOR USE IN HUMANS, AND AGREES NOT TO CONDUCT RESEARCH IN HUMANS USING THE MATERIAL.

10. The Material is experimental in nature and it is provided WITHOUT WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR SAFETY OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED. UTMB MAKES NO REPRESENTATION OR WARRANTY THAT THE USE OF THE MATERIAL WILL NOT INFRINGE ANY PATENT OR OTHER PROPRIETARY RIGHT.

11. This Agreement is not assignable, whether by operation of law or otherwise, without the prior written consent of UTMB.

12. RECIPIENT may not use the name of UTMB, System or Board, or the US government without express written consent.

13. If any provision of this Agreement shall be found by a court to be void, invalid or unenforceable, the same shall be reformed to comply with applicable law or stricken if not so conformable, so as not to affect the validity or enforceability of this Agreement.

14. The following attachments are incorporated herein and made a part of this Agreement for all purposes:

- Attachment A - List of all requested Materials and proposed scope of Research
- Attachment B - list of all required permits to receive Materials and carry out Research.

By signing below the RECIPIENT hereby certifies that an appropriate plan is in place for managing all health and safety risks involved with receiving and handling the transferred Materials. The Authorized Official who cosigns must be someone who can legally bind your institution, such as a president, vice-president, dean, provost, or corporate officer. A department chairman cannot serve as a cosigner for this form. This agreement is effective as of the date of the last signature below:

RECIPIENT Organization: Wuhan Institute of Virology, Chinese Academy of Science

RECIPIENT Address:

Fei Deng,

Xiaohongshan 44, Wuchang, 430071,

Wuhan, Hubei,

P.R.China

Name of Authorized Official: Yanyi Wang

Title of Authorized Official: Deputy Director General

Signature of Authorized Official: *Yanyi Wang*

Date: 2/25/2016

ACKNOWLEDGED BY:

RECIPIENT Scientist Name: Fei Deng

RECIPIENT Scientist Signature: *Fei Deng*

Name of the RECIPIENT'S Biosafety/Compliance Officer: Zhengli Shi

Signature of RECIPIENT'S Biosafety/Compliance Officer: *Zhengli Shi*

The University of Texas Medical Branch

301 University Blvd., Galveston, TX 77555-0609

Name of Authorized Official: Carolee King, JD

Title of Authorized Official: Sr. VP and General Counsel

Signature of Authorized Official: *Carolee King*

Date: 2/10/16

ACKNOWLEDGED BY:

UTMB Scientist: Robert Tesh

UTMB Scientist Signature: *R.B. Tesh*

Content reviewed
[Signature]

Name of the Biosafety/Compliance Officer: Domenica Zimmerman

Signature of Biosafety/Compliance Officer: *Domenica Zimmerman*

Attachment A

Materials Requested

2 strains of Zika virus:

(1) the 2010 Cambodian strain

(2) the 2016 Mexican strain

Product Format: lyophilized

Volume/quantity: 2ml for each strain

Scope of Work

Please write in 500 words, or less, the Scope of Work

Zika virus is an emerging mosquito-borne virus that was first identified in Uganda in 1947 in a rhesus monkey through a monitoring network of sylvatic yellow fever. It was subsequently identified in humans in 1952 in Uganda and the United Republic of Tanzania. Outbreaks and spread of Zika virus disease have been reported in Africa, the Americas, Asia and the Pacific countries. It has been noted that the neurological disorders, Microcephaly and Guillain-Barré syndrome, are linked to Zika virus infection. So Zika virus is an emerging pathogen that poses great threat to public health.

As the frequent transport and trade among countries grow rapidly, China now is also taking a high risk of outbreaks and import of Zika virus disease. So far, 3 imported cases of a Zika virus infection has been confirmed by the Chinese health authorities. To further strengthen the prevention and control of Zika virus disease outbreaks and to rapidly respond to the imported cases, it is essential to develop rapid detection methods and feasible monitoring program for Zika virus infection. Therefore, the Zika virus isolates are greatly precious genetic resources for the studies on virus properties, medication and prevention techniques and so on.

We will carry out the research on Zika virus in the following aspects:

1. Basic research and operations can be carried out with the virus products, such as Zika virus culture, evaluation of Zika virus growth properties and pathogenicity *in vitro* and in animal model.
2. Gene cloning and antigen expression of Zika Virus;
3. Establishment of serological detection methods for Zika virus diseases by generating polyclonal and monoclonal antibodies;
4. Functional studies on important viral proteins, related virulence factors and the potential virus-host mutual interactions;
5. Establishment of detection and identification methods for virus nucleotides; Development of rapid and high throughput detection system for Zika virus;
6. VLPs preparation of Zika virus for the development of vaccine candidates.

Attachment B

Please list all required permits to receive Materials and carry out the Research.

1. Relative research funding with materials: The Special Basic Survey Project from The Ministry of Science and Technology China (2013-2018) "The Investigation of Viral Pathogens Carried by Important Natural Animal Hosts and Insect Vectors (2013FY113500)"
2. Certificate of Bio-safety laboratory registration (BSL-2) authorized by Hubei province Health and Family Planning Commission: Registration No. H 01-05-018.