

Purified Zika Virus, PRVABC59

Catalog No. NR-50684

For research use only. Not for human use.

Contributor:

Brandy J. Russell, Arbovirus Reference Collection Curator, Arboviral Diseases Branch, Reference and Reagent Laboratory, Centers for Disease Control and Prevention, Fort Collins, Colorado, USA

Manufacturer:

BEI Resources

Product Description:

Virus Classification: *Flaviviridae, Flavivirus*

Species: Zika virus

Strain/Isolate: PRVABC59

Original Source: Zika virus (ZIKV), PRVABC59 was isolated from the blood of a human in Puerto Rico in December 2015.¹

Comments: NR-50684 was prepared by inoculation of *Cercopithecus aethiops* kidney epithelial cells with ZIKV, PRVABC59 (BEI Resources NR-50240). The virus was purified from clarified cell lysate and supernatant by precipitation with PEG6000 and centrifugation through a 30% sucrose cushion. The complete genomic sequence of ZIKV, PRVABC59 serum isolate was previously determined (GenBank: [KU501215](#)).^{1,2} The complete coding sequence of BEI Resources NR-50240 has also been determined (GenBank: [KX087101](#)).³ The E protein of the tissue culture grown ZIKV PRVABC59 isolate (GenBank: [KX087101](#)) has a valine to leucine mutation at position 330 relative to the original patient serum ZIKV PRVABC59 isolate (GenBank: [KU501215](#)). The ZIKV, PRVABC59 E-V330L mutant is shown to be less pathogenic in mice, with delayed mortality and decreased viral dissemination to eye and brain as compared to the original ZIKV PRVABC59 serum isolate.⁴

Material Provided:

Each vial contains approximately 0.5 mL of purified ZIKV, PRVABC59 in NTE buffer (150 mM NaCl, 50 mM Tris-HCl, 1 mM EDTA), pH 7.0.

Packaging/Storage:

NR-50684 was packaged aseptically in screw-capped plastic cryovials. The product is provided frozen and should be stored at -60°C or colder immediately upon arrival. For long-term storage, the vapor phase of a liquid nitrogen freezer is recommended. Freeze-thaw cycles should be avoided.

Growth Conditions:

Host: *Cercopithecus aethiops* kidney epithelial cells (Vero 76, clone E6; ATCC® CRL-1586™)

Growth Medium: Eagle's Minimum Essential Medium containing Earle's Balanced Salt Solution, non-essential amino acids, 2 mM L-glutamine and 1 mM sodium pyruvate supplemented with 2% fetal bovine serum, or equivalent

Infection: Cells should be 60% to 80% confluent; thaw virus rapidly in a 37°C water bath; adsorb diluted virus to cells for one hour at 37°C.

Incubation: 5 to 11 days at 37°C and 5% CO₂

Cytopathic Effect: Refractile cell rounding and detachment

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: Purified Zika Virus, PRVABC59, NR-50684."

Biosafety Level: 2

Appropriate safety procedures should always be used with this material. Laboratory safety is discussed in the following publication: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, and National Institutes of Health. Biosafety in Microbiological and Biomedical Laboratories. 5th ed. Washington, DC: U.S. Government Printing Office, 2009; see www.cdc.gov/biosafety/publications/bmbl5/index.htm.

Disclaimers:

You are authorized to use this product for research use only. It is not intended for human use.

Use of this product is subject to the terms and conditions of the BEI Resources Material Transfer Agreement (MTA). The MTA is available on our Web site at www.beiresources.org.

While BEI Resources uses reasonable efforts to include accurate and up-to-date information on this product sheet, neither ATCC® nor the U.S. Government makes any warranties or representations as to its accuracy. Citations from scientific literature and patents are provided for informational purposes only. Neither ATCC® nor the U.S. Government warrants that such information has been confirmed to be accurate.

This product is sent with the condition that you are responsible for its safe storage, handling, use and disposal. ATCC® and the U.S. Government are not liable for any damages or injuries arising from receipt and/or use of this product. While reasonable effort is made to ensure authenticity and reliability of materials on deposit, the U.S. Government, ATCC®, their suppliers and contributors to BEI Resources are not liable for damages arising from the misidentification or misrepresentation of products.

Use Restrictions:

This material is distributed for internal research, non-commercial purposes only. This material, its product or its derivatives may not be distributed to third parties. Except as performed under a U.S. Government contract, individuals

contemplating commercial use of the material, its products or its derivatives must contact the contributor to determine if a license is required. U.S. Government contractors may need a license before first commercial sale.

References:

1. Lanciotti, R. S., et al. "Phylogeny of Zika Virus in Western Hemisphere, 2015." *Emerg. Infect. Dis.* 22 (2016): 933-935. PubMed: 27088323.
2. Lanciotti, R. S. and M. Holodniy. Diagnostic and Reference Laboratory, Arbovirus Diseases Branch, Centers for Disease Control and Prevention, 3150 Rampart Road, Fort Collins, Colorado 80521, USA. Direct submission.
3. Shabman, R., et al. J. Craig Venter Institute, 9704 Medical Center Drive, Rockville, Maryland 20850, USA. Direct submission.
4. Duggal, N. K., et al. "Mutations Present in a Low-Passage Zika Virus Isolate Result in Attenuated Pathogenesis in Mice." *Virology* 530 (2019): 19-26. PubMed: 30763872.

ATCC® is a trademark of the American Type Culture Collection.

