

West Nile Virus, I-804994

Catalog No. NR-49921

For research use only. Not for use in humans.

Contributor:

World Reference Center for Emerging Viruses and Arboviruses (WRCEVA), University of Texas Medical Branch, Galveston, Texas, USA

Manufacturer:

BEI Resources

Product Description:

Virus Classification: *Flavivirus, Flaviviridae*

Species: West Nile Virus

Strain/Isolate: I-804994 (also referred to as I804994 and 804994)¹

Original Source: West Nile virus (WNV), I-804994 was isolated from human brain tissue in Bangalore, India in 1980 and contributed to WRCEVA by the Yale Arbovirus Research Unit, Rockefeller Funded Collection, Yale University, New Haven, Connecticut, USA.^{1,2,3}

Comments: The complete genome of WNV, I-804994 has been sequenced (GenBank: [DQ256376](https://www.ncbi.nlm.nih.gov/nuccore/DQ256376)).³

WNV is an arthropod-borne virus which circulates in natural transmission cycles between primarily mosquitoes (*Culex* species) and birds, with humans as incidental hosts.⁴ The virus is indigenous to Africa, Asia, Australia and Europe, and has recently caused large epidemics in Romania, Russia and Israel. WNV was recently introduced to North America, where it was first detected in 1999 during an epidemic of meningoencephalitis in New York City.⁵ It caused one of the worst epidemics in North America in 2012 in Texas, in which 1,868 cases were reported and 89 people died.⁶ Most human WNV infections are asymptomatic but clinical infections can range in severity from uncomplicated West Nile fever to fatal meningoencephalitis; the incidence of severe neuroinvasive disease and death increase with age.^{7,8} There is no established WNV-specific treatment or licensed vaccine for humans currently available.⁹ Prevention depends on organized, sustained vector mosquito control and public education.⁸

Material Provided:

Each vial contains approximately 1 mL of cell lysate and supernatant from *Cercopithecus aethiops* kidney epithelial cells (Vero; ATCC® CCL-81™) infected with WNV, I-804994.

Note: If homogeneity is required for your intended use, please purify prior to initiating work.

Packaging/Storage:

NR-49921 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; ATCC® CCL-81™)

Growth Medium: Eagle's Minimum Essential Medium containing Earle's Balanced Salt Solution, non-essential amino acids, 2 mM L-glutamine, 1 mM sodium pyruvate and 1.5 grams per liter of sodium bicarbonate supplemented with 2% fetal bovine serum, or equivalent

Infection: Cells should be 70% to 90% confluent

Incubation: 5 to 8 days at 37°C and 5% CO₂

Cytopathic Effect: Cell rounding and detachment

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH, as part of the WRCEVA program: West Nile Virus, I-804994, NR-49921."

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. 6th ed. Washington, DC: U.S. Government Printing Office, 2020; see www.cdc.gov/biosafety/publications/bmb15/index.htm.

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References:

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5. Lanciotti, R. S., et al. "Origin of the West Nile Virus Responsible for an Outbreak of Encephalitis in the Northeastern United States." Science 286 (1999): 2333-2337. PubMed: 10600742.
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7. Solomon, T., et al. "West Nile Encephalitis." BMJ 326 (2003): 865-869. PubMed: 12702624.
8. Campbell, G. L., et al. "West Nile Virus." Lancet Infect. Dis. 2 (2002): 519-529. PubMed: 12206968.
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