West Nile Virus, KERN 5281

Catalog No. NR-49923

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: KERN 5281

Original Source: West Nile virus (WNV), KERN 5281 was isolated from a mosquito (Culex tarsalis) in Kern County, California, USA on June 2, 2005 and contributed to WRCEVA by Aaron Brault, University of California-Davis, Davis, California, USA.

Comments: In order to remove contaminating mycoplasma, the second viral passage at BEI Resources was performed by polyethyleneimine-mediated transfection of extracted viral RNA.

WNV is an arthropod-borne virus which circulates in natural transmission cycles between primarily mosquitoes (Culex species) and birds, with humans as incidental hosts. 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. 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. 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. There is no established WNV-specific treatment or licensed vaccine for humans currently available. Prevention depends on organized, sustained vector mosquito control and public education.

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, KERN 5281.

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

Packaging/Storage:
NR-49923 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 80% to 90% confluent

Incubation: 3 to 5 days at 37°C and 5% CO2

Cytotoxic Effect: Cell rounding and sloughing

Citation:
Reprints of this material should read "The following reagent was obtained through BEI Resources, NIAID, NIH, as part of the WRCEVA program: West Nile Virus, KERN 5281, NR-49923."

Biosafety Level: 2

WNV is a biosafety level 2 agent. Suitable precautions include standard precautions and personal protective equipment as recommended by the CDC and OSHA.

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References:
1. Tesh, R. B., Personal Communication.

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