Product Information Sheet for NR-49798

West Nile Virus, VA P 3321-05

Catalog No. NR-49798

For research use only. Not for use in humans.

Contributor:
World Reference Center for Emerging Viruses and Arboviruses, University of Texas Medical Branch, Galveston, Texas, USA

Manufacturer:
BEI Resources

Product Description:
Virus Classification: *Flavivirus*, *Flaviviridae*
Species: West Nile Virus
Strain/Isolate: VA P 3321-05
Original Source: West Nile virus (WNV), VA P 3321-05 was isolated from a mosquito pool collected in Norfolk County, Virginia, USA in 2005 and contributed to WRCEVA by the Norfolk County Department of Health, Norfolk, Virginia, USA.[1] In order to remove contaminating mycoplasma, the second viral passage at BEI Resources was performed by lipofectamine-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.[2] 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.[3] 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.[4] 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 increases with age.[5,6] There is no established WNV-specific treatment or licensed vaccine for humans currently available.[7] Prevention depends on organized, sustained vector mosquito control and public education.[6]

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, VA P 3321-05.

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

Packaging/Storage:
NR-49798 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: 4 to 6 days at 37°C and 5% CO_2
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, VA P 3321-05, NR-49798."

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/bmbl5/index.htm.

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References:

1. Tesh, R. B., Personal Communication.
2. Granwehr, B. P., et al. "West Nile Virus: Where Are We Now?" Lancet Infect. Dis. 4 (2004): 547-556. PubMed: 15336221.
3. 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.
4. Murray, K. O., et al. "West Nile Virus, Texas, USA, 2012." Emerg. Infect. Dis. 19 (2013): 1836-1838. PubMed: 24210089.
5. Solomon, T., et al. "West Nile Encephalitis." BMJ 326 (2003): 865-869. PubMed: 12702624.
6. Campbell, G. L., et al. "West Nile Virus." Lancet Infect. Dis. 2 (2002): 519-529. PubMed: 12206968.
7. Monath, T. P., et al. "A Live, Attenuated Recombinant West Nile Virus Vaccine." Proc. Natl. Acad. Sci. USA 103 (2006): 6694-6699. PubMed: 16617103.

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