Product Information Sheet for NR-2334

Japanese Encephalitis Virus, Osaka

Catalog No. NR-2334

For research use only. Not for human use.

Contributor:

Barry R. Miller, Ph.D., Acting Branch Chief, Division of Vector-Borne Infectious Diseases, National Center for Infectious Diseases, Centers for Disease Control and Prevention (CDC), Fort Collins, Colorado

Product Description:

Virus Classification: *Flaviviridae*, *Flavivirus*
Species: Japanese encephalitis virus
Strain/Isolate: Osaka (PRS 222681)
Original Source: Isolated from *Culex tritaeniorhynchus* (mosquito) in Osaka, Japan, 1979.[1]
Comments: JEV, Osaka was obtained by the CDC from R. Shope of the Yale Arbovirus Research Unit, Department of Epidemiology and Public Health, Yale University School of Medicine, New Haven, Connecticut, 1983.

Japanese encephalitis virus (JEV) is an arbovirus transmitted in a zoonotic cycle among rice-field mosquitoes of the *Culex* species, with pigs as amplifying hosts and wading birds as intermediate hosts.[2] It is the most important cause of epidemic encephalitis worldwide, with around 50,000 cases and 10,000 deaths per year affecting essentially children below 10 years of age.[3] Approximately half the survivors have severe neurological disabilities. Most cases occur in rural areas of Southeast Asia, but the geographical area affected by JEV is expanding. In the absence of an effective antiviral treatment, prevention constitutes the best defense against this disease. Several vaccines are now available[4-6] and others are under development.[7,8]

Material Provided:

Each vial contains approximately 1 mL of cell lysate and supernatant from African green monkey kidney cells (Vero; ATCC® CCL-81™) infected with JEV, Osaka.

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

Packaging/Storage:

NR-2334 was packaged aseptically in screw-capped plastic cryovials. The product is provided frozen and should be stored at -70°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: Vero cells (ATCC® CCL-81™)
Growth Medium: Minimum Essential Medium containing Earle's salts and non-essential amino acids supplemented with 2% irradiated fetal bovine serum, 2 mM L-glutamine and 1 mM sodium pyruvate, or equivalent
Infection: Cells should be 80-90% confluent (not 100% confluent)
Incubation: 4 to 7 days at 37°C and 5% CO_2
Cytopathic Effect: Cell rounding and sloughing

Citation:

Acknowledgment for publications should read "The following reagent was obtained through the NIH Biodefense and Emerging Infections Research Resources Repository, NIAID, NIH: Japanese Encephalitis Virus, Osaka, NR-2334."

Biosafety Level: 3

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, 2007; see www.cdc.gov/od/ohs/biosfty/bmbl5/bmbl5toc.htm.
Vaccination is recommended for all laboratory workers with a potential for exposure to infectious JEV.[9]

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References:

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4. Yang, S. E., et al. "The Efficacy of Mouse-Brain Inactivated Nakayama Strain Japanese Encephalitis Vaccine--Results from 30 Years Experience in Taiwan." Vaccine 24 (2006): 2669-2673. PubMed: 16314007.
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6. Kurane, I. and T. Takasaki. "Immunogenicity and Protective Efficacy of the Current Inactivated Japanese Encephalitis Vaccine against Different Japanese Encephalitis Virus Strains." Vaccine 18 (2000): 33-35. PubMed: 10821971.
7. Beasley, D. W., P. Lewthwaite and T. Solomon. "Current Use and Development of Vaccines for Japanese Encephalitis." Expert Opin. Biol. Ther. 8 (2008): 95-106. PubMed: 18081539.
8. Solomon, T. "New Vaccines for Japanese Encephalitis." Lancet Neurol. 7 (2008): 116-118. PubMed: 18207104.
9. Centers for Disease Control and Prevention. "Inactivated Japanese Encephalitis Virus Vaccine. Recommendations of the Advisory Committee on Immunization Practices (ACIP)." MMWR Recomm. Rep. 42 (1993): 1-15. PubMed: 8381504.

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P.O. Box 4137
Manassas, VA 20108-4137 USA
www.beiresources.org

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