

Japanese Encephalitis Virus, SA14

Catalog No. NR-2335

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Contributor:

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Product Description:

Virus Classification: *Flaviviridae, Flavivirus*

Species: Japanese encephalitis virus

Strain/Isolate: SA14

Original Source: Isolated from a pool of mosquitoes (*Culex tritaeniorhynchus*) in Xian, China.^{1,2}

Comments: JEV, SA14 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. It is the virulent parent strain¹⁻³ of several attenuated vaccine derivatives, including strain SA14-2-8, which is available as BEI Resources NR-2326. The complete genome sequence of JEV, SA14 is available (GenBank: M55506).⁴

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.⁵ 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.⁶ 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 available⁷⁻⁹ and others are under development.^{10,11}

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, SA14.

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

Packaging/Storage:

NR-2335 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% CO₂

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, SA14, NR-2335."

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/bmb15/bmb15toc.htm.

Vaccination is recommended for all laboratory workers with a potential for exposure to infectious JEV.¹²

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