

Japanese Encephalitis Virus, Strain SA 14-2-8

Catalog No. NR-2326

For research use only. Not for human use.

Contributor:

National Center for Infectious Diseases, Centers for Disease Control and Prevention, Fort Collins, Colorado.

Product Description:

Virus Classification: *Flaviviridae, Flavivirus*

Species: Japanese encephalitis virus (JEV)

Strain/Isolate: SA 14-2-8

Original Source: JEV, SA 14-2-8 is an attenuated variant of JEV SA14 which was isolated from a mosquito in Sian, China in 1954.¹ The SA-14-2-8 virus was attenuated by irradiation of the 12-1-7 virus with ultraviolet light followed by plaque purification. The 12-1-7 virus was the first attenuated variant of SA14 and was obtained after 11 passages in mice followed by 100 passages in primary hamster kidney cells.¹

Comments: JEV, SA 14-2-8 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.

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 available⁴⁻⁶ 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, SA 14-2-8.

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

Packaging/Storage:

NR-2326 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 (lot-specific details are on the Certificate of Analysis)

Infection: Cells should be 80–90% confluent (not 100% confluent)

Incubation: 4 to 6 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, SA 14-2-8, NR-2326."

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.⁹

Disclaimers:

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References:

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