

St. Louis Encephalitis Virus, V 07457

Catalog No. NR-49781

For research use only. Not for human use.

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: *Flaviviridae*, *Flavivirus*

Species: St. Louis encephalitis virus

Strain/Isolate: V 07457

Original Source: St. Louis encephalitis virus (SLEV), V 07457 was isolated from a mosquito (*Culex quinquefasciatus*) in Harris County, Texas, USA on August 9, 2013 and contributed to WRCEVA by Yvonne Randle, Mosquito Control Division, Harris County Public Health and Environmental Services, Houston, Texas, USA.¹

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

SLEV is a single-stranded RNA virus which is naturally maintained by mosquito to bird transmission involving *Culex* species mosquito as vectors and passerine and columbiform avian species as amplificatory hosts.^{2,3,4} Small birds and a variety of mammals like bats, rodents, folivores and marsupials have also been shown to be infected.⁴ The virus has a wide distribution encompassing tropical, sub-tropical and much of temperate-tropical zones of Western Hemisphere including most of North and South America.² SLEV was first detected in North America in summer of 1933 in St. Louis, Missouri where it resulted in 1,095 clinical human cases and 201 deaths.³ Most human SLEV infections are asymptomatic but clinical infections can range in severity from uncomplicated flu-like symptoms to fatal encephalitis; the incidence of severe disease and death increase with age.

Material Provided:

Each vial contains approximately 1 mL of cell lysate and supernatant from *Cercopithecus aethiops* kidney epithelial cells infected with SLEV, V 07457.

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

Packaging/Storage:

NR-49781 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 g/L of sodium bicarbonate supplemented with 2% fetal bovine serum, or equivalent

Infection: Cells should be 70% to 90% confluent

Incubation: 5 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 BEI Resources, NIAID, NIH, as part of the WRCEVA program: St. Louis Encephalitis Virus, V 07457, NR-49781."

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, 2009; see www.cdc.gov/biosafety/publications/bmbl5/index.htm.

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References:

1. Tesh, R. B., Personal Communication.
2. Diaz, L. A., et al. "Exploring Genomic, Geographic and Virulence Interactions Among Epidemic and Non-Epidemic St. Louis Encephalitis Virus (Flavivirus) Strains" *PLoS One* 10 (2015): e0136316. PubMed: 26312485.
3. Diaz, A., et al. "Reemergence of St. Louis Encephalitis in the Americas." *Emerg. Infect. Dis.* 24 (2018). PubMed: 30457961.
4. Kopp, A., et al. "Provenance and Geographic Spread of St. Louis Encephalitis Virus." *mBio* 11 (2013): e00322. PubMed: 23760463.

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