

Yellow Fever Virus, CAREC M2-09

Catalog No. NR-50062

For research use only. Not for human use.

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: Yellow fever virus

Strain/Isolate: CAREC M2-09

Original Source: Yellow fever virus (YFV), CAREC M2-09 was isolated from a monkey (*Alouatta* sp.) in Manzanilla, Trinidad on January 8, 2009 and contributed to WRCEVA by Rosa Alba Salas of the Caribbean Epidemiology Centre (CAREC) at Port-of-Spain, Republic of Trinidad and Tobago.¹ A closely related contemporaneous YFV isolate, TVP11767, has been described.² In order to remove contaminating mycoplasma, the second viral passage at BEI Resources was performed by lipofectamine-mediated transfection of extracted viral RNA.

YFV is a mosquito-borne virus, which circulates in natural transmission cycles between mosquitoes and temporary amplifiers, humans and monkeys. Yellow fever (YF) is endemic in tropical regions of Africa and South America and poses a serious health risk to travelers to these areas.^{3,4} Vector-control strategies that were once successful for elimination of YFV from many regions have faltered, leading to reemergence of the disease.⁵ Currently, there is no effective drug treatment for YF; however, live-attenuated 17D YF vaccines have demonstrated high rates of effectiveness and good safety profiles.⁶⁻⁸

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 YFV, CAREC M2-09.

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

Packaging/Storage:

NR-50062 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 60% to 80% confluent

Incubation: 5 to 7 days at 37°C and 5% CO₂

Cytopathic Effect: Cell enlargement, 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: Yellow Fever Virus, CAREC M2-09, NR-50062."

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/bmb15/index.htm.

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References:

1. Tesh, R. B., Personal Communication.
2. Auguste, A. J., et al. "Yellow Fever Virus Maintenance in Trinidad and Its Dispersal throughout the Americas." J. Virol. 84 (2010): 9967-9977. PubMed: 20631128.
3. Barrett, A. D. T. and S. Higgs. "Yellow Fever: A Disease that Has Yet to Be Conquered." Annu. Rev. Entomol. 52 (2007): 209-229. PubMed: 16913829.
4. Bryant, J. E., E. C. Holmes, and A. D. T. Barrett. "Out of Africa: A Molecular Perspective on the Introduction of Yellow Fever Virus into the Americas." PLoS Pathog. 3 (2007): e75. PubMed: 17511518.
5. Barnett, E. D. "Yellow Fever: Epidemiology and Prevention." Clin. Infect. Dis. 44 (2007): 850-856. PubMed: 17304460.
6. Barrett, A. D. T., et al. "17D Yellow Fever Vaccines: New Insights. A Report of a Workshop Held during the World Congress on Medicine and Health in the Tropics, Marseille, France, Monday 12 September 2005." Vaccine 25 (2007): 2758-2765. PubMed: 17368349.
7. Monath, T. P., et al. "Yellow Fever 17D Vaccine Safety and Immunogenicity in the Elderly." Hum. Vaccin. 1 (2005): 207-214. PubMed: 17012867.
8. Pugachev, K. V., F. Guirakhoo, and T. P. Monath. "New Developments in Flavivirus Vaccines with Special Attention to Yellow Fever." Curr. Opin. Infect. Dis. 18 (2005): 387-394. PubMed: 16148524.

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