

## Yellow Fever Virus (YFV), 17D

### Catalog No. NR-115

Derived from ATCC® VR-1268

### For research use only. Not for human use.

#### Contributor:

ATCC®

#### Product Description:

Virus Classification: *Flaviviridae, Flavivirus*

Agent: Yellow fever virus (YFV)

Strain/Isolate: 17D

Source:<sup>1</sup> Derived from the virulent Asibi strain of YFV by *in vitro* passage in chicken embryo tissue. The Asibi strain was isolated in 1927 by inoculating rhesus macaques with the blood of a Ghanaian patient.

Comments: NR-115 was derived from ATCC® VR-1268 (Lot V-525-001-022, NIAID). V-525-001-022 is a frozen lot of the same virus as the lyophilized lot, V-525-001-522 (NIAID), which is indicated on the vial label. The complete genome of YFV, 17D vaccine strain has been sequenced (GenBank: X03700).<sup>2</sup>

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.<sup>3,4</sup> Vector-control strategies that were once successful for elimination of YFV from many regions have faltered, leading to reemergence of the disease.<sup>5</sup> 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.<sup>6-9</sup>

#### 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 YFV, 17D.

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

#### Packaging/Storage:

NR-115 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: Vero cells (ATCC® CCL-81™)

Growth Medium: Minimum Essential Medium supplemented with 2% irradiated fetal bovine serum, or equivalent (lot-specific details are on the Certificate of Analysis)

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

Incubation: 7 to 10 days at 37°C and 5% CO<sub>2</sub>

Cytopathic Effect: Cell rounding and cell lysis

#### Citation:

Acknowledgment for publications should read “The following reagent was obtained through the NIH Biodefense and Emerging Infections Research Resources Repository, NIAID, NIH: Yellow Fever Virus (YFV), 17D, NR-115.”

#### Biosafety Level: 2

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/bmbli5/bmbli5toc.htm](http://www.cdc.gov/od/ohs/biosfty/bmbli5/bmbli5toc.htm). This publication recommends vaccination for all personnel who work with YFV or infected animals, and those entering rooms where YFV or infected animals are present.

#### Disclaimers:

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**References:**

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2. Rice, C. M., et al. "Nucleotide Sequence of Yellow Fever Virus: Implications for Flavivirus Gene Expression and Evolution." Science 229 (1985): 726–733. PubMed: 4023707. GenBank: NC\_002031.
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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