

Product Information Sheet for NR-83

Dengue Virus Type 1, TH-Sman

Catalog No. NR-83

(Derived from ATCC® VR-344™)

For research use only. Not for use in humans.

Contributor:

ATCC®

Manufacturer:

BEI Resources

Product Description:

Virus Classification: *Flaviviridae*, *Flavivirus*

Species: Dengue virus type 1 (DEN-1)

Strain/Isolate: TH-Sman

Original Source: Dengue virus type 1 (DEN-1), TH-Sman was isolated in 1958 by Dr. Sman Vardhanabhuti from the serum of a patient diagnosed with Thai hemorrhagic fever in Bangkok, Thailand.¹ It was deposited at ATCC® by Dr. William McD. Hammon of the Department of Epidemiology and Microbiology, Graduate School of Public Health, University of Pittsburgh, Pittsburgh, Pennsylvania, USA.

Comments: The complete genome of DEN-1, TH-Sman has been sequenced (GenBank: [JQ922547](#)).

Dengue virus causes the most common vector-borne viral disease of humans, with over 50 million cases in tropical and subtropical regions each year.² The disease is now endemic in over 110 countries in the world, with Southeast Asia and the Western Pacific being the most seriously affected. Dengue disease is caused by one of four closely related, but antigenically distinct, serotypes (designated DEN-1 to -4).² Infections produce a spectrum of clinical illness ranging from a nonspecific viral syndrome to severe and fatal hemorrhagic disease.^{3,4} Humans are the major host of dengue virus, with *Aedes aegypti* mosquitoes the principal vectors.

Material Provided:

Each vial contains approximately 1.0 mL of cell lysate and supernatant from *Chlorocebus* (formerly *Cercopithecus*) kidney epithelial cells infected with DEN-1, TH-Sman.

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

Packaging/Storage:

NR-83 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: *Chlorocebus* (formerly *Cercopithecus*) 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 50% to 60% confluent

Incubation: 6 to 10 days at 37°C and 5% CO₂

Cytopathic Effect: Refractile cell rounding, if any

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: Dengue Virus Type 1, TH-Sman, NR-83."

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 \(BMBL\)](#). 6th ed. Washington, DC: U.S. Government Printing Office, 2020.

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References:

1. Hammon, W. McD, A. Rudnick, and G. E. Sather. "Viruses Associated with Epidemic Hemorrhagic Fevers of the Philippines and Thailand." Science 131 (1960): 1102–1103. PubMed: 14399343.
2. Holmes, E. C. and S. S. Twiddy. "The Origin, Emergence and Evolutionary Genetics of Dengue Virus." Infect. Genet. Evol. 3 (2003): 19–28. PubMed: 12797969.
3. Malavige, G. N., et al. "Dengue Viral Infections." Postgrad. Med. J. 80 (2004): 588–601. PubMed: 15466994.
4. Kao, C.-L., et al. "Laboratory Diagnosis of Dengue Virus Infection: Current and Future Perspectives in Clinical Diagnosis and Public Health." J. Microbiol. Immunol. Infect. 38 (2005): 5–16. PubMed: 15692621.

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