

Enterovirus D68, US/MO/14-18949, Mouse-Adapted

Catalog No. NR-51844

For research use only. Not for human use.

Contributor:

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Manufacturer:

BEI Resources

Product Description:

Virus Classification: *Picornaviridae*, *Enterovirus*

Species: Enterovirus D

Type: D68

Strain/Isolate: US/MO/14-18949, mouse-adapted

Original Source: Enterovirus D68 (EV-D68), US/MO/14-18949, mouse-adapted was derived from EV-D68, US/MO/14-18949 by thirty sequential passages in AG129 mice before purification.¹

Comments: The complete genome of EV-D68, US/MO/14-18949 has been sequenced (GenBank: [MH708882](#)).² EV-D68, US/MO/14-18949, mouse-adapted was derived from BEI Resources NR-49130 (EV-D68, US/MO/14-18949, which was isolated from a nasopharyngeal swab taken from a human in Missouri, USA, in August 2014) to improve replication in AG129 mice by thirty sequential passages in mice, and designated EV-D68, US/MO/14-18949, mouse-passage 30 (MP30). The mouse-adapted virus was plaque purified in rhabdomyosarcoma (RD) cells and a virus stock was prepared by replication in RD cells.^{1,2}

Enteroviruses are small non-enveloped viruses whose genome consists of a single strand of positive-sense RNA.³ EV-D68 was first identified in California in 1962 from cases of bronchiolitis and pneumonia, and was rarely reported in the United States. Clusters of severe respiratory disease were reported to the Centers for Disease Control and Prevention beginning in August 2014.³ EV-D68 was identified from a high percentage of initial cases and severe EV-D68 infections became widespread across the United States in August and September.³

Material Provided:

Each vial contains approximately 1 mL of cell lysate and supernatant from RD cells infected with EV-D68, US/MO/14-18949, mouse-adapted.

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

Packaging/Storage:

NR-51844 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: Rhabdomyosarcoma cells (RD; ATCC® CCL-136™)

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: 3 to 6 days at 33°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: Enterovirus D68, US/MO/14-18949, Mouse-Adapted, NR-51844."

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

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References:

1. Tarbet, E. B., Personal Communication.
2. Evans, W. J., et al. "Development of a Respiratory Disease Model for Enterovirus D68 in 4-Week-Old Mice for Evaluation of Antiviral Therapies." Antiviral Res. 162 (2019): 61-70. PubMed: 30521834.
3. Brown, B. A., et al. "Seven Strains of Enterovirus D68 Detected in the United States During the 2014 Severe Respiratory Disease Outbreak." Genome Announc. 2 (2014): e01201-14. PubMed: 25414503.

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