

Heartland Virus, MO-4

Catalog No. NR-49771

For research use only. Not for human use.

Contributor:

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Manufacturer:

BEI Resources

Product Description:

Virus Classification: *Bunyaviridae, Phlebovirus*

Species: Heartland virus

Strain: MO-4

Original Source: Heartland virus (HRTV), MO-4 was isolated from a human in Missouri, USA, in 2009.¹ The patient reported tick exposure and had ehrlichiosis-like symptoms. Upon co-culture of peripheral blood mononuclear cells with DH82 canine monocytes for detection of *Ehrlichia chaffeensis*, a novel phlebovirus was isolated instead. Supernatants were transferred to Vero E6 cells for virus propagation.

Comments: Complete nucleotide sequences of the small (S; GenBank: JX005842, JX005843), medium (M; GenBank: JX005844, JX005845), and large (L; GenBank: JX005846, JX005847) RNA genome segments of HRTV have been determined.¹

HRTV is the first pathogenic phlebovirus discovered in the United States. Infections are associated with severe febrile illness and thrombocytopenia. The virus has also been detected in field-collected ticks.² HRTV is considered a member of the Uukuniemi virus group.³

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 HRTV, MO-4.

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

Packaging/Storage:

NR-49771 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: Eagle's Minimum Essential Medium containing Earle's Balanced Salt Solution, non-essential

amino acids, 2 mM L-glutamine and 1 mM sodium pyruvate supplemented with 2% fetal bovine serum, or equivalent
Infection: Cells should be 70% to 90% confluent; thaw virus rapidly in a 37°C water bath; adsorb diluted virus to cells for one hour at 37°C.

Incubation: 6 to 8 days at 37°C and 5% CO₂

Cytopathic Effect: Cell 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: Heartland Virus, MO-4, NR-49771."

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. McMullan, L. K., et al., "A New Phlebovirus Associated with Severe Febrile Illness in Missouri." N. Engl. J. Med. 367 (2012): 834-841. PubMed: 22931317.
2. Savage, H. M., et al. "First Detection of Heartland Virus (Bunyaviridae: *Phlebovirus*) from Field Collected Arthropods." Am. J. Trop. Med. Hyg. 89 (2013): 445-452. PubMed: 23878186.
3. Palacios, G., et al., "Characterization of the Uukuniemi Virus Group (*Phlebovirus*: *Bunyaviridae*): Evidence for Seven Distinct Species." J. Virol. 87 (2013): 3187-3195. PubMed: 23283959.

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