Product Information Sheet for NR-535

Snowshoe Hare Virus

Catalog No. NR-535
(Derived from ATCC® VR-711™)

For research use only. Not for human use.

Contributor:
ATCC®

Product Description:
Virus Classification: *Bunyaviridae, Orthobunyavirus*, *California encephalitis virus*
Agent: Snowshoe hare virus
Original Source: Isolated in 1959 from the blood of a snowshoe hare *(Lepus americanus)* captured in the Bitterroot Valley of western Montana[1]
Comments: Snowshoe hare virus was deposited at ATCC® in 1973 by Robert E. Shope, M.D., Director, Yale Arbovirus Research Unit, Yale University School of Medicine, New Haven, Connecticut. The complete nucleotide sequences of the small (S; GenBank: J02390)[2] and medium (M; GenBank: K02539)[4] RNA segments of snowshoe hare virus have been determined. The S RNA segment codes for both the nucleocapsid protein (GenPept: P03513)[2] and a non-structural protein (GenPept: P03514),[2,3] while the M RNA segment codes for a polyprotein (GenPept: P04875).[3–5]

Material Provided:
Each vial contains approximately 1 mL of cell lysate and supernatant from African green monkey kidney (Vero) cells infected with snowshoe hare virus.

Packaging/Storage:
NR-535 was packaged aseptically in screw-capped plastic cryovials. The product is provided frozen on dry ice 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% fetal bovine serum, 2 mM L-glutamine, and 1 mM sodium pyruvate, or equivalent (lot-specific details are on the Certificate of Analysis)
Infection: Cells should be 80 to 90% confluent (not 100% confluent)
Incubation: 1 to 3 days at 37°C and 5% CO_2
Cytopathic Effect: Cell rounding and detachment

Citation:
Acknowledgement for publications should read "The following reagent was obtained through NIH Biodefense and Emerging Infectious Research Resources Repository, NIAID, NIH: Snowshoe Hare Virus, NR-535."

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. 4th ed. Washington, DC: U.S. Government Printing Office, 1999. HHS Publication No. (CDC) 93-8395. This text is available online at www.cdc.gov/od/ohs/biosfty/bmbl4/bmbl4toc.htm.

Disclaimers:
You are authorized to use this product for research use only. It is not intended for human use.

Use of this product is subject to the terms and conditions of the BEI Resources Material Transfer Agreement (MTA). The MTA is available on our Web site at www.beiresources.org.

While BEI Resources uses reasonable efforts to include accurate and up-to-date information on this product sheet, neither ATCC® nor the U.S. Government make any warranties or representations as to its accuracy. Citations from scientific literature and patents are provided for informational purposes only. Neither ATCC® nor the U.S. Government warrants that such information has been confirmed to be accurate.

This product is sent with the condition that you are responsible for its safe storage, handling, use and disposal. ATCC® and the U.S. Government are not liable for any damages or injuries arising from receipt and/or use of this product. While reasonable effort is made to ensure authenticity and reliability of materials on deposit, the U.S. Government, ATCC®, their suppliers and contributors to BEI Resources are not liable for damages arising from the misidentification or misrepresentation of products.

Use Restrictions:
This material is distributed for internal research, non-commercial purposes only. This material, its product or its derivatives may not be distributed to third parties. Except as performed under a U.S. Government contract, individuals contemplating commercial use of the material, its products or its derivatives must contact the contributor to determine if a license is required. U.S. Government contractors may need a license before first commercial sale.

References:

1. Burgdorfer, W., V. F. Newhouse, and L. A. Thomas. "Isolation of California Encephalitis Virus from the Blood of a Snowshoe Hare (*Lepus americanus*) in Western Montana." Am. J. Hyg. 73 (1961): 344–349. PubMed: 13688984.

Biodefense and Emerging Infections Research Resources Repository
P.O. Box 4137
Manassas, VA 20108-4137 USA
www.beiresources.org
800-359-7370
Fax: 703-365-2898
E-mail: contact@beiresources.org

2. Bishop, D. H. L., K. G. Gould, H. Akashi, and C. M. Clerx-van Haaster. "The Complete Sequence and Coding Content of Snowshoe Hare Bunyavirus Small (S) Viral RNA Species." Nucleic Acids Res. 10 (1982): 3703–3713. PubMed: 7050911.
3. Clerx-van Haaster, C. M., H. Akashi, D. D. Auperin, and D. H. L. Bishop. "Nucleotide Sequence Analyses and Predicted Coding of Bunyavirus Genome RNA Species." J. Virol. 41 (1982): 119–128. PubMed: 7086954.
4. Eshita, Y. and D. H. Bishop. "The Complete Sequence of the M RNA of Snowshoe Hare Bunyavirus Reveals the Presence of Internal Hydrophobic Domains in the Viral Glycoprotein." Virology 137 (1984): 227–240. PubMed: 6091326.
5. Fazakerley, J. K., et al. "Organization of the Middle RNA Segment of Snowshoe Hare Bunyavirus." Virology 167 (1988): 422–432. PubMed: 2974218.
6. Cash, P., A. C. Vezza, J. R. Gentsch, and D. H. L. Bishop. "Genome Complexities of the Three mRNA Species of Snowshoe Hare Bunyavirus and *In Vitro* Translation of S mRNA to Viral N Polypeptide." J. Virol. 31 (1979): 685–694. PubMed: 513192.
7. Eshita, Y., B. Ericson, V. Romanowski, and D. H. Bishop. "Analyses of the mRNA Transcription Processes of Snowshoe Hare Bunyavirus S and M RNA Species." J. Virol. 55 (1985): 681–689. PubMed: 4020962.
8. Urakawa, T., D. A. Small, and D. H. Bishop. "Expression of Snowshoe Hare Bunyavirus S RNA Coding Proteins by Recombinant Baculoviruses." Virus Res. 11 (1988): 303–317. PubMed: 3223063.
9. Kuno, G., C. J. Mitchell, G.-J. J. Chang, and G. C. Smith. "Detecting Bunyaviruses of the Bunyamwera and California Serogroups by a PCR Technique." J. Clin. Microbiol. 34 (1996): 1184–1188. PubMed: 8727900.
10. Hewlett M. J., et al. "Genomic and Biologic Analyses of Snowshoe Hare Virus Field and Laboratory Strains." Am. J. Trop. Med. Hyg. 46 (1992): 524–532. PubMed: 1599046

Biodefense and Emerging Infections Research Resources Repository
P.O. Box 4137
Manassas, VA 20108-4137 USA
www.beiresources.org
800-359-7370
Fax: 703-365-2898
E-mail: contact@beiresources.org