

Human Respiratory Syncytial Virus, A1998/3-2

Catalog No. NR-28529

For research use only. Not for human use.

Contributor:

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Manufacturer:

BEI Resources

Product Description:

Virus Classification: *Pneumoviridae, Orthopneumovirus*

Species: Human Respiratory Syncytial Virus

Strain/Isolate: A1998/3-2 (also referred to as A1998-3-2 and RSVA/human/USA/A1998-03-02/1998)

Original Source: Human respiratory syncytial virus (RSV), A1998/3-2 was isolated from nasal wash from an infant with RSV bronchiolitis in Tennessee, USA in 1998.¹

Comments: A1998/3-2 is one of six clinical RSV isolates that recently were shown to induce variable disease severity, lung interleukin-13 (IL-13) levels, and gob-5 levels in BALB/cJ mice.² IL-13 is a cytokine linked to mucus production and gob-5 is a calcium-activated chloride channel family member implicated in airway inflammation.^{3,4} Compared to mock infection, RSV A1998/3-2 infection led to low levels of gob-5 in lung tissue, no significant elevation in IL-13 expression, and no weight loss in infected mice.² The complete genome of RSV, A1998/3-2 has been sequenced (GenBank: [JX069801.1](http://www.ncbi.nlm.nih.gov/GenBank/JX069801.1)).

RSV was first isolated from infants in 1957 and is recognized as the primary cause of hospitalization for lower respiratory tract illnesses among infants and young children worldwide.^{5,6} RSV has a negative-sense RNA genome encoding for 10 proteins, of which 2 are nonstructural.⁶ RSV envelope glycoprotein (G protein) is integral to the immunity and pathogenesis of the virus, and depending on its sequence variation, RSV is divided into two groups, A and B.⁶ No vaccine for RSV is available however, intravenous prophylaxis with RSV immune globulins has been shown to be effective.⁷

Material Provided:

Each vial contains approximately 1 mL of cell lysate and supernatant from HEP-2 cells (ATCC® CCL-23™) infected with human respiratory syncytial virus, A1998/3-2.

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

Packaging/Storage:

NR-28529 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: HEP-2 cells (ATCC® CCL-23™)

Growth Medium: Eagle's Minimum Essential Medium supplemented with 2% fetal bovine serum

Infection: Cells should be 60% to 80% confluent

Incubation: 3 to 7 days at 37°C and 5% CO₂

Cytopathic Effect: Rounding and sloughing

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: Human Respiratory Syncytial Virus, A1998/3-2, NR-28529."

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/bmb15/index.htm.

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References:

1. Moore, M. L., Personal Communication.
2. Stokes, K. L., et al. "Differential Pathogenesis of Respiratory Syncytial Virus Clinical Isolates in BALB/c Mice." *J. Virol.* 85 (2011): 5782-5793. PubMed: 21471228.
3. Nakanishi, A., et al. "Role of gob-5 in Mucus Overproduction and Airway Hyperresponsiveness in Asthma." *Proc. Natl. Acad. Sci. USA* 98 (2001): 5175-5180. PubMed: 11296262.
4. Walter, D. M., et al. "Critical Role for IL-13 in the Development of Allergen-Induced Airway Hyperactivity." *J. Immunol.* 167 (2001): 4668-4675. PubMed: 11591797.
5. Hall, C. B. "The Burgeoning Burden of Respiratory Syncytial Virus Among Children." *Infect. Discord. Drug Targets* 12 (2012): 92-97. PubMed: 22335498.
6. Hall, C. B. "Respiratory Syncytial Virus and Parainfluenza Virus." *N. Engl. J. Med.* 344 (2001): 1917-1928. PubMed: 11419430.
7. Howard, T. S., et al. "Respiratory Syncytial Virus Pneumonia in the Hospital Setting: Length of Stay, Charges, and Mortality." *J. Pediatr.* 137 (2000): 227-232. PubMed: 10931416.

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