

Genomic RNA from Human Respiratory Syncytial Virus, A2001/2-20

Catalog No. NR-43975

For research use only. Not for use in humans.

Contributor:

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Manufacturer:

BEI Resources

Product Description:

Genomic RNA was isolated from a preparation of cell lysate and supernatant from HEP-2 cells (ATCC® CCL-23™) infected with human respiratory syncytial virus, A2001/2-20.

Human respiratory syncytial virus (RSV), A2001/2-20 was isolated from a nasal wash from an infant with RSV bronchiolitis in Nashville, Tennessee on February 20, 2001.¹ A2001/2-20 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 A2001/2-20 infection led to relatively high levels of gob-5 and significantly elevated levels of IL-13 in lung tissue. This isolate also induced a bimodal weight loss pattern in infected mice, with peaks at day 2 and day 6 post-infection. RSV A2001/2-20 infection caused the most severe disease of any isolate tested, and was characterized by airway hyperresponsiveness and mucin expression, perivascular edema, epithelial desquamation, bronchiolitis, and increased breathing effort.²

NR-43975 has been qualified for PCR applications by amplification of an approximately 900 nucleotide sequence. Recommended dilutions for successful RT-PCR amplification are indicated on the Certificate of Analysis for each lot.

Material Provided:

Each vial contains approximately 100 µL of viral genomic RNA in TE buffer (10 mM Tris-HCl, 1 mM EDTA). The viral genomic RNA is in a background of cellular nucleic acid and carrier RNA. The vial should be centrifuged prior to opening.

Packaging/Storage:

NR-43975 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. Freeze-thaw cycles should be minimized.

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH:

Genomic RNA from Human Respiratory Syncytial Virus, A2001/2-20, NR-43975."

Biosafety Level: 1

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. 6th ed. Washington, DC: U.S. Government Printing Office, 2020; see www.cdc.gov/biosafety/publications/bmbl5/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. U.S.A. 98 (2001): 5175-5180. PubMed: 11296262.

4. Walter, D. M., et al. "Critical Role for IL-13 in the Development of Allergen-Induced Airway Hyperreactivity." J. Immunol. 167 (2001): 4668-4675. PubMed: 11591797.

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