

**Human Respiratory Syncytial Virus, A2001/2-20, Purified from HEp-2 Cells**

**Catalog No. NR-43938**

**For research use only. Not for use in humans.**

**Contributor:**

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**Manufacturer:**

BEI Resources

**Product Description:**

Virus Classification: *Pneumoviridae*, *Orthopneumovirus*, *Human orthopneumovirus*

Species: Human respiratory syncytial virus

Strain/Isolate: A2001/2-20

Original Source: Human respiratory syncytial virus (hRSV), A2001/2-20 was isolated from a nasal wash from an infant with hRSV bronchiolitis in Nashville, Tennessee, on February 20, 2001.<sup>1</sup>

Comments: hRSV A2001/2-20 is one of six clinical hRSV isolates that recently were shown to induce variable disease severity, lung interleukin-13 (IL-13) levels, and gob-5 levels in BALB/cJ mice.<sup>2</sup> IL-13 is a cytokine linked to mucus production and gob-5 is a calcium-activated chloride channel family member implicated in airway inflammation.<sup>3,4</sup> Compared to mock infection, hRSV 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. hRSV 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.<sup>2</sup>

NR-43938 was prepared by inoculation of human epithelial carcinoma cells (HEp-2; ATCC® CCL-23™) with hRSV, A2001/2-20. The virus was purified from clarified supernatant by high-speed centrifugation.

A similarly processed preparation of mock-infected HEp-2 cell clarified supernatant, suitable for use as a control, is available as BEI Resources NR-43974.

**Material Provided:**

Each vial contains approximately 0.5 mL of purified virus in TBS (0.15 M sodium chloride, 0.05 M Tris-HCl, pH 7.6).

**Packaging/Storage:**

NR-43938 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: Human Epithelial carcinoma cells (HEp-2; ATCC® CCL-23™)

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 60% to 80% confluent

Incubation: 5 to 10 days at 37°C and 5% CO<sub>2</sub>

Cytopathic Effect: Syncytia, cell rounding and sloughing

**Citation:**

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: Human Respiratory Syncytial Virus, A2001/2-20, Purified from HEp-2 Cells, NR-43938."

**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 \(BMBL\)](#), 6th ed. Washington, DC: U.S. Government Printing Office, 2020.

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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 Hyperreactivity." *J. Immunol.* 167 (2001): 4668-4675. PubMed: 11591797.

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