

**Human Respiratory Syncytial Virus, A2000/3-4**

**Catalog No. NR-28530**

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

**Contributor:**

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**Manufacturer:**

BEI Resources

**Product Description:**

Virus Classification: *Pneumoviridae, Orthopneumovirus*

Species: Human respiratory syncytial virus

Strain/Isolate: A2000/3-4

Original Source: Human respiratory syncytial virus (RSV), A2000/3-4 was isolated from a nasal wash from an infant with RSV bronchiolitis in Nashville, Tennessee, USA, on March 4, 2000.<sup>1</sup>

Comments: A2000/3-4 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.<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, RSV, A2000/3-4 infection led to high levels of gob-5 and elevation in IL-13 expression in lung tissue, but no weight loss in infected mice.<sup>2</sup> The complete genome of RSV, A2000/3-4 has been sequenced (GenBank: [JX069803](#)).

RSV is an enveloped, negative-sense, non-segmented, single-stranded RNA virus first isolated in 1955 from chimpanzees suffering from respiratory illness.<sup>5</sup> RSV is a major pathogen in children causing severe lower respiratory tract disease in infants and young children. RSV can also infect adults causing severe illness in the elderly.<sup>5,6</sup> RSV genome contains 10 genes encoding for 11 proteins including G and F surface glycoproteins with important roles in entry.<sup>6</sup> RSV is divided into two distinct subtypes, A and B, with each divided into multiple genotypes. Most genetic studies in RSV are focused on G glycoprotein, which is the most variable structural protein among RSV isolates.<sup>5,6</sup>

**Material Provided:**

Each vial contains approximately 1 mL of cell lysate and supernatant from HEp-2 cells infected with human respiratory syncytial virus, A2000/3-4.

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

**Packaging/Storage:**

NR-28530 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 containing Earle's Balanced Salt Solution, non-essential amino acids, 2 mM L-glutamine, 1 mM sodium pyruvate and 1500 mg per L of sodium bicarbonate supplemented with 2% fetal bovine serum, or equivalent

Infection: Cells should be 60% to 80% confluent

Incubation: 3 to 8 days at 37°C and 5% CO<sub>2</sub>

Cytopathic Effect: Syncytia formation

**Citation:**

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: Human Respiratory Syncytial Virus, A2000/3-4, NR-28530."

**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. 6th ed. Washington, DC: U.S. Government Printing Office, 2020; see [www.cdc.gov/biosafety/publications/bmb15/index.htm](http://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 Hyperreactivity." J. Immunol. 167 (2001): 4668-4675. PubMed: 11591797.
5. Battles, M. B. and J. S. McLellan. "Respiratory Syncytial Virus Entry and How to Block It." Nat. Rev. Microbiol. 17 (2019): 233-245. PubMed: 30723301.
6. Mufson, M. A., et al. "Two Distinct Subtypes of Human Respiratory Syncytial Virus." J. Gen. Virol. 66 (1985): 2111-2124. PubMed: 2413163.

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