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

Catalog No. NR-43938

For research use only. Not for human use.

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Manufacturer:
BEI Resources

Product Description:
Virus Classification: *Paramyxoviridae, Pneumovirinae, Pneumovirus*, *Human respiratory syncytial virus*
Species: Human respiratory syncytial virus
Strain: A2001/2-20
Original Source: 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]
Comments: 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-43938 was prepared by inoculation of HEp-2 cells (ATCC® CCL-23™) with RSV, 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 NR-43938 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 -80°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: 5 to 6 days at 37°C and 5% CO_2
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, 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. 5th ed. Washington, DC: U.S. Government Printing Office, 2009; see www.cdc.gov/biosafety/publications/bmbl5/index.htm.

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References:

1. M. L. Moore, 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 Hyperreactivty." J. Immunol. 167 (2001): 4668-4675. PubMed: 11591797.

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