

Human Astrovirus Type 1, Oxford

Catalog No. NR-51388

For research use only. Not for use in humans.

Contributor:

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Manufacturer:

BEI Resources

Product Description:

Virus Classification: *Astroviridae, Mamastrovirus*

Species: Human Astrovirus Type 1

Strain/Isolate: Oxford

Original Source: Human astrovirus type 1 (HAstV1), Oxford was isolated from the stool of a human with acute gastroenteritis in Oxford, United Kingdom.¹

Comments: The complete genome of HAstV1, Oxford has been sequenced (GenBank: [MK059949](#)).² In order to remove contaminating mycoplasma, the second viral passage at BEI Resources was performed by polyethylenimine-mediated transfection of extracted viral RNA.

Astroviruses have a broad host range including humans, as well as domesticated and wild animals.³ Human astroviruses (HAstVs) are positive-sense, single-stranded viruses.³ HAstVs were traditionally regarded as agents of gastroenteritis in children; however, it is now known that the viruses may spread systemically, especially in immunocompromised individuals. The reports of cases of fatal meningitis and encephalitis, especially in immunocompromised individuals, has broadened our understanding of their disease spectrum.⁴ Eight distinct genotypes (HAstV1 to HAstV8; also referred to as classical or canonical human clades) have been identified, with infections by HAstV1 being the most prevalent.^{4,5} In the late 2000s, two divergent HAstV genotypes, HAstV-MLB (Melbourne) and HAstV-VA/HMO (Virginia/Human-Mink-Ovine-like) were identified in human stool samples.⁵ The association of these non-canonical viruses with clinical disease is not fully understood.

Material Provided:

Each vial contains approximately 1.0 mL of cell lysate and supernatant from human colon adenocarcinoma cells infected with HAstV1.

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

Packaging/Storage:

NR-51388 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 colon adenocarcinoma cells (CaCO-2; ATCC® HTB-37™)

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 (EMEM) supplemented with 1 µg/mL trypsin type IX-S

Infection: Cells should be 80% to 100% confluent

Incubation: 2 to 3 days at 37°C and 5% CO₂

Cytopathic Effect: Cell detachment may or may not be observed; confirmation of infectivity by immunofluorescence is recommended.

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: Human Astrovirus Type 1, Oxford, NR-51388."

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. Vinjé, J., Personal Communication.
2. Castro, C. J., et al. "Complete Genome Sequences of Human Astrovirus Prototype Strains (Types 1 to 8)." Microbiol. Resour. Announc. 8 (2019): e01611-18. PubMed: 28117758.
3. Johnson, C., et al. "Astrovirus Pathogenesis." Viruses 9 (2017): E22. PubMed: 28117758.
4. Vu, D. L., et al. "Epidemiology of Classic and Novel Human Astrovirus: Gastroenteritis and Beyond." Viruses 9 (2017): E23. PubMed: 28218712.
5. Bosch, A., R. M. Pinto and S. Guix. "Human Astroviruses." Clin. Microbiol. Rev. 27 (2014): 1048-1074. PubMed: 25278582.

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