

SARS-Related Coronavirus 2, Isolate hCoV-19/USA/MD-HP03056/2021 (Lineage B.1.525; Eta Variant)

Catalog No. NR-55705

For research use only. Not for use in humans.

Contributor:

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Manufacturer:

BEI Resources

Product Description:

Virus Classification: *Coronaviridae*, *Betacoronavirus*

Species: Severe acute respiratory syndrome-related coronavirus 2

Strain/Isolate: hCoV-19/USA/MD-HP03056/2021

Original Source: Severe acute respiratory syndrome-related coronavirus 2 (SARS-CoV-2), isolate hCoV-19/USA/MD-HP03056/2021 was isolated from an older human in Maryland, USA, on March 4, 2021.¹

Note: Genome sequence information is provided on the Certificate of Analysis and includes an analysis of all sequence variations observed for each lot.

Comments: Under the nomenclature system introduced by GISAID (Global Initiative on Sharing All Influenza Data), SARS-CoV-2, isolate hCoV-19/USA/MD-HP03056/2021 is assigned lineage B.1.525 (Pango v.3.1.14 2021-09-28) and GISAID clade G using Phylogenetic Assignment of Named Global Outbreak Lineages (PANGO) tool.^{1,2,3} The complete genome of the clinical isolate of SARS-CoV-2, hCoV-19/USA/MD-HP03056/2021 has been sequenced (GISAID: EPI_ISL_1405588).^{1,2} The following mutations are present in the clinical isolate: Spike A67V, Spike D614G, Spike E484K, Spike F888L, Spike H69del, Spike Q677H, Spike V70del, Spike Y144del, E (Envelope) L21F, M (Membrane) I82T, N (Nucleocapsid) A12G, N T205I, NSP2 (Non-structural protein 2) A361V, NSP3 (Non-structural protein 3) K1771R, NSP3 T1189I, NSP6 (Non-structural protein 6) F108del, NSP6 G107del, NSP6 S106del, NSP12 (Non-structural protein 12) P323F.^{1,2} It was labelled as an Eta variant by the World Health Organization (WHO).^{1,4}

Note: Two additional mutations, ORF6 ΔF (amino acid 2) and Nucleocapsid S2Y, ΔD (amino acid 3), are present in the GISAID reference sequence, but are not annotated on the GISAID website.

In December 2019, an outbreak of a respiratory illness (COVID-19) began in Wuhan, Hubei Province, China. The outbreak is associated with a seafood market and although environmental samples from the market are positive for the novel coronavirus, an association with a particular animal has

not been determined.⁵ SARS-CoV-2 has been isolated from patients from several countries and the sequences of some of these isolates have been deposited with GISAID.

Material Provided:

Each vial contains approximately 0.1 mL of spin-clarified cell lysate and supernatant from *Homo sapiens* lung adenocarcinoma epithelial cells (Calu-3) infected with SARS-CoV-2, isolate hCoV-19/USA/MD-HP03056/2021.

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

Packaging/Storage:

NR-55705 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: *Homo sapiens* lung adenocarcinoma epithelial cells (Calu-3; ATCC® HTB-55™)

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 milligrams per liter of sodium bicarbonate supplemented with 2% fetal bovine serum, or equivalent

Infection: Cells should be 70% to 90% confluent

Incubation: 2 to 4 days at 37°C and 5% CO₂

Cytopathic Effect: Cell rounding and sloughing

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: SARS-Related Coronavirus 2, Isolate hCoV-19/USA/MD-HP03056/2021 (Lineage B.1.525; Eta Variant), NR-55705, contributed by Andrew S. Pekosz."

Biosafety Level: 3

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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Use Restrictions:

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References:

1. [GISAID](#)
2. Rambaut, A., et al. "A Dynamic Nomenclature Proposal for SARS-CoV-2 Lineages to Assist Genomic Epidemiology." *Nat. Microbiol.* 5 (2020): 1403-1407. PubMed: 32669681.
3. Mercatelli, D. and F. M. Giorgi. "Geographic and Genomic Distribution of SARS-CoV-2 Mutations." *Front. Microbiol.* (2020): doi.org/10.3389/fmicb.2020.01800. PubMed: 32793182.
4. [WHO](#)
5. Gralinski, L. E. and V. D. Menachery. "Return of the Coronavirus: 2019-nCoV." *Viruses* 12 (2020): 135. PubMed: 31991541.

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