

SARS-Related Coronavirus 2, Isolate USA-WA1/2020

Catalog No. NR-52281

For research use only. Not for human use.

Contributor:

Centers for Disease Control and Prevention, Atlanta, Georgia, USA

Manufacturer:

BEI Resources

Product Description:

Virus Classification: *Coronaviridae*, *Betacoronavirus*

Species: Severe acute respiratory syndrome-related coronavirus 2 [Note: This virus was originally deposited to BEI Resources as 2019 Novel Coronavirus, but subsequently named SARS-CoV-2 by the International Committee on Taxonomy of Viruses (ICTV). **Please note that the depositor's original nomenclature was used on the product label.**]

Isolate: USA-WA1/2020

Original Source: Severe acute respiratory syndrome-related coronavirus 2 (SARS-CoV-2), isolate USA-WA1/2020 was isolated from an oropharyngeal swab from a patient with a respiratory illness who had recently returned from travel to the affected region of China and developed clinical disease (COVID-19) in January 2020 in Washington, USA.¹

Comments: Under the nomenclature system introduced by GISAID (Global Initiative on Sharing All Influenza Data), SARS-CoV-2, isolate USA-WA1/2020 is assigned lineage A and GISAID clade S using Phylogenetic Assignment of Named Global Outbreak LINEages (PANGOLIN) tool.^{2,3,4} The complete genome of SARS-CoV-2, USA-WA1/2020 has been sequenced (the isolate - GenBank: [MN985325](https://www.ncbi.nlm.nih.gov/nuccore/MN985325) and GISAID: EPI_ISL_404895 and after one passage in Vero cells - GenBank: [MT020880](https://www.ncbi.nlm.nih.gov/nuccore/MT020880)). The complete genome of SARS-CoV-2, USA-WA1/2020 has been sequenced after four passages in Vero cells in collaboration with Database for Reference Grade Microbial Sequences (FDA-ARGOS; GenBank: [MT246667](https://www.ncbi.nlm.nih.gov/nuccore/MT246667)).

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 was isolated and appears to be less virulent than other recently emerged coronaviruses (SARS and MERS-CoV). The sequences of several isolates have been deposited with GSAID.

Material Provided:

Each vial contains approximately 0.5 mL of cell lysate and supernatant from *Cercopithecus aethiops* kidney cells infected with SARS-CoV-2, isolate USA-WA1/2020.

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

Packaging/Storage:

NR-52281 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: *Cercopithecus aethiops* kidney cells (Vero E6; ATCC® CRL-1586™)

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 and 100 µg/mL Penicillin/Streptomycin solution (optional) and 2.5 µg/mL Amphotericin B (optional), or equivalent

Infection: Cells should be 70% to 80% confluent

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

Cytopathic Effect: Cell rounding and sloughing

Citation:

Acknowledgment for publications should read "The following reagent was deposited by the Centers for Disease Control and Prevention and obtained through BEI Resources, NIAID, NIH: SARS-Related Coronavirus 2, Isolate USA-WA1/2020, NR-52281."

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. 5th ed. Washington, DC: U.S. Government Printing Office, 2009; see www.cdc.gov/biosafety/publications/bmb15/index.htm.

Disclaimers:

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Use Restrictions:

SARS-CoV-2 materials provided by BEI Resources under the EUSLA are made available for any legitimate purpose, including commercial purposes as long as they are to rapidly prevent, detect, prepare for, and respond to, the spread or transmission of the 2019 SARS-CoV-2. Any further transfer of the original material or any unmodified progeny must be done under the terms of the EUSLA, documented as described above and you must notify BEI Resources of each subsequent transfer. Any new materials made by you that are not the original material or unmodified progeny are excluded from this requirement and you are free to share and commercialize those as your materials.

References:

1. Harcourt, J., et al. "Severe Acute Respiratory Syndrome Coronavirus 2 from Patient with 2019 Novel Coronavirus Disease, United States" *Emerg. Infect. Dis.* 26 (2020): 1266-1273. PubMed: 32160149.
2. [GISAID](#)
3. Rambaut, A., et al. "A Dynamic Nomenclature Proposal for SARS-CoV-2 Lineages to Assist Genomic Epidemiology." *Nat. Microbiol.* (2020): doi: 10.1038/s41564-020-0770-5. PubMed: 32669681.
4. Daniele, M. and F. M. Giorgi. "Geographic and Genomic Distribution of SARS-CoV-2 Mutations." *Front. Microbiol.* (2020): doi.org/10.3389/fmicb.2020.01800.
5. Gralinski, L. E. and V. D. Menachery. "Return of the Coronavirus: 2019-nCoV." *Viruses* 12 (2020): 135. PubMed: 31991541.

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