

SARS-Related Coronavirus 2, Isolate hCoV-19/USA/CA-AK001/2023 (Lineage FL.1.5.1)

Catalog No. NR-59686

For research use only. Not for use in humans.

Contributor:

Dr. Lisa A. Purcell, Ph.D., Vir Biotechnology, Inc., San Francisco, California, USA

Manufacturer:

BEI Resources

Product Description:

Virus Classification: *Coronaviridae*, *Betacoronavirus*

Species: Severe acute respiratory syndrome-related coronavirus 2

Strain/Isolate: hCoV-19/USA/CA-AK001/2023

Original Source: Severe acute respiratory syndrome-related coronavirus 2 (SARS-CoV-2), isolate hCoV-19/USA/CA-AK001/2023 was isolated from a human nasopharyngeal swab on September 26, 2023, in San Francisco, California, USA.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/CA-AK001/2023 is assigned lineage FL.1.5.1. The following mutations are reported to be present in the clinical isolate: ORF1ab K47R, ORF1ab S135R, ORF1ab T842I, ORF1ab G993S, ORF1ab G1307S, ORF1ab G1819S, ORF1ab L3027F, ORF1ab T3090I, ORF1ab L3201F, ORF1ab T3255I, ORF1ab P3395H, ORF1ab A3436T, ORF1ab ΔSGF (amino acids 3675-3677), ORF1ab F3677L, ORF1ab T4175I, ORF1ab K4226R, ORF1ab S5150F, ORF1ab S5158L, ORF1ab I5225T, ORF1ab M5865T, ORF1ab Q6354R, ORF1ab K6597R, ORF1ab V6599L, ORF1ab S6924L, ORF1ab S6958G, ORF1ab R6997L, Spike T19I, Spike A27S ΔLPP (amino acids 24-26), Spike V83A, Spike G142D, Spike Y144del, Spike H146Q, Spike Q183E, Spike V213E, Spike G252V, Spike G339H, Spike R346T, Spike L368I, Spike S371F, Spike S373P, Spike S375F, Spike T376A, Spike D405N, Spike R408S, Spike K417N, Spike N440K, Spike V445P, Spike G446S, Spike F456L, Spike N460K, Spike S477N, Spike T478R, Spike E484A, Spike F486P, Spike F490S, Spike Q498R, Spike N501Y, Spike Y505H, Spike D614G, Spike H655Y, Spike N679K, Spike P681H, Spike A701V, Spike N764K, Spike D796Y, Spike Q954H, Spike N969K, ORF3a Y113H, ORF3a T223I, E (Envelope) T9I, E T11A, M (Membrane) Q19E, M A63T, ORF6 D61L, ORF8 G8*, ORF8 G66S, N (Nucleocapsid) P13L, N ΔERS (amino acids 31-33), N R203K, N G204R, N S413R.¹ It was labeled as a variant under monitoring VUM GRA

(XBB.1.9.1+XBB.1.9.1.*) and first detected in Indonesia/Israel/Singapore by the World Health Organization (WHO).²

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.³ 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 cell lysate and supernatant from *Chlorocebus* (formerly *Cercopithecus*) *aethiops* kidney epithelial cells expressing transmembrane protease, serine 2 and human angiotensin-converting enzyme 2 (Vero E6-TMPRSS2-T2A-ACE2) infected with SARS-CoV-2, isolate hCoV-19/USA/CA-AK001/2023.

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

Packaging/Storage:

NR-59686 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: *Chlorocebus* (formerly *Cercopithecus*) *aethiops* kidney epithelial cells expressing transmembrane protease, serine 2 and human angiotensin-converting enzyme 2 (Vero E6-TMPRSS2-T2A-ACE2; VTA; BEI Resources NR-54970)

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, or equivalent

Infection: Cells should be 60% to 70% confluent

Incubation: 3 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 obtained through BEI Resources, NIAID, NIH: SARS-Related Coronavirus 2, Isolate hCoV-19/USA/CA-AK001/2023 (Lineage FL.1.5.1), NR-59686, contributed by Dr. Lisa A. Purcell."

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 \(BMBL\)](#), 6th ed. Washington, DC: U.S. Government Printing Office, 2020.

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Use Restrictions:

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References:

1. Purcell, L. A., Personal Communication.
2. [WHO](#)
3. Gralinski, L. E. and V. D. Menachery. "Return of the Coronavirus: 2019-nCoV." *Viruses* 12 (2020): 135. PubMed: 31991541.

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