

SARS-Related Coronavirus 2, Isolate hCoV-19/South Africa/KRISP-K020179/2021, clone PP6 (Lineage C.1.2)

Catalog No. NR-56327

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/South Africa/KRISP-K020179/2021, clone PP6

Original Source: Severe acute respiratory syndrome-related coronavirus 2 (SARS-CoV-2), isolate hCoV-19/South Africa/KRISP-K020179/2021 was propagated from clone PP6 that was plaque-purified seed stock produced after one passage at Emory University in January 2022.¹ The source material for the plaque-purified virus was isolated from a human in South Africa on June 15, 2021.²

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/South Africa/KRISP-K020179/2021, clone PP6 is assigned lineage C.1.2 (Pango v.4.1.1 PLEARN-v1.12) and GISAID clade GR using the Phylogenetic Assignment of Named Global Outbreak lineages (PANGO) tool.^{2,3,4} The complete genome of the original isolate has been sequenced (GISAID: EPI_ISL_3267757).^{2,3} The following mutations are present in the clinical isolate: Spike A243del, Spike C136F, Spike D215G, Spike D614G, Spike E484K, Spike H655Y, Spike L244del, Spike N679K, Spike P9L, Spike R190S, Spike T716I, Spike Y449H, N G204R, N P13L, N Q384H, N R203K, NS3 V255del, NSP1 E102K, NSP3 H1274Y, NSP3 T237I, NSP3 T428I, NSP5 T24I, NSP6 F108del, NSP6 G107del, NSP6 S106del, NSP12 P323L, NSP14 L177F.^{2,3}

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/South Africa/KRISP-K020179/2021, clone PP6.

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

Packaging/Storage:

NR-56327 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: 3 to 6 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/South Africa/KRISP-K020179/2021, clone PP6 (Lineage C.1.2), NR-56327, contributed by Dr. Mehul Suthar, source material provided by Dr. Alex Sigal."

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:

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. Suthar, M., Personal Communication.
2. [GISAID](#)
3. 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.
4. 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.
5. Gralinski, L. E. and V. D. Menachery. "Return of the Coronavirus: 2019-nCoV." Viruses 12 (2020): 135. PubMed: 31991541.

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