

SARS-Related Coronavirus 2, Isolate hCoV-19/France/PAC-IHUMI-6070/2022 p2 (Lineage AY.4 plus Omicron; XD Variant)

Catalog No. NR-56699

For research use only. Not for use in humans.

Contributor:

Dr. Bernard La Scola, the Hospital-University Institute (IHU), Méditerranée Infection, Marseille, France

Manufacturer:

BEI Resources

Product Description:

Virus Classification: *Coronaviridae, Betacoronavirus*

Species: Severe acute respiratory syndrome-related coronavirus 2

Strain/Isolate: hCoV-19/France/PAC-IHUMI-6070/2022

Original Source: Severe acute respiratory syndrome-related coronavirus 2 (SARS-CoV-2), isolate hCoV-19/France/PAC-IHUMI-6070/2022 was isolated from a human on February 9, 2022, in France.¹ This isolate has been passaged in Vero cells prior to deposition, thus “p2.”

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/France/PAC-IHUMI-6070/2022, passage 2 is assigned lineage XD (Pango v.4.0.6 PANGO-v1.8), Delta (AY.4-like) (Scorpio) and GISAID clade GKA using Phylogenetic Assignment of Named Global Outbreak lineages (PANGO) tool.^{1,2,3} The complete genome of SARS-CoV-2, isolate hCoV-19/France/PAC-IHUMI-6070/2022 p2 has been sequenced (GISAID: EPI_ISL_10528736).^{1,2} The following mutations are present in the clinical isolate: Spike A27S, Spike D614G, Spike D796Y, Spike E156G, Spike E484A, Spike F157del, Spike G142D, Spike G339D, Spike G446S, Spike G496S, Spike H655Y, Spike K417N, Spike L212I, Spike L981F, Spike N211del, Spike N440K, Spike N501Y, Spike N679K, Spike N764K, Spike N856K, Spike N969K, Spike P681H, Spike Q493R, Spike Q498R, Spike Q954H, Spike R158del, Spike S371L, Spike S373P, Spike S375F, Spike S477N, Spike T19R, Spike T95I, Spike T478K, Spike T547K, Spike Y505H, M (Membrane) I82T, N (Nucleocapsid)D63G, N D377Y, N G215C, N R203M, NS3 D155Y, NS3 S92L, NS7a T120I, NS7a V82A, NS7b T40I, NSP2 (Non-structural protein 2) E172D, NSP3 (Non-structural protein 3) A488S, NSP3 A1711V, NSP3 P1228L, NSP3 P1469S, NSP4 (Non-structural protein 4) I57V, NSP4 T492I, NSP4 V167L, NSP6 (Non-structural protein 6) T77A, NSP7 (Non-structural protein 7) V66I, NSP12 (Non-structural protein 12) G671S, NSP12 P323F, NSP13 (Non-structural protein 13) P77L, NSP14 (Non-structural protein

14) A394V.^{1,2} It was labeled as an XD variant by the World Health Organization (WHO).^{1,4}

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/France/PAC-IHUMI-6070/2022 p2.

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

Packaging/Storage:

NR-56699 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/France/PAC-IHUMI-6070/2022 p2 (Lineage AY.4 plus Omicron; XD Variant), NR-56699, deposited by Dr. Bernard La Scola.”

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/bmbli5/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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