SARS-Related Coronavirus 2, Isolate hCoV-19/England/204820464/2020

Catalog No. NR-54000

For research use only. Not for use in humans.

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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/England/204820464/2020 (also referred to as UK/VUI/3/2020 and VUI-202012/01)[1]
Original Source: Severe acute respiratory syndrome-related coronavirus 2 (SARS-CoV-2), isolate hCoV-19/England/204820464/2020 was isolated from a 58-year-old human male on November 24, 2020 in England, United Kingdom.[1]
Comments: Under the nomenclature system introduced by GISAID (Global Initiative on Sharing All Influenza Data), SARS-CoV-2, isolate hCoV-19/England/204820464/2020 is assigned lineage B.1.1.7 and GISAID clade GR using Phylogenetic Assignment of Named Global Outbreak LINeages (PANGOLIN) tool.[2,3,4] The complete genome of the clinical isolate of SARS-CoV-2, isolate hCoV-19/England/204820464/2020 has been sequenced (GISAID: EPI_ISL_683466).[1,2] The following mutations are present in the clinical isolate: Spike A570D, Spike D614G, Spike D1118H, Spike H69del, Spike N501Y, Spike P681H, Spike S982A, Spike T716I, Spike V70del, Spike Y145del, N (Nucleocapsid protein) D3L, N G204R, N R203K, N S235F, NSP8 (Non-structural protein 8) Q27stop, NSP8 R52I, NSP8 Y73C, NSP3 (Non-structural protein 3) A890D, NSP3 A1305V, NSP3 I1412T, NSP3 T183I, NSP6 (Non-structural protein 6) F108del, NSP6 G107del, NSP6 S106del, NSP12 (Non-structural protein 12) P323L, NSP13 (Non-structural protein 13) K460R, NSP14 (Non-structural protein 14) E347G.[1,2]

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.[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 0.5 mL of cell lysate and supernatant from *Cercopithecus aethiops* kidney epithelial cells with human signaling lymphocytic activation molecule (hSLAM) infected with SARS-CoV-2, isolate hCoV-19/England/204820464/2020.

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

Packaging/Storage:
NR-54000 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 epithelial cells with human signaling lymphocytic activation molecule (Vero-hSLAM)
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 mg per L of sodium bicarbonate supplemented with 2% fetal bovine serum, or equivalent
Infection: Cells should be 70% to 90% confluent
Incubation: 3 to 5 days at 37°C and 5% CO_2
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/England/204820464/2020, NR-54000, contributed by Bassam Hallis."

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.

Disclaimers:
You are authorized to use this product for research use only. This product is not intended for human use.

Use of this product is subject to the terms and conditions of the Emergency Use Simple Letter Agreement (EUSLA) and the BEI Resources Material Transfer Agreement (MTA). The MTA is available on our Web site at www.beiresources.org.

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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. Hallis, B., 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.

Support Provided by NIAID

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