

SARS-Related Coronavirus 2, Isolate Hong Kong/VM20001061/2020

Catalog No. NR-52282

Product Description:

Severe acute respiratory syndrome-related coronavirus 2 (SARS-CoV-2), isolate Hong Kong/VM20001061/2020 was isolated from a nasopharyngeal aspirate and throat swab from an adult male patient January 22, 2020 in Hong Kong. NR-52282 lot 70034432 was produced by infecting *Cercopithecus aethiops* kidney cells (Vero E6; ATCC® CRL-1586™) with the deposited material in Eagle's Minimum Essential Medium (ATCC® 30-2003) supplemented with 2% fetal bovine serum (ATCC® 30-2020) for 5 days at 37°C with 5% CO₂.

Passage History:

VE6(5)/VE6(1) (prior to BEI Resources/BEI Resources); VE6 = Vero E6 cells

Lot: 70034432

Manufacturing Date: 23MAR2020

TEST	SPECIFICATIONS	RESULTS
Identification by Infectivity in Vero E6 Cells	Cell rounding and detachment	Cell rounding and detachment
Next-Generation Sequencing (NGS) of Complete Genome Using Illumina® iSeq™ 100 Platform (Refer to Appendix I for NGS information)	≥ 98% identity with SARS-CoV-2, isolate hCoV-19/Hong Kong/VM20001061-2/2020 (GISAID: EPI_ISL_412028)	99.9% identity with SARS-CoV-2, isolate hCoV-19/Hong Kong/VM20001061-2/2020 (GISAID: EPI_ISL_412028)
Sequencing of Species-Specific Region (~ 940 nucleotides)	≥ 98% identity with SARS-CoV-2, isolate SARS-CoV-2/human/USA/NR-52282/2020 (GenBank: MT547814.1)	100% identity with SARS-CoV-2, isolate SARS-CoV-2/human/USA/NR-52282/2020 (GenBank: MT547814.1)
Titer by TCID ₅₀ Assay in Vero E6 Cells by Cytopathic Effect ¹ (7 days at 37°C and 5% CO ₂)	Report results	1.6 × 10 ⁶ TCID ₅₀ per mL
Sterility (21-day incubation) Harpo's HTYE broth, 37°C and 26°C, aerobic ² Trypticase Soy broth, 37°C and 26°C, aerobic Sabouraud broth, 37°C and 26°C, aerobic Sheep blood agar, 37°C, aerobic Sheep blood agar, 37°C, anaerobic Thioglycollate broth, 37°C, anaerobic DMEM with 10% FBS, 37°C, aerobic	No growth No growth No growth No growth No growth No growth No growth No growth	No growth No growth No growth No growth No growth No growth No growth No growth
Mycoplasma Contamination Agar and broth culture (14-day incubation at 37°C) DNA detection by PCR of extracted Test Article nucleic acid	None detected None detected	None detected None detected

¹The Tissue Culture Infectious Dose 50% (TCID₅₀) endpoint is the 50% infectious endpoint in cell culture. The TCID₅₀ is the dilution of virus that under the conditions of the assay can be expected to infect 50% of the culture vessels inoculated, just as a Lethal Dose 50% (LD₅₀) is expected to kill half of the animals exposed. A reciprocal of the dilution required to yield the TCID₅₀ provides a measure of the titer (or infectivity) of a virus preparation.

²Atlas, Ronald M. *Handbook of Microbiological Media*. 3rd ed. Ed. Lawrence C. Parks. Boca Raton: CRC Press, 2004, p. 798.

/Heather Couch/

Heather Couch

09 SEP 2020

Program Manager or designee, ATCC Federal Solutions

ATCC®, on behalf of BEI Resources, hereby represents and warrants that the material provided under this certificate has been subjected to the tests and procedures specified and that the results described, along with any other data provided in this certificate, are true and accurate to the best of ATCC®'s knowledge.

ATCC® is a trademark of the American Type Culture Collection.

You are authorized to use this product for research use only. It is not intended for human use.



BEI Resources

www.beiresources.org

E-mail: contact@beiresources.org

Tel: 800-359-7370

Fax: 703-365-2898

APPENDIX I: NGS Information for NR-52282 lot 70034432

Sequence analysis resulted in the discovery of seven SNPs and one deletion (indel) when compared to the reference sequence from GISAID EPI_ISL_412028. Additionally, both the reference sequence GISAID EPI_ISL_412028 and NR-52282_70034432 contained six SNPs when compared to GenBank MN908947 (SARS-CoV-2, isolate Wuhan-Hu-1, complete genome) (see Table below). Quality scores over 60 indicate it is improbable that the variant call is incorrect.

Position in NR-52282_70034432 Sequence	Position in EPI_ISL_412028 Reference Sequence	Position in MN908947 Sequence	Reported MN908947 Sequence	Reported EPI_ISL_412028 Reference Sequence	Identified Alternative Base	Quality	Variant Type	Length of Variant	Frequency of Variant
1650	1650	1663	C	T	T	n/a	SNP	1	1.0000000
8769	8769	8782	C	T	T	n/a	SNP	1	1.0000000
12906	12906	12919	C	C	T	222	SNP	1	0.6201117
21623	21623	21636	C	C	T	219	SNP	1	0.8716578
22648	22648	22661	G	T	T	n/a	SNP	1	1.0000000
23594	23594	23607	G	G	A	228	SNP	1	0.9578947
24021	24021	24034	C	Y	T	225	SNP	1	1.0000000
24553	24553	24566	C	C	G	221	SNP	1	0.7255814
26716	26716	26729	T	C	C	n/a	SNP	1	1.0000000
27250	27250	27263	CTTTTAAA GTTTCCAT TTGGAAT CTTGATT	CTTTTAAA GTTTCCAT TTGGAAT CTTGATT	CTT	221	Indel	27	0.7064220
28037	28064	28077	G	C	C	n/a	SNP	1	1.0000000
28104	28131	28144	T	C	C	n/a	SNP	1	1.0000000
29822	29849	29862	G	T	G	141	SNP	1	1.0000000