

SARS-Related Coronavirus 2, Isolate New York-PV09158/2020

Catalog No. NR-53516

Product Description:

Severe acute respiratory syndrome-related coronavirus 2 (SARS-CoV-2), isolate New York-PV09158/2020 was isolated on March 22, 2020 from a nasal swab collected from a patient with a fatal respiratory illness in New York, USA. NR-53516 lot 70036350 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 4 days at 37°C with 5% CO₂.

Passage History:

VE6(1)/VE6(2) (The Icahn School of Medicine at Mount Sinai Medical School/BEI Resources); VE6 = Vero E6 cells

Lot: 70036350

Manufacturing Date: 22JUN2020

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 NY-PV09158/2020 (GenBank: MT371034.1 and GISAID: EPI_ISL_422525)	99.99% identity with SARS-CoV-2, isolate NY-PV09158/2020 (GenBank: MT371034.1 and GISAID: EPI_ISL_422525)
Titer by TCID₅₀ Assay in Vero E6 Cells by Cytopathic Effect¹ (6 days at 37°C and 5% CO ₂)	Report results	5 × 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 and 5% CO ₂	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.

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19 AUG 2020

Program Manager or designee, ATCC Federal Solutions

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APPENDIX I: NGS Information for NR-53516 lot 70036350

Sequence analysis resulted in the discovery of three SNPs when compared to the reference sequence from GISAID EPI_ISL_422525. Additionally, both the reference sequence GISAID EPI_ISL_422525 and NR-53516_70036350 contained nine 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-53516_70036350 Sequence	Position in EPI_ISL_422525 Reference Sequence	Position in MN908947 Wuhan-Hu-1 Sequence	Reported MN908947 Wuhan-Hu-1 Sequence	Reported EPI_ISL_422525 Reference Sequence	Identified Alternative Base	Quality	Variant Type	Length of Variant	Frequency of Variant
194	194	241	C	T	T	n/a	SNP	1	1.0000000
1012	1012	1059	C	T	T	n/a	SNP	1	1.0000000
2990	2990	3037	C	T	T	n/a	SNP	1	1.0000000
11869	11869	11916	C	T	T	n/a	SNP	1	1.0000000
14361	14361	14408	C	T	T	n/a	SNP	1	1.0000000
18951	18951	18998	C	T	T	n/a	SNP	1	1.0000000
22158	22158	22205	G	G	A	135	SNP	1	0.2015209
23356	23356	23403	A	G	G	n/a	SNP	1	1.0000000
23560	23560	23607	G	G	A	222	SNP	1	0.5825826
25516	25516	25563	G	T	T	n/a	SNP	1	1.0000000
29493	29493	29540	G	A	A	n/a	SNP	1	1.0000000
29498	29498	29545	C	C	T	222	SNP	1	0.3406214