

Vector pCR3.1 Containing the SARS-Related Coronavirus 2, USA-WA1/2020 Spike Glycoprotein Gene

Catalog No. NR-58670

Product Description:

The Spike Glycoprotein (S) gene sequence matching the severe acute respiratory syndrome-related coronavirus 2 (SARS-CoV-2), isolate USA-WA1/2020 was codon optimized and cloned into the mammalian expression vector pCR3.1. The translated amino acid sequence is identical to SARS-CoV-2, isolate USA-WA1/2020 S protein (GenPept: [QHO60594](#)). The deposited plasmid was transformed into One Shot™ TOP10 *E. coli* (Invitrogen™ C404003), grown in Luria-Bertani broth with ampicillin (100 µg/mL) for 1 day at 37°C in an aerobic atmosphere, extracted using a Plasmid Plus Maxi Kit (QIAGEN® 12963) and vialled in TE buffer (10 mM Tris-HCl, 1 mM EDTA, pH 8).

Lot: 70062764

Manufacturing Date: 30NOV2023

TEST	SPECIFICATIONS	RESULTS
Next-Generation DNA Sequencing	8780 base pairs	8786 base pairs ¹
Genotypic Analysis Sequencing of S gene (~ 3820 base pairs)	≥ 99% sequence identity to depositor's sequence	99.9% sequence identity to depositor's sequence ^{2,3}
Antibiotic Resistance Ampicillin (encoded by <i>bla</i> gene)	<i>bla</i> sequence present	<i>bla</i> sequence present
Concentration by PicoGreen® Measurement	≥ 2 µg/mL	0.4 µg in 30 µL/vial (13 µg/mL)
Amount per Vial	Report results	0.4 µg/vial
OD₂₆₀/OD₂₈₀ Ratio (pre-vial)	1.7 to 2.1	1.8
Effective Bacterial Transformation Invitrogen™ One Shot™ TOP10 <i>Escherichia coli</i>	≥ 50 colonies/ng	78 colonies/ng

¹The sequence was assembled pre-vial using the depositor's predicted sequence as the reference sequence. The complete plasmid sequence is provided on the BEI Resources webpage.

²The Spike gene insert in NR-58670 is codon optimized for mammalian expression and has 100% amino acid identity with SARS-CoV-2, isolate USA-WA1/2020 S protein (GenPept: QHO60594).

³Comparison to the depositor's sequence indicates single nucleotide polymorphism (SNP) within the S gene insert (t1085c; V362A). The effect of this mutation on the S protein function is not known.

/Sonia Bjorum Brower/

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15 MAY 2024

Technical Manager or designee, ATCC Federal Solutions

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