

Vector pCR3.1 Containing the SARS-Related Coronavirus 2, Spike Glycoprotein Gene, Lineage B.1.351, Beta Variant

Catalog No. NR-58671

Product Description:

The Spike Glycoprotein (S) gene sequence matching the severe acute respiratory syndrome-related coronavirus 2 (SARS-CoV-2), lineage B.1.351, Beta variant cloned into the mammalian expression vector pCR3.1.¹ The S gene sequence was codon-optimized to produce translated amino acid sequence identical to SARS-CoV-2, isolate USA-WA1/2020 (GenPept: [QHO60594](#)) with mutations found in the B.1.351 lineage (D80A, D215G, K417N, E484K, N501Y, D614G, A701V, LAL242-244del) and a mutation in the furin cleavage site, R683G. 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 8.0).

Lot: 70062765

Manufacturing Date: 04DEC2023

| TEST | SPECIFICATIONS | RESULTS |
|---|---------------------------------------|---------------------------------------|
| Next-Generation DNA Sequencing | ~ 8770 base pairs | 8767 base pairs ¹ |
| Genotypic Analysis Sequencing of S gene insert (3820 base pairs) Lineage B.1.351 mutations Furin Cleavage site mutation | Mutations present Mutation present | Mutations present Mutation present |
| 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 | 1.95 µg in 30 µL/vial (65 µg/mL) |
| Amount per Vial | Report results | 1.9 µg/vial |
| OD₂₆₀/OD₂₈₀ Ratio (pre-vial) | 1.7 to 2.1 | 1.9 |
| Effective Bacterial Transformation Invitrogen™ One Shot™ TOP10 <i>Escherichia coli</i> | ≥ 50 colonies/ng | 73 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-58671 is codon optimized for mammalian expression. It has 100% amino acid identity with SARS-CoV-2, isolate USA-WA1/2020 S protein (GenPept: QHO60594), with equivalent B.1.351 and furin cleavage site mutations.

/Sonia Bjorum Brower/

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28 MAY 2024

Technical Manager or designee, ATCC Federal Solutions

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