

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

**Catalog No. NR-58671**

**For research use only. Not for use in humans.**

**Contributor:**

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**Manufacturer:**

BEI Resources

**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 was cloned into the mammalian expression vector pCR3.1.<sup>1</sup> The S gene sequence was codon-optimized to produce translated amino acid sequence identical to SARS-CoV-2, isolate USA-WA1/2020 (GenPept: [QH060594](#)) 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 vector carries an ampicillin resistance marker for transformant selection. The resulting size of the plasmid is approximately 8770 base pairs. The complete plasmid sequence is provided on the BEI Resources webpage. The plasmid was produced in *E. coli* and extracted.

**Material Provided:**

Each vial contains plasmid DNA in TE buffer (10 mM Tris-HCl, 1 mM EDTA, pH 8.0). The DNA concentration and volume provided are shown on the Certificate of Analysis. The vial should be centrifuged prior to opening. Note: The contents of the vial should be used to replicate the plasmid in *E. coli* prior to expression studies.

**Packaging/Storage:**

NR-58671 was packaged aseptically in cryovials. The product is provided frozen on dry ice and should be stored at -20°C or colder immediately upon arrival. Freeze-thaw cycles should be minimized.

**Citation:**

Acknowledgment for publications should read “The following reagent was obtained through BEI Resources, NIAID, NIH: Vector pCR3.1 Containing the SARS-Related Coronavirus 2, Spike Glycoprotein Gene, Lineage B.1.351, Beta Variant, NR-58671.”

**Biosafety Level: 1**

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 \(BMBL\)](#). 6th ed. Washington, DC: U.S. Government Printing Office, 2020.

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**References:**

1. Rice, C. M., Personal Communication.
2. Ricardo-Lax, I., et al. “Replication and Single-Cycle Delivery of SARS-CoV-2 Replicons.” *Science* 374 (2021): 1099-1106. PubMed: 34648371.

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