

Vector pET-28a(+) Containing the SARS-Related Coronavirus 2, Wuhan-Hu-1 Non-Structural Protein 8 Gene

Catalog No. NR-53500

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Contributor:

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Manufacturer:

BEI Resources

Product Description:

The non-structural protein 8 (nsp8) gene from severe acute respiratory syndrome-related coronavirus 2 (SARS-CoV-2), Wuhan-Hu-1 (GenBank: [MN908947](#)) was codon optimized, tagged with a thrombin cleavable N-terminal hexa-histidine tag and cloned into the [pET-28a\(+\)](#) plasmid.^{1,2} The kanamycin resistance gene, *aph*, provides transformant selection through kanamycin resistance in *Escherichia coli* (*E. coli*). The resulting size of the plasmid is approximately 5890 base pairs. The complete plasmid sequence and map are provided on the BEI Resources webpage. The plasmid was produced in *E. coli* and extracted.

NSP8 is an accessory subunit in the RNA-dependent RNA polymerase (RdRp, also known as NSP12) complex, and together with NSP7, may function as a general processivity factor for RdRp. The RdRp is a target of antiviral medications.^{3,4}

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-53500 was packaged aseptically in screw-capped plastic 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 pET-28a(+) Containing the SARS-Related Coronavirus 2, Wuhan-Hu-1 Non-Structural Protein 8 Gene, NR-53500.”

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](#). 5th ed. Washington, DC: U.S. Government Printing Office, 2009; see www.cdc.gov/biosafety/publications/bmb15/index.htm.

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References:

1. Van Voorhis, W., Personal Communication.
2. Wu, F., et al. "A New Coronavirus Associated with Human Respiratory Disease in China." *Nature* 579 (2020): 265-269. PubMed: 32015508.
3. Zhai, Y., et al. "Insights into SARS-CoV Transcription and Replication from the Structure of the Nsp7-Nsp8 Hexadecamer." *Nat. Struct. Mol. Biol.* 12 (2005): 980-986. PubMed: 16228002.
4. Hillen, H. S., et al. "Structure of Replicating SARS-CoV-2 Polymerase." *Nature* 584 (2020): 154-156. PubMed: 32438371.

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