Vector pET-28a(+) Containing the SARS-Related Coronavirus 2, Wuhan-Hu-1 Non-Structural Protein 7 Gene

Catalog No. NR-53499

This reagent is the tangible property of the U.S. Government.

For research use only. Not for human use.

Contributor:

Wesley Van Voorhis, M.D., Ph.D., Professor, Department of Medicine, Division of Allergy and Infectious Diseases (AID), Director, Center for Emerging and Re-emerging Infectious Diseases (CERID), and Co-Principal Investigator, Seattle Structural Genomics Center for Infectious Disease (SSGCID), University of Washington, Seattle, Washington, USA

The materials described herein were provided by the Seattle Structural Genomics Center for Infectious Disease which is supported by Federal Contract No HHSN272201700059C from the National Institute of Allergy and Infectious Diseases, National Institutes of Health, Department of Health and Human Services.

Manufacturer:

BEI Resources

Product Description:

The non-structural protein 7 (nsp7) gene from severe acute respiratory syndrome-related coronavirus 2 (SARS-CoV-2), Wuhan-Hu-1 (GenBank: MN908947) was codon optimized, tagged with a tobacco etch virus (TEV) 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 5560 base pairs. The complete plasmid sequence and map are provided on the BEI Resources webpage. The plasmid was produced in *E. coli* and extracted.

NSP7 is an accessory subunit in the RNA-dependent RNA polymerase (RdRp, also known as NSP12) complex and together with NSP8 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-53499 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 7 Gene, NR-53499."

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/bmbl5/index.htm.

Disclaimers:

You are authorized to use this product for research use only. It is not intended for human use.

Use of this product is subject to the terms and conditions of the BEI Resources Material Transfer Agreement (MTA). The MTA is available on our Web site at www.beiresources.org.

While BEI Resources uses reasonable efforts to include accurate and up-to-date information on this product sheet, neither ATCC® nor the U.S. Government makes any warranties or representations as to its accuracy. Citations from scientific literature and patents are provided for informational purposes only. Neither ATCC® nor the U.S. Government warrants that such information has been confirmed to be accurate.

This product is sent with the condition that you are responsible for its safe storage, handling, use and disposal. ATCC® and the U.S. Government are not liable for any damages or injuries arising from receipt and/or use of this product. While reasonable effort is made to ensure authenticity and reliability of materials on deposit, the U.S. Government, ATCC®, their suppliers and contributors to BEI Resources are not liable for damages arising from the misidentification or misrepresentation of products.

Use Restrictions:

This material is distributed for internal research, non-commercial purposes only. This material, its product or its derivatives may not be distributed to third parties. Except as performed under a U.S. Government contract, individuals contemplating commercial use of the material, its products or its derivatives must contact the contributor to determine if a license is required. U.S. Government contractors may need a license before first commercial sale.

BEI Resources
www.beiresources.org

E-mail: contact@beiresources.org
Tel: 800-359-7370
Fax: 703-365-2898

If the RECIPIENT is a for-profit entity, then such RECIPIENT additionally agrees that MATERIAL will be used for internal research within RECIPIENT's place of business only and not for "COMMERCIAL PURPOSES." "COMMERCIAL PURPOSES" are defined under this Agreement as (i) the sale, lease, license or other transfer of MATERIAL or Modifications of MATERIAL; (ii) the use of MATERIAL or Modifications of MATERIAL to perform any service for sale or contract research; (iii) the use of MATERIAL or Modifications of MATERIAL to produce or manufacture products for sale; or (iv) conducting activities that result in any sale, lease, license or transfer of MATERIAL or Modifications of MATERIAL.

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.

Support Provided by NIAID

BEI Resources
www.beiresources.org

E-mail: contact@beiresources.org
Tel: 800-359-7370
Fax: 703-365-2898