

Modified pCAGGS Vector Containing the SARS Coronavirus, Urbani Non-Structural Protein 3C Gene

Catalog No. NR-15206

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

For research use only. Not for use in humans.

Contributor:

Peter Kuhn, Ph.D., Department of Cell and Molecular Biology, The Scripps Research Institute, La Jolla, California, USA

Manufacturer:

BEI Resources

Product Description:

The non-structural protein 3 (nsp3) gene from severe acute respiratory syndrome coronavirus (SARS-CoV), Urbani (GenBank: [AY278741](#)) was designed for expression of a C-terminal NSP3 fragment (residues 1319-1922; NSP3C) and cloned into the modified [pCAGGS](#) mammalian expression vector.¹ pCAGGS was modified by adding a hemagglutinin (HA) tag, as well as a 3X FLAG tag C-terminal to the insert coding sequence. NR-15206 contains the beta-lactamase gene, *bla*, to provide transformant selection through ampicillin resistance in *Escherichia coli* (*E. coli*). The complete plasmid sequence and map are provided on the BEI Resources webpage. The plasmid was produced in *E. coli* and extracted.

NSP3 is a multidomain protein located within the SARS-CoV ORF1ab polyprotein. The C-terminal fragment of NSP3 includes the ectodomain, Y1 and CoV-Y domains, although the exact function of this fragment is still under study.² Together with NSP4 and NSP6, NSP3 induces the formation of double-membrane vesicles, which are critical structures required for viral replication.³

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 mammalian expression.

Packaging/Storage:

NR-15206 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: Modified pCAGGS Vector Containing the SARS Coronavirus, Urbani Non-Structural Protein 3C Gene, NR-15206."

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

References:

1. Kuhn, P., Personal Communication.
2. Lei, J., Y. Kusov and R. Hilgenfeld. "NSP3 of Coronaviruses: Structures and Functions of a Large Multi-Domain Protein." [Antiviral Res.](#) 149 (2018): 58-74. PubMed: 29128390.
3. Angelini, M. M., et al. "Severe Acute Respiratory Syndrome Coronavirus Nonstructural Proteins 3, 4, and 6 Induce Double-Membrane Vesicles." [mBio](#) 4 (2013): e00524-13. PubMed: 23943763.

ATCC® is a trademark of the American Type Culture Collection.

