Product Information Sheet for NR-54978

Modified pαH Vector Containing the Human Coronavirus, HKU1 Spike Glycoprotein

Catalog No. NR-54978

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

For research use only. Not for use in humans.

Contributor:

Barney Graham, Deputy Director and Chief, Vaccine Research Center, National Institutes of Health, Bethesda, Maryland, USA

Manufacturer:

BEI Resources

Product Description:

The vector for the spike (S) glycoprotein gene from human coronavirus, HKU1 was designed by codon optimizing the full-length S sequence (residues 1 to 1277; GenPept: Q0ZME7) for mammalian expression and subcloning into the pαH mammalian expression vector, which was modified by subcloning a HRV3C protease cleavage site, T4 foldon trimerization domain, and the octa-histidine and Strep-tag® II tags downstream of the open reading frame.[1,2] The recombinant protein is stabilized by substitution at the furin S1/S2 cleavage site (RRKRR→GGSGS; residues 752 to 756) and NL→PP mutations (residues 1067 and 1068). NR-54978 contains the beta-lactamase gene, *bla*, to provide transformant selection through ampicillin resistance in *Escherichia coli (E. coli)*. NR-54978 is also referred to as VRC7576.[1] The resulting size of the plasmid is approximately 7970 base pairs. The complete plasmid sequence and map are 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 mammalian expression.

Packaging/Storage:

NR-54978 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 pαH Vector Containing the Human Coronavirus, HKU1 Spike Glycoprotein, NR-54978."

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.

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.

NR-54978 is claimed in U.S. Provisional Patent Application number 16/344774 and Global Patent Index publication number EP 3532095 and the continuations, continuations-in-part, re-issues and foreign counterparts thereof. NR-54978 cannot be transferred to for-profit entities. For-profit entities wishing to obtain this material must inquire to NIAID's Technology Transfer and Intellectual Property Office with reference to NIH Ref. No. E-234-2016 by e-mailing jstein@mail.nih.gov and matthew.reiber@nih.gov. The Scripps Research Institute and Dartmouth College have rights to this material.

BEI Resources
www.beiresources.org

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

References:
1. Graham, B., Personal Communication.
2. Wrapp, D., et al. “Cryo-EM Structure of the 2019-nCoV Spike in the Prefusion Conformation.” Science 367 (2020): 1260-1263. PubMed: 32075877.

Support Provided by NIAID

BEI Resources
www.beiresources.org

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