

# Monoclonal Anti-SARS-Related Coronavirus 2 Full-Length Spike Protein, Clone 5AA7 (produced *in vitro*)

**Catalog No. NR-56784**

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

**Contributor and Manufacturer:**  
BEI Resources

## Product Description:

Antibody Class: IgG1k

Mouse monoclonal antibody prepared against the full-length spike (S) glycoprotein of severe acute respiratory syndrome-related coronavirus 2 (SARS-CoV-2), Wuhan-Hu-1 was purified from hybridoma clone 5AA7 supernatant by protein G affinity chromatography. The B cell hybridoma was generated by the fusion of Sp2/0 mouse myeloma cells with splenocytes from BALB/c mice immunized with recombinant purified S protein.<sup>1</sup>

The full-length trimeric and stabilized version of the recombinant S protein of SARS-CoV-2 was produced by transient transfection of a mammalian expression plasmid (pCAGGS; BEI Resources Catalog No. [NR-52394](#)).<sup>1</sup> The vector for the S gene from SARS-CoV-2, Wuhan-Hu-1 (GenBank: [MN908947](#)) was designed for the expression of a soluble S glycoprotein (residues 1 to 1213) with a polybasic cleavage site deletion (RRAR to A; residues 682 to 685) and stabilizing mutations (K986P and V987P, wild type numbering) with a C-terminal thrombin cleavage site, T4 foldon trimerization domain and hexa-histidine tag.<sup>1</sup>

The S protein mediates viral binding to the host angiotensin converting enzyme 2 (ACE2). This protein forms a trimer, and when bound to a host receptor allows fusion of the viral and cellular membranes. The S protein is a target for neutralizing antibodies.

## Material Provided:

Each vial of NR-56784 contains approximately 100 µL of purified monoclonal antibody in PBS. The concentration, expressed as mg/mL, is shown on the Certificate of Analysis.

## Packaging/Storage:

NR-56784 was packaged aseptically in screw-capped plastic vials and is provided frozen on dry ice. The product should be stored at -20°C or colder immediately upon arrival. Freeze-thaw cycles should be avoided.

## Functional Activity:

NR-56784 is highly specific for S protein epitopes and showed no cross-reactivity with human coronaviruses (HCoV-OC43, HCoV-229E, HCoV-HKU1 and HCoV-NL63). NR-56784 is functional in western blot and ELISA.<sup>1</sup>

## Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH:

Monoclonal Anti-SARS-Related Coronavirus 2 Full-Length Spike Protein, Clone 5AA7 (produced *in vitro*), NR-56784."

## 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](http://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. Mohammad, S., et al. "Development and Validation of a Rapid and Easy-to-Perform Point-of-Care Lateral Flow Immunoassay (LFIA) for the Detection of SARS-CoV-2 Spike Protein." *Front Immunol.* 14 (2023): 1111644. PubMed: 36911726.

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

