

Monoclonal Anti-SARS-Related Coronavirus 2 Full-Length Spike Protein, Clone 5AD5 (produced *in vitro*)

Catalog No. NR-56786

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 5AD5 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.¹

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](#)).¹ 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.¹

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-56786 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-56786 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-56786 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-56786 is functional in western blot and ELISA.¹

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 5AD5 (produced *in vitro*), NR-56786."

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.

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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.

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