

Monoclonal Anti-SARS-Related Coronavirus 2 Spike Glycoprotein Receptor Binding Domain (RBD), Clone 1-3H6 (produced *in vitro*)

Catalog No. NR-56491

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For research use only. Not for use in humans.

Contributor and Manufacturer:

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Product Description:

Antibody Class: IgG1k
 Monoclonal antibody prepared against the severe acute respiratory syndrome-related coronavirus 2 (SARS-CoV-2) spike (S) glycoprotein receptor-binding domain (RBD) was purified from clone 1-3H6 hybridoma supernatant by protein G affinity chromatography. The B cell hybridoma was generated by the fusion of Sp2/mIL-6 mouse myeloma cells with splenocytes from BALB/c mice immunized with mouse IgG1 Fc domain-tagged RBD protein (residues 319 to 541).^{1,2}

Material Provided:

Each vial of NR-56491 contains approximately 100 µL of purified monoclonal antibody in phosphate buffered saline (PBS). The concentration, expressed as milligrams per milliliter, is shown on the Certificate of Analysis.

Packaging/Storage:

NR-56491 was packaged aseptically in screw-capped plastic vials and is provided frozen on dry ice and should be stored at -80°C or colder immediately upon arrival. Freeze-thaw cycles should be avoided.

Functional Activity:

NR-56491 is a neutralizing antibody that targets the receptor-binding domain (RBD) of the S glycoprotein of SARS-CoV-2.^{1,2} It can bind to mutations N501Y, Y453F, K417N and L452R, equivalent to WT Spike RBD; however, it cannot bind to mutation E484K.¹ NR-56491 neutralizes WT/614G, Delta variant B.1.617.2 completely and B.1.429 partially. It cannot neutralize variants Alpha B.1.1.7, Beta B.1.351, Gamma P.1, B.1. 617/1/3 and B.1.429 + E484K/Q.¹

NR-56491 can be used for applications such as western blot and ELISA. It does not bind to denatured Spike protein on immunoblot.¹

Citation:

Acknowledgment for publications should read “The following reagent was obtained through BEI Resources, NIAID, NIH: Monoclonal Anti-SARS-Related Coronavirus 2 Spike Glycoprotein Receptor Binding Domain (RBD), Clone 1-3H6 (produced *in vitro*), NR-56491.”

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/bmb15/index.htm.

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NR-56491 is claimed in International Patent Application No. PCT/US2021/040836 and the continuations, continuations-in-part, re-issues, and foreign counterparts thereof.³ To obtain a license for commercial use and for additional commercialization or licensing information, please contact Kevin Brand, CDC (yfb0@cdc.gov).

References:

1. Goldstein, J. M., Personal Communication.
2. Chapman, A. P., et al. "Rapid Development of Neutralizing and Diagnostic SARS-COV-2 Mouse Monoclonal Antibodies." Sci. Rep. 11 (2021): 9682. PubMed: 33958613.
3. Finn, M. G., et al. "Compositions and Methods for the Diagnosis and Treatment of SARS-COV-2 Virus Infection." (2021): U.S. Patent Pending [WO2022011110](#).

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