

Monoclonal Anti-SARS-Related Coronavirus 2 Spike RBD-mFc Fusion Protein (produced *in vitro*)

Catalog No. NR-53796

Sino Biological Catalog No. 40592-MM57

For research use only. Not for use in humans.

Contributor and Manufacturer:

Sino Biological, Wayne, Pennsylvania, USA

Product Description:

Antibody Class: IgG2b

Mouse monoclonal antibody prepared against the fusion protein containing severe acute respiratory syndrome-related coronavirus 2 (SARS-CoV-2) spike (S) glycoprotein receptor binding domain (RBD) (R319 to F541) and mouse IgG Fc (mFc) domain was purified from a hybridoma supernatant by protein A affinity chromatography. The B cell hybridoma was generated by the fusion of mouse myeloma cells with splenocytes from mice immunized with recombinant SARS-CoV-2 spike RBD-mFc fusion protein (Sino Biological 40592-V05H; GenPept: YP_009724390.1).¹

Material Provided:

Each vial of NR-53796 contains approximately 50 µg 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-53796 was packaged aseptically in screw-capped plastic vials and is provided frozen on dry ice. The product should be stored at -20°C to -80°C immediately upon arrival. NR-53796 can be stored at 2°C to 8°C for one month without detectable loss of activity. Freeze-thaw cycles should be avoided.

Functional Activity:

NR-53796 is specific to the SARS-CoV-2 spike RBD as shown in ELISA, with cross reactivity to the SARS-CoV-2 spike S1 protein (Sino Biological 40591-V08B1). No cross reactivity was observed in ELISA with S1 glycoproteins from SARS-CoV, MERS-CoV, HCoV-HKU1 (isolates N1 and N5), HCoV-NL63, HCoV-229E and HCoV-OC43. The biological activity of NR-53796 was measured by its binding ability using biosensor analysis (Figure 1), in which biotinylated recombinant SARS-CoV-2 Spike RBD recombinant protein (His tag) (Sino Biological 40592-V08B-B) can bind NR-53796; the affinity constant is 0.05 to 0.07 nM.¹ Inhibitor Screening ELISA Kit (Sino Biological KIT001) detected serial dilutions of NR-53796; the IC₅₀ is 3.694 nM (Figure 2). NR-53796 is functional in *in vitro* microneutralization assays using 293T-ACE2 cells infected with SARS-CoV-2 spike pseudovirus; the IC₅₀ is 0.41 micrograms per milliliter.

Citation:

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

Monoclonal Anti-SARS-Related Coronavirus 2 Spike RBD-mFc Fusion Protein (produced *in vitro*), NR-53796."

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.

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References:

1. Lu, Z., Personal Communication.

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Figure 1: Representative Biosensor Analysis

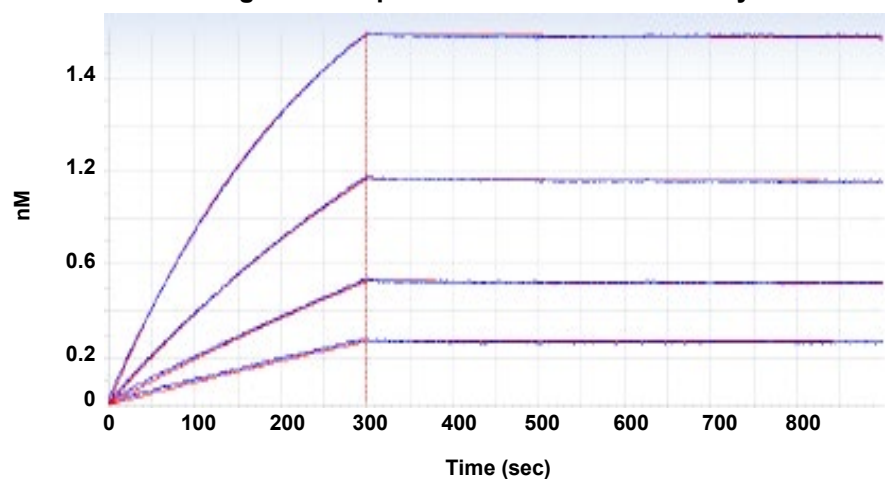


Figure 2: Representative Inhibitor Screening ELISA assay

