Anti-Spike protein [MR17] Standard Size Ab02060-10.160

This antibody was created using our proprietary Fc Silent™ engineered Fc domain containing key point mutations that abrogate binding to Fc gamma receptors.

This chimeric human antibody was made using the variable domain sequences of the original VHH format, for improved compatibility with existing reagents, assays and techniques.

Isotype and Format: Human IgG1-Fc fusion, Fc Silent™
Clone Number: MR17
Alternative Name(s) of Target: SARS CoV 2 S glycoprotein; COVID-19 Spike protein; RBD; Receptor Binding Domain; E2 glycoprotein; E2; Human coronavirus 2 spike glycoprotein; Peplomer protein; S glycoprotein; SARS coronavirus 2 S protein; SARS coronavirus 2 Spike Protein; SARS CoV 2 Spike protein; SARS CoV 2; SARS-CoV-2 S protein; SARSCoV2; SARS-COV-2 S protein; SARS-COV-2 Spike glycoprotein; SARSCOV2 Spike protein; Severe acute respiratory syndrome 2 spike glycoprotein; Severe acute respiratory syndrome virus 2 spike glycoprotein; Spike glycoprotein; 2019-nCoV
UniProt Accession Number of Target Protein: P0DTC2
Published Application(s): biolayer interferometry, FACS, NTRL, therapeutic, ELISA
Published Species Reactivity: SARS Coronavirus 2 (SARS-Cov-2)
Immunogen: The original antibody was selected after one round of ribosome display using three high diversity libraries (concave, loop and covex) followed by three rounds of phage display and panning against biotinylated RBD as a bait and increasing the stringency of selection with every round. The last round of selection was against 5nM RBD.
Specificity: This antibody binds the receptor binding domain (RBD) of the SARS-CoV-2.
Application Notes: Wild type MR17 had a modest neutralization activity. ELISA was used to screen the libraries to identify specific RBD binders. Neutralization activity of the sybody was checked by pre-incubating pseudoviral particles with different concentrations of sybody before infection of VeroE6-hACE2 cells. The rate of infection was then measured by fluorescence-activated cell sorting (FACS). IC50 value of wild type MR17 was determined to be 12.32 µg m/L. This sybody is a K99Y mutant version of wild typr MR17. It is seen that the single mutation increased the binding affinity by 1.5 fold and decreased the off-rate by 2.8 fold. Overall neutralization activity was increased 24 fold after the mutation was introduced, with an IC50 value of 0.50 µg m/L. The binding kinetics between sybodies and the RBD was assessed using bio-layer interferometry (Li et al., 2020).
Antibody First Published in: Li et al. Potent synthetic nanobodies against SARS-CoV-2 and molecular

basis for neutralization. BioRxiv (2020) PMID:
Note on publication: Describes the generation, neutralization activity, structural analysis and mutant version of the sybody with superior binding and neutralizing activity.

Product Form

Size: 100 µg Purified antibody.
Purification: Protein A affinity purified
Supplied In: PBS with 0.02% Proclin 300.
Storage Recommendation: Store at 4ºC for up to 3 months. For longer storage, aliquot and store at -20ºC.
Concentration: 1 mg/ml.

Important note – This product is for research use only. It is not intended for use in therapeutic or diagnostic procedures for humans or animals.