

Source

Anti-SARS-CoV-2 Spike RBD Neutralizing Antibody, Chimeric mAb, Human IgG1 (AM122) is a chimeric monoclonal antibody recombinantly expressed from HEK293 cells, which combines the variable region of a mouse monoclonal antibody with human IgG1 constant domain. The mouse monoclonal antibody was obtained from a mouse immunized with recombinant SARS-CoV-2 Spike S1 protein. *As verified in competitive ELISA-based and pseudovirus-based neutralization assay, this chimeric monoclonal can potently neutralize all SARS-CoV-2 Variants of Concern (VOCs), including Alpha (B.1.1.7), Beta (B.1.351), Gamma (P.1), Delta (B.1.617.2) and Omicron (B.1.1.529).*

Isotype

Human IgG1/kappa

Specificity

This product is a specific antibody against SARS-CoV-2 Spike protein RBD domain. No cross-reactivity is detected with Spike protein RBD domain of other coronaviruses, including SARS-CoV, MERS-CoV, HCoV-229E, HCoV-NL63, HCoV-OC43 and HCoV-HKU1.

Application

This antibody can be paired with other Anti-SARS-CoV-2 Spike S1 antibodies to detect SARS-CoV-2 Spike S1 protein in sandwich ELISA or LFA assay.

Purity

>95% as determined by SDS-PAGE.

Endotoxin

Less than 1.0 EU per µg by the LAL method.

Formulation

Lyophilized from 0.22 µm filtered solution in PBS, pH7.4 with trehalose as protectant.

Contact us for customized product form or formulation.

Reconstitution

Please see Certificate of Analysis for specific instructions.

For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.

Storage

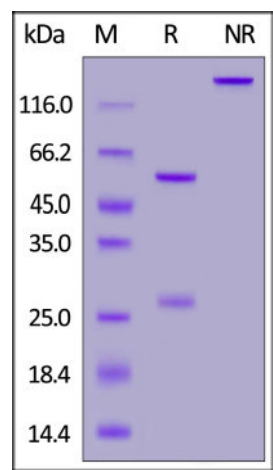
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

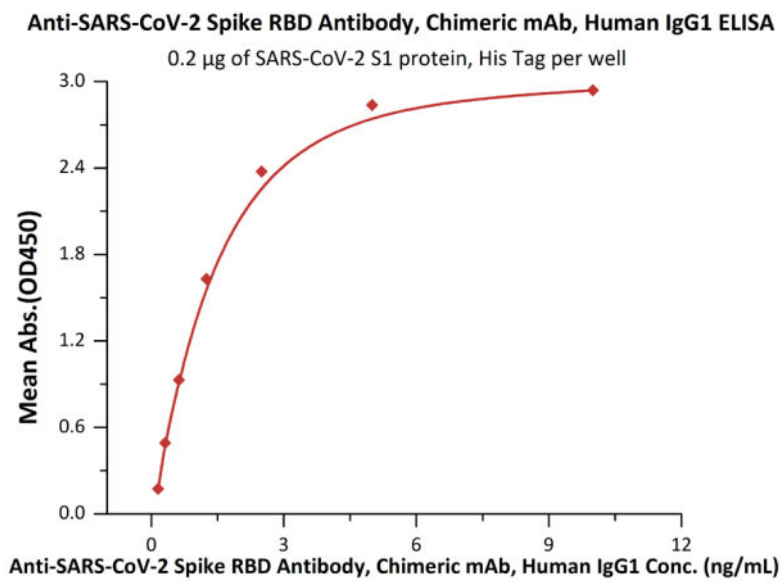
- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

SDS-PAGE

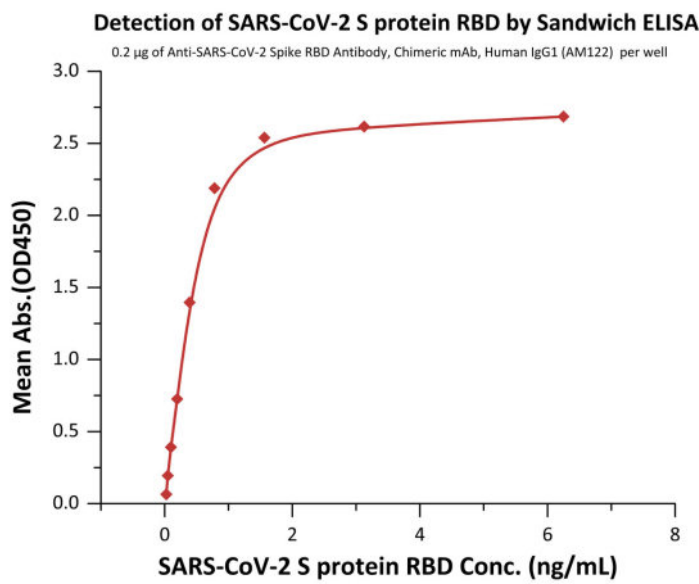


Anti-SARS-CoV-2 Spike RBD Neutralizing Antibody, Chimeric mAb, Human IgG1 (AM122) on SDS-PAGE under reducing (R) and non-reducing (NR) conditions. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 95%.

Bioactivity-Elisa

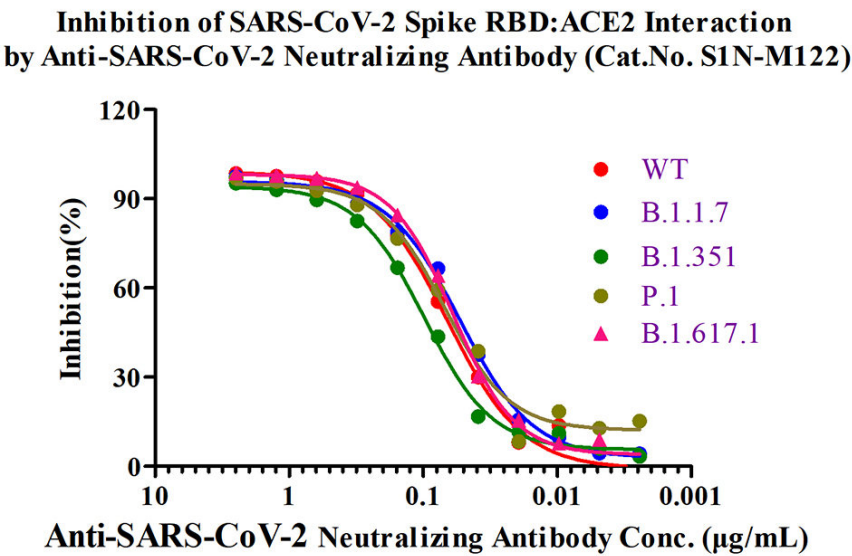


Immobilized SARS-CoV-2 S1 protein, His Tag (Cat. No. S1N-C52H2) at 2 µg/mL (100 µL/well) can bind Anti-SARS-CoV-2 Spike RBD Neutralizing Antibody, Chimeric mAb, Human IgG1 (AM122) (Cat. No. S1N-M122) with a linear range of 0.2-3 ng/mL (QC tested).



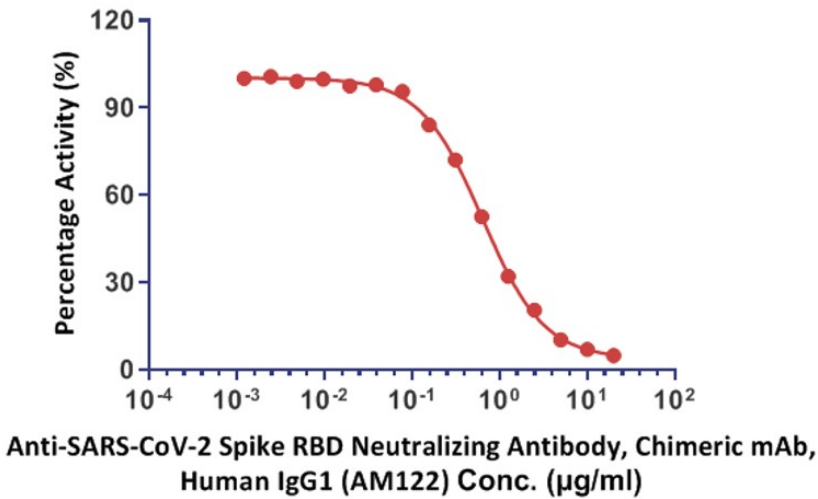
Detection of SARS-CoV-2 S protein RBD by Sandwich ELISA Assay.

Immobilized Anti-SARS-CoV-2 Spike RBD Neutralizing Antibody, Chimeric mAb, Human IgG1 (AM122) (Cat. No. S1N-M122) at 2 µg/mL (100 µL/well) can bind Spike RBD (Cat. No. SPD-C52H1). And then add Biotinylated Anti-SARS-CoV-2 Spike RBD Antibody, Chimeric mAb, Human IgG1 (AM130) (Cat. No.S1N-M13L3) at 0.2 µg/mL. Detection was performed using HRP-conjugated streptavidin with sensitivity of 0.05 ng/mL (Routinely tested).



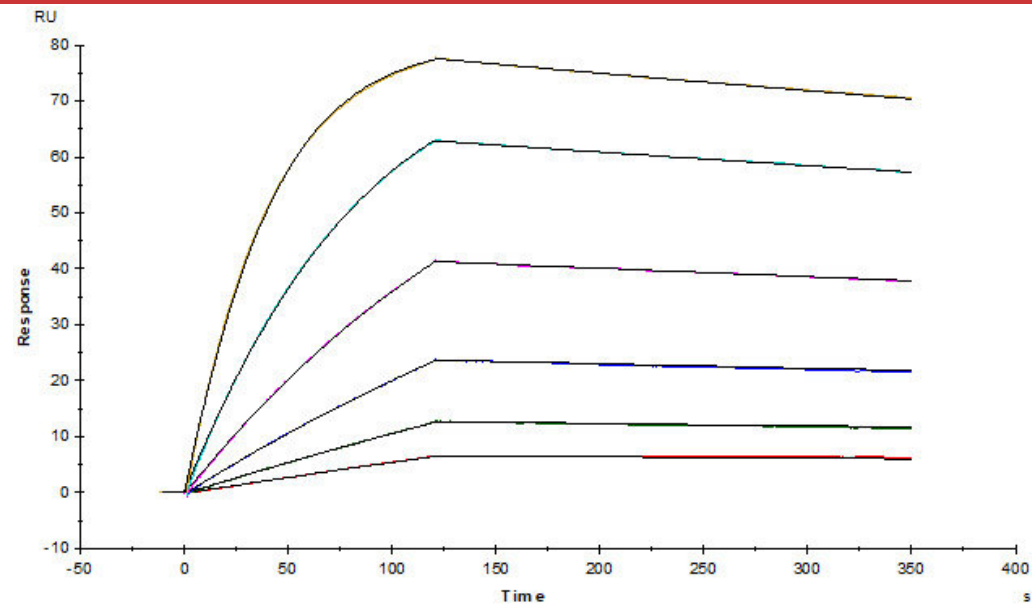
Anti-SARS-CoV-2 Spike RBD Neutralizing Antibody, Chimeric mAb, Human IgG1 (AM122) (Cat.No. S1N-M122) neutralizes SARS-CoV-2 Spike RBD by inhibiting RBD: ACE2 interaction. The ACE2-coated plate is incubated with the wild type (WT) RBD or B.1.1.7, B.1.351, P.1, B.1.617.1, B.1.617.2 mutant and treated with the neutralizing antibody at increasing concentration. Percent inhibition is calculated based on the OD value.

Inhibition of SARS-CoV-2 (Omicron) Spike RBD: ACE2 interaction by S1N-M122



Anti-SARS-CoV-2 Spike RBD Neutralizing Antibody, Chimeric mAb, Human IgG1 (AM122) (Cat.No. S1N-M122) neutralizes SARS-CoV-2 (Omicron) Spike Trimer (Cat. No. SPN-C52Hz) by inhibiting Spike: ACE2 interaction. The ACE2-coated plate was incubated with the SARS-CoV-2 (Omicron) Spike Trimer protein and treated with neutralizing antibody at increasing concentration. Percent inhibition was calculated based on the OD value.

Bioactivity-SPR



Anti-SARS-CoV-2 Spike RBD Neutralizing Antibody, Chimeric mAb, Human IgG1 (AM122) (Cat. No. S1N-M122) captured on CM5 chip via Anti-human IgG Fc antibodies surface can bind SARS-CoV-2 S protein RBD, His Tag (Cat. No. SPD-C52H3) with an affinity constant of 0.375 nM as determined in a SPR assay (Biacore T200) (Routinely tested).

Background

Its been reported that Coronavirus can infect the human respiratory epithelial cells through interaction with the human ACE2 receptor. The spike protein is a large type I transmembrane protein containing two subunits, S1 and S2. S1 mainly contains a receptor binding domain (RBD), which is responsible for recognizing the cell surface receptor. S2 contains basic elements needed for the membrane fusion. The S protein plays key parts in the induction of neutralizing-antibody and T-cell responses, as well as protective immunity.

Clinical and Translational Updates

Please contact us via TechSupport@acrobiosystems.com if you have any question on this product.