Source

Anti-SARS-CoV-2 Spike RBD 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) and Delta (B.1.617.2)*** .

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.

>90% as determined by SEC-MALS.

Formulation

Supplied as 0.2 μm filtered solution in PBS, pH7.4 .

Contact us for customized product form or formulation.

Storage

Please avoid repeated freeze-thaw cycles.

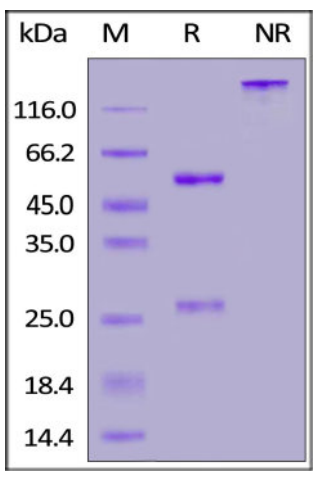
This product is stable after storage at:

- For long term storage, the product is stable for up to 3 years at -70°C from date of receipt;
- For short term storage, the product is stable for up to 12 months at 2-8°C from date of receipt.

Shipping

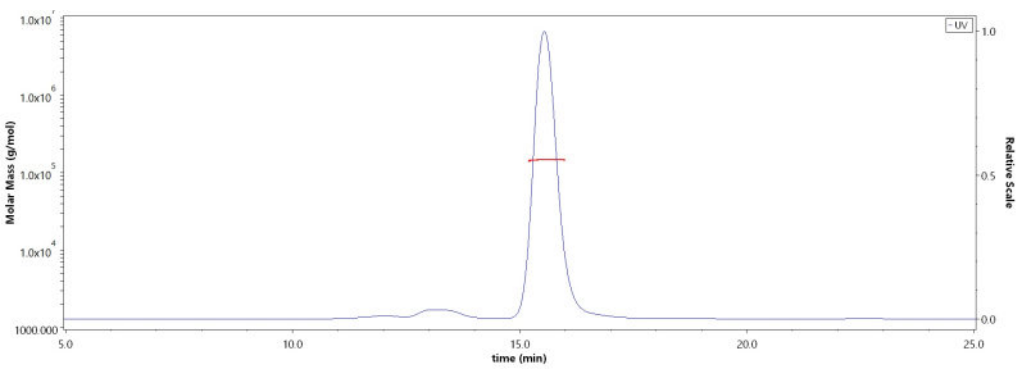
This product is supplied and shipped as sterile liquid solution with dry ice, please inquire the shipping cost.

SDS-PAGE



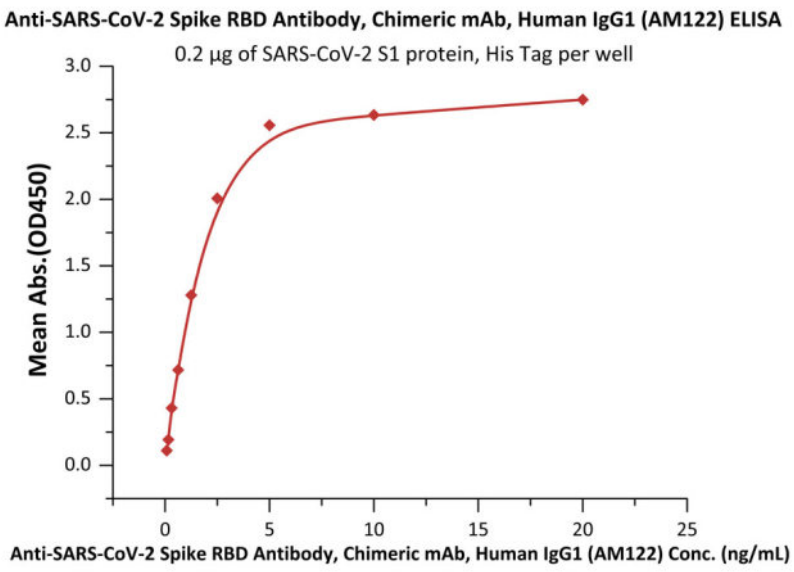
Anti-SARS-CoV-2 Spike RBD Antibody, Chimeric mAb, Human IgG1 (AM122) on SDS-PAGE under reducing (R) and non-reducing (NR) conditions. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 95%.

SEC-MALS

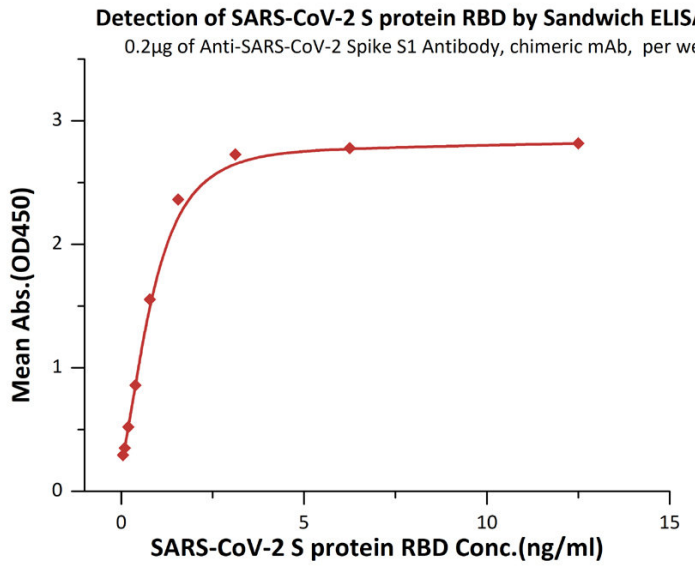


The purity of Anti-SARS-CoV-2 Spike RBD Antibody, Chimeric mAb, Human IgG1 (AM122)(Cat. No. S1N-M12A1) is more than 90% and the molecular weight of this protein is around 135-150 kDa verified by SEC-MALS.
Report

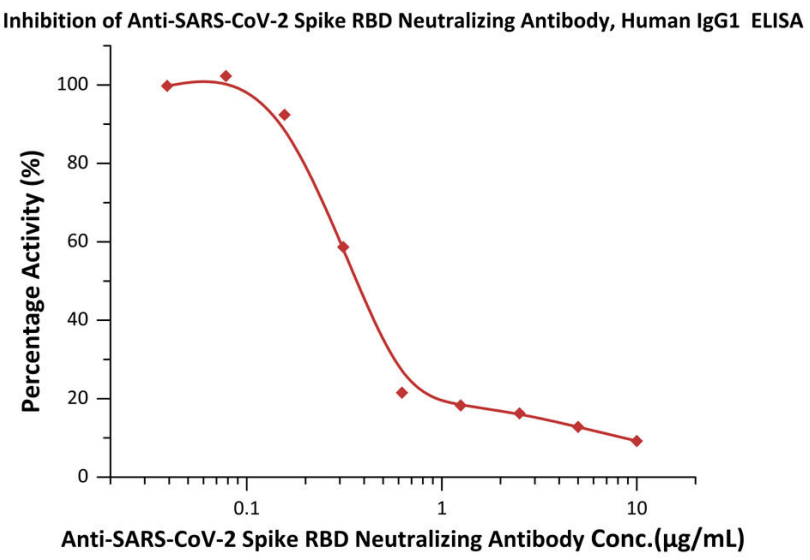
Bioactivity-ELISA



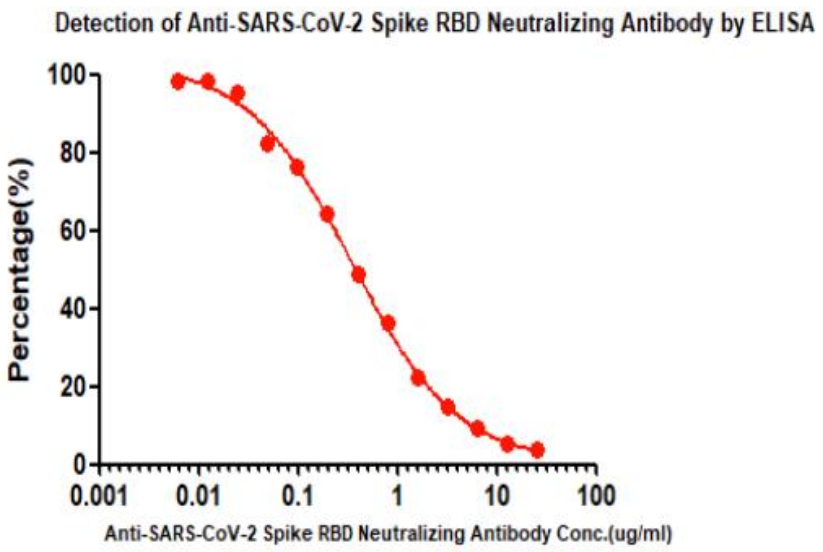
Immobilized SARS-CoV-2 S1 protein, His Tag (Cat. No. S1N-C52H2) at 2 μg/mL (100 μL/well) can bind Anti-SARS-CoV-2 Spike RBD Antibody, Chimeric mAb, Human IgG1 (AM122) (Cat. No. S1N-M12A1) with a linear range of 0.08-2.5 ng/mL (QC tested).



Detection SARS-CoV-2 S protein RBD by Sandwich ELISA Assay. Immobilized Anti-SARS-CoV-2 Spike S1 Antibody, chimeric mAb (Cat. No. S1N-M12A1) at 2 μg/mL (100 μL/well) can bind S protein RBD. And then add Anti-SARS-CoV-2 Spike S1 Antibody (Cat. No. S1N-M13A1) (Biotinylated in house) at 1:5000. Detection was performed using HRP-conjugated streptavidin with sensitivity of 25 pg/mL (Routinely tested).



Anti-SARS-CoV-2 Spike RBD Neutralizing antibody (Cat.No. S1N-M12A1) 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.



Detection of HRP-SARS-CoV-2 Spike RBD(B.1.1.529/Omicron), His Tag titer by compitive-ELISA Assay.Serial dilutions of Anti-SARS-CoV-2 Spike RBD Neutralizing Antibody, Chimeric mAb, Human IgG1 (AM122) (Trehalose free) (Cat. No. S1N-M12A1) were added into Human ACE2 / ACEH Protein, Fc Tag (Cat. No. AC2-H5257): HRP-SARS-CoV-2 Spike RBD(B.1.1.529/Omicron), His Tag binding reactions. The half maximal inhibitory concentration (IC50) is 0.340 μg/mL (Routinely tested).

Background

It's 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.