## Description

Anti-SARS-CoV-2 RBD Neutralizing Antibody, Human IgG1 (SAD-S35) is isolated from a SARS-CoV-2 infected patient and is recombinantly produced from human 293 cells (HEK293). This antibody recognizes the SARS-CoV-2 Spike Protein RBD domain and inhibits the interaction between SARS-CoV-2 RBD and ACE2 with an IC50 of 1.47 μg/mL using SARS-CoV-2 Inhibitor Screening Kit (Cat. No. EP-105).***Pseudovirus assay shows that this antibody has potent neutralizing activity against pseudovirus bearing SARS-CoV-2 Spike protein.***

## Isotype

Human IgG1/kappa

## Specificity

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

## Purity

>95% as determined by SDS-PAGE.

## Formulation

Lyophilized from 0.22 μm filtered solution in PBS, pH7.4 . Normally trehalose is added as protectant before lyophilization.

## 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

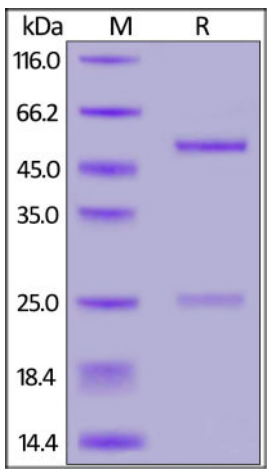
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

***Please avoid repeated freeze-thaw cycles.***

This product is stable after storage at:

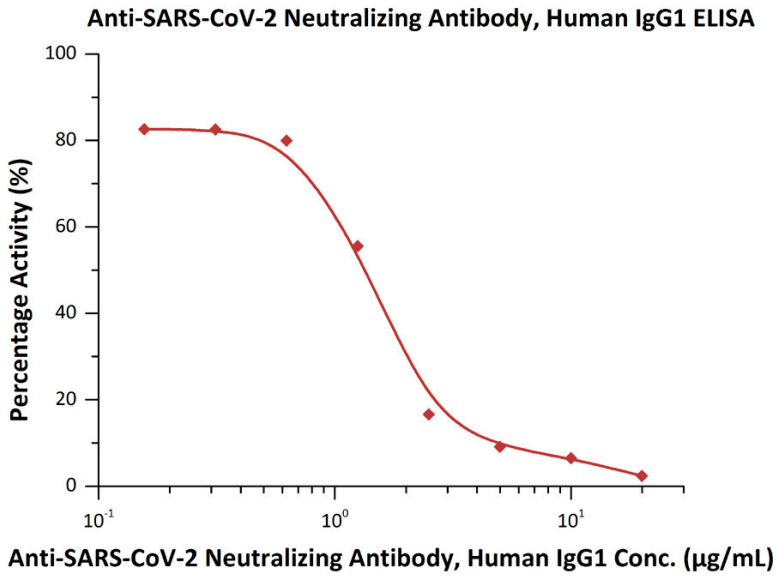
- -20 to -70°C for 12 months in lyophilized state from date of receipt;
- -70°C for 3 months under sterile conditions after reconstitution.

## SDS-PAGE

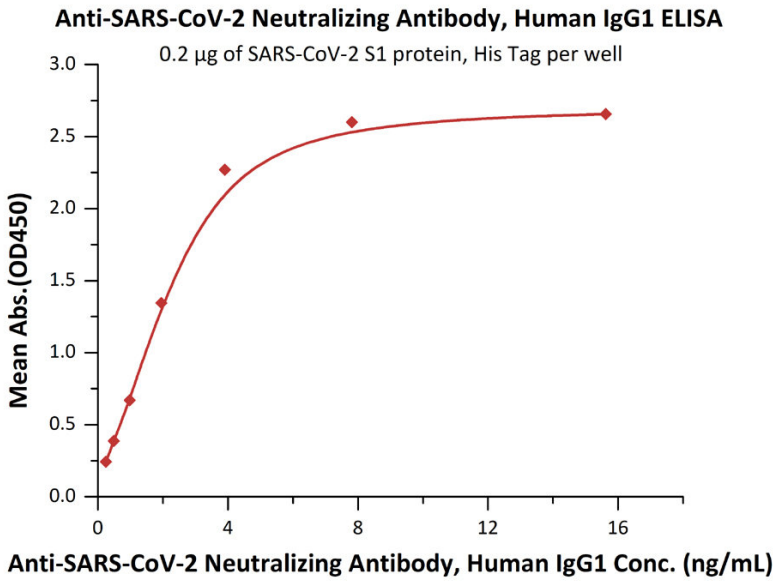



Anti-SARS-CoV-2 RBD Neutralizing Antibody, Human IgG1 on SDS-PAGE under reducing (R) condition. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 95%.

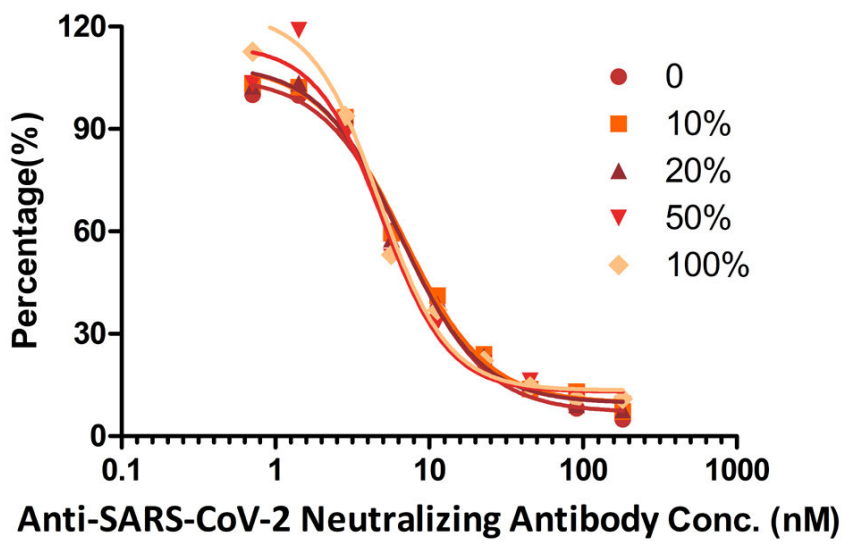
## Bioactivity-ELISA




Serial dilutions of Anti-SARS-CoV-2 RBD Neutralizing Antibody, Human IgG1 (Cat.No. SAD-S35) was detected by SARS-CoV-2 Inhibitor screening Kit (Cat.No. EP-105) with a half maximal inhibitory concentration (IC50) of 1.472 μg/mL (QC tested).

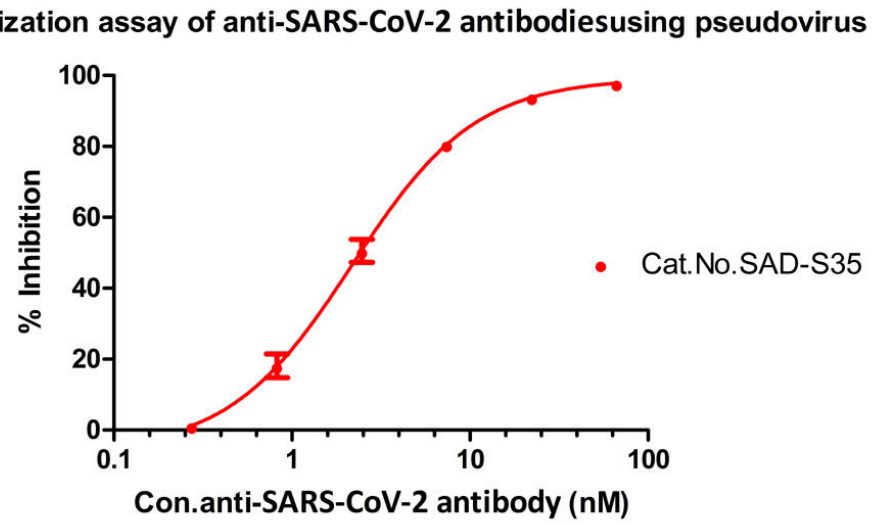



Immobilized SARS-CoV-2 S1 protein, His Tag (Cat. No. S1N-C52H4) at 2 μg/mL (100 μL/well) can bind Anti-SARS-CoV-2 RBD Neutralizing Antibody, Human IgG1 (Cat. No. SAD-S35) with a linear range of 0.2-1.95 ng/mL (QC tested).



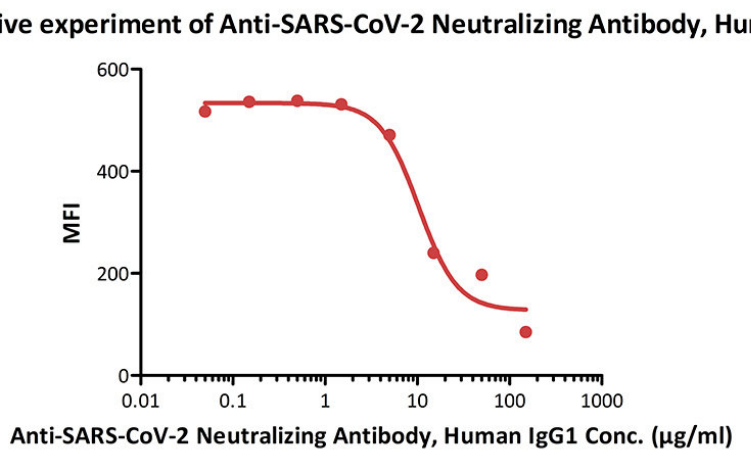

**Determination of Anti-SARS-CoV-2 RBD Neutralizing Antibody titer in different concentrations of human serum.**

Neutralizing titer of Anti-SARS-CoV-2 RBD Neutralizing Antibody, Human IgG1 (Cat. No. SAD-S35) measured by Anti-SARS-CoV-2 neutralizing antibody titer serologic assay kit (Cat. No. TAS-K003) in different concentrations of human serum (CV < 30%) (Routinely tested).

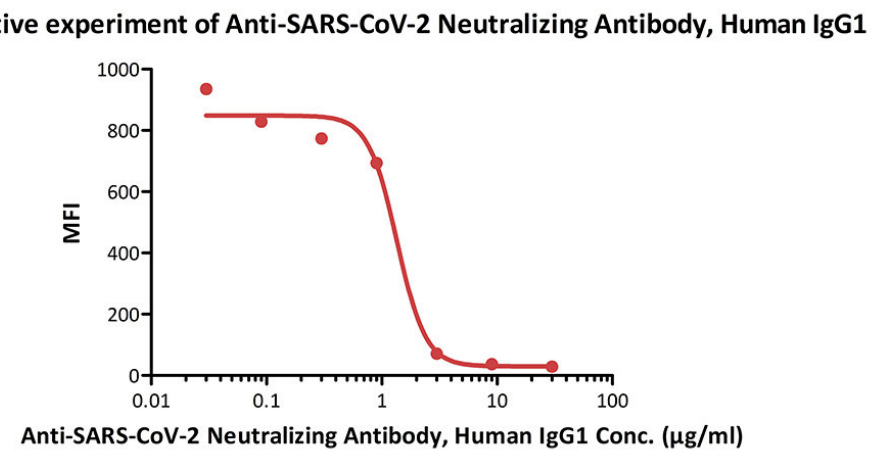



Serial dilutions of Anti-SARS-CoV-2 Spike NTD Antibody, Chimeric mAb (Cat. No. SAD-S35) were incubated with luciferase/SARS-CoV-2 spike pseudoviruses. HEK293T cells stably expressing ACE2 were added after 90 min and neutralization titers (IC50) is 2.181 nM, which is calculated as the serum dilution at which RLU were reduced by 50% compared with RLU in virus control wells after subtraction of background RLU in cell control wells.

## Bioactivity-FACS




FACS analysis shows that the binding of SARS-CoV-2 S protein RBD, Mouse IgG2a Fc Tag (Cat. No. SPD-C5259) to Vero E6 cells surface ACE2 was inhibited by increasing concentration of Anti-SARS-CoV-2 Neutralizing




FACS analysis shows that the binding of SARS-CoV-2 S1 protein, Mouse IgG2a Fc Tag (Cat. No. S1N-C5257) to Vero E6 cells surface ACE2 was inhibited by increasing concentration of Anti-SARS-CoV-2 RBD Neutralizing

Antibody, Human IgG1 (Cat. No. SAD-S35). The concentration of SARS-CoV-2 S protein RBD used is 5μg/ml. The IC50 is 10.33 μg/ml (Routinely tested).

Antibody, Human IgG1 (Cat. No. SAD-S35). The concentration of SARS-CoV-2 S1 protein used is 3ug/ml. The IC50 is 1.352 μg/ml (Routinely tested).

## Background

It's been reported that SARS-CoV-2 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.

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