



## Source

Anti-SARS-CoV-2 Spike RBD Neutralizing Antibody, Human IgG1 (AS35) (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. *Pseudovirus assay shows that this antibody has potent neutralizing activity against pseudovirus bearing SARS-CoV-2 Spike protein.*

## Clone

AS35

## Isotype

Human IgG1 | Kappa

## Conjugate

Unconjugated

## Antibody Type

Recombinant Monoclonal

## Reactivity

Virus

## 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

| Application | Recommended Usage |
|-------------|-------------------|
| ELISA       | 0.2-50 ng/mL      |

## Purity

>95% as determined by SDS-PAGE.

## Purification

Protein A purified/ Protein G purified

## 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.*

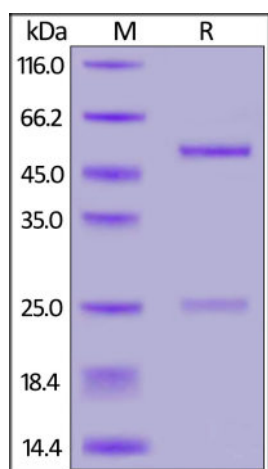
This product is stable after storage at:

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

## SDS-PAGE

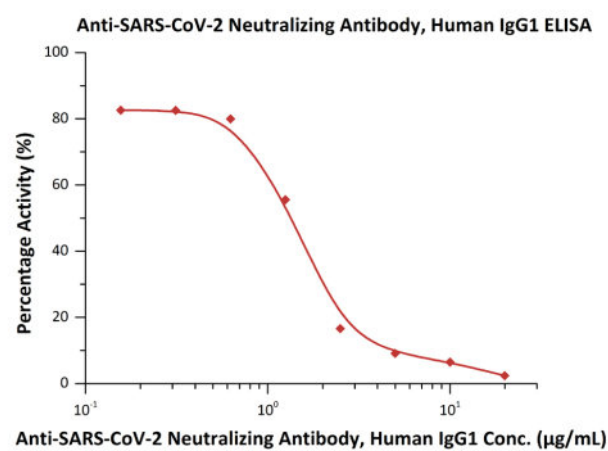
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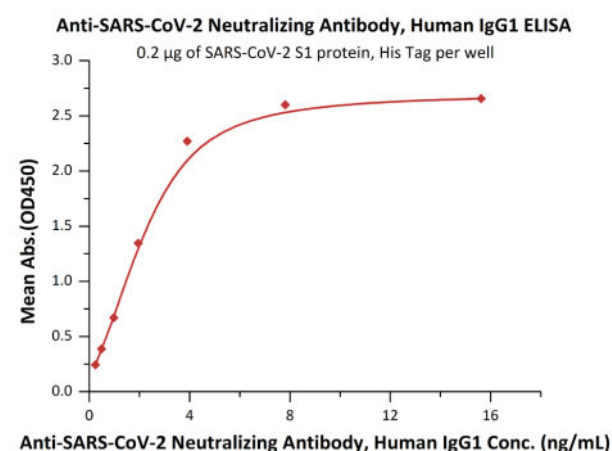


Anti-SARS-CoV-2 Spike RBD Neutralizing Antibody, Human IgG1 (AS35) on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95%.

## Bioactivity-ELISA

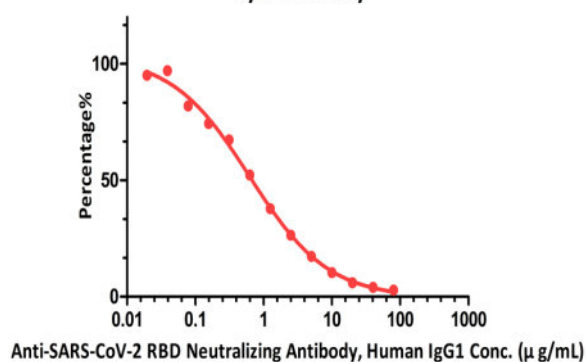


Serial dilutions of Anti-SARS-CoV-2 Spike RBD Neutralizing Antibody, Human IgG1 (AS35) (Cat.No. SAD-S35) was detected by SARS-CoV-2 Inhibitor screening Kit with a half maximal inhibitory concentration (IC50) of 1.472 µg/mL (QC tested).



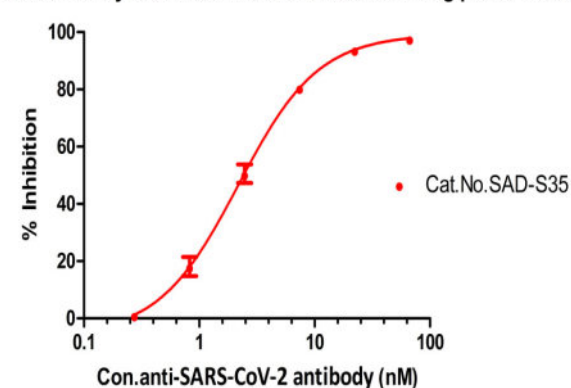
Immobilized SARS-CoV-2 S1 protein, His Tag at 2 µg/mL (100 µL/well) can bind Anti-SARS-CoV-2 Spike RBD Neutralizing Antibody, Human IgG1 (AS35) (Cat. No. SAD-S35) with a linear range of 0.2-1.95 ng/mL (QC tested).

Detection of Anti-SARS-CoV-2 RBD Neutralizing Antibody, Human IgG1 by ELISA Assay



Serial dilutions of Anti-SARS-CoV-2 Spike RBD Neutralizing Antibody, Human IgG1 (AS35) (Cat.No. SAD-S35) was detected by Anti-SARS-CoV-2 Neutralizing Antibody Titer Serologic Assay Kit with a half maximal inhibitory concentration (IC50) of 0.6265 µg/mL (Routinely tested).

Neutralization assay of anti-SARS-CoV-2 antibodies using pseudovirus



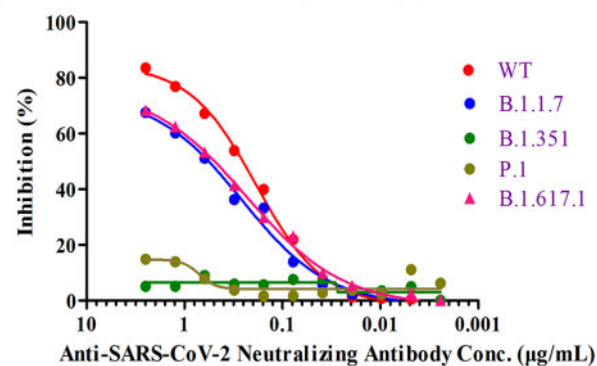
Serial dilutions of Anti-SARS-CoV-2 Spike RBD Neutralizing Antibody, Human IgG1 (AS35) (Cat. No. SAD-S35) was incubated with SARS-CoV-2 pseudotyped virus at 37 °C for 1 hour. Afterward, Huh-7 cells were added, followed by incubation at 37 °C for 24h. Chemiluminescence detection was performed and the virus neutralization titers (IC50) is 2.181 nM using the Reed-Muench method.

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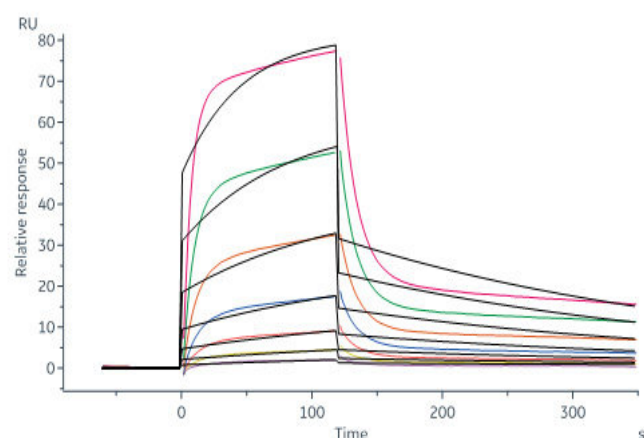


**Inhibition of SARS-CoV-2 Spike RBD:ACE2 Interaction by Anti-SARS-CoV-2 Neutralizing Antibody (Cat.No. SAD-S35)**



Anti-SARS-CoV-2 Spike RBD Neutralizing Antibody, Human IgG1 (AS35) (Cat.No. SAD-S35) 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 mutant and treated with the antibody at increasing concentration. Percent inhibition is calculated based on the OD value.

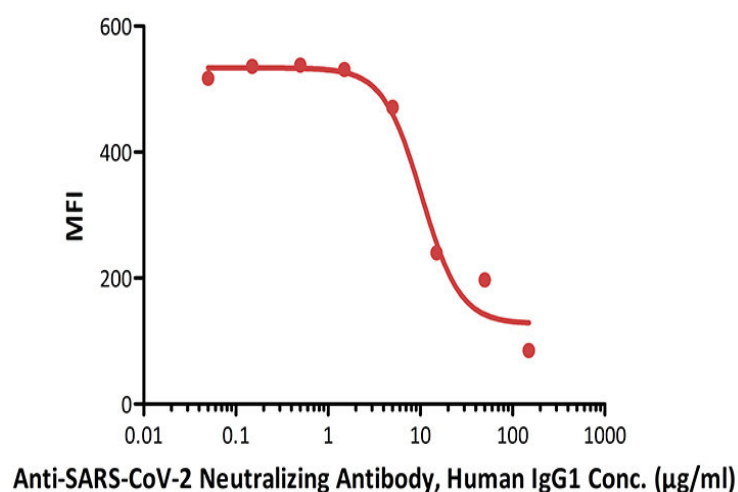
## Bioactivity-SPR



Anti-SARS-CoV-2 Spike RBD Neutralizing Antibody, Human IgG1 (AS35) (Cat. No. SAD-S35) captured on CM5 chip via Anti-human IgG Fc antibodies surface can bind SARS-CoV-2 S protein RBD (A475V), His Tag with an affinity constant of 87.7 nM as determined in a SPR assay (Biacore 8K) (Routinely tested).

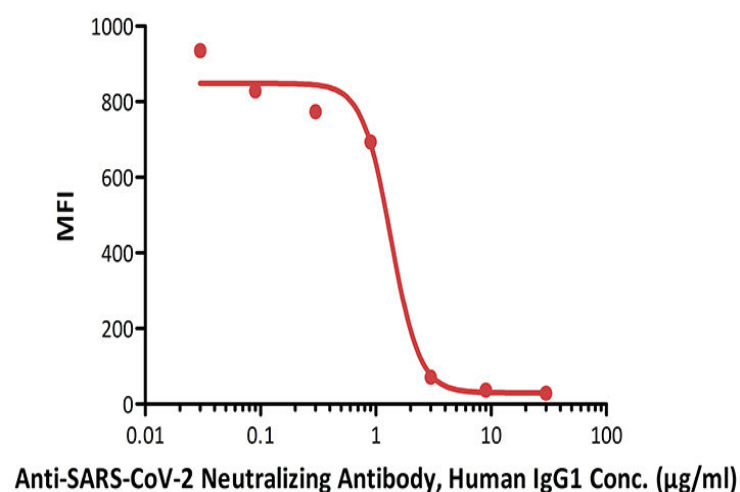
## Bioactivity-FACS

**Competitive experiment of Anti-SARS-CoV-2 Neutralizing Antibody, Human IgG1**



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

**Competitive experiment of Anti-SARS-CoV-2 Neutralizing Antibody, Human IgG1**



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

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# Anti-SARS-CoV-2 Spike RBD Neutralizing Antibody, Human IgG1 (AS35)

Catalog # SAD-S35



BIOSYSTEMS  
**Acro**

inhibited by increasing concentration of Anti-SARS-CoV-2 Spike RBD Neutralizing Antibody, Human IgG1 (AS35) (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).

inhibited by increasing concentration of Anti-SARS-CoV-2 Spike RBD Neutralizing Antibody, Human IgG1 (AS35) (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 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

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