

## Product Information

**Description:**

This human monoclonal antibody recognizes SARS-CoV-2 full-length spike proteins in both the monomeric (S1) and native trimeric conformation. This antibody has been demonstrated to cross-react with the following SARS-CoV-2 spike proteins:

Wild-type Spike Trimer (BPS Bioscience #100728)  
Alpha B.1.1.7 Spike Trimer (BPS Bioscience #510334)  
Beta B.1.351 Spike Trimer (BPS Bioscience #510333)  
Beta B.1.351Δ242-244 Spike Trimer (BPS Bioscience #101091)  
Gamma P.1 Spike Trimer (BPS Bioscience #100989)  
Delta B.1.617.2 Spike Trimer (BPS Bioscience #101147)  
Delta Plus B.1.617.2.1 Spike Trimer (BPS Bioscience #101165)  
Wild-type S1 Protein (BPS Bioscience # 100730)  
Delta B.1.617.2 S1 Protein (BPS Bioscience #101151)  
Delta Plus B.1.617.2.1 S1 Protein (BPS Bioscience #101179)  
Gamma P.1 S1 Protein (BPS Bioscience #101079)

[\[Table of variants\]](#)

The human ACE2 receptor is found on the surface of type I and II pneumocytes, endothelial cells, and ciliated bronchial epithelial cells. ACE2 is known to mediate COVID-19 infection through direct binding of the SARS-CoV-2 Spike protein. This neutralizing antibody has been functionally tested using BPS Bioscience Spike Trimer: ACE2 Inhibitor Screening Kits (available for purchase).

**Concentration:**

0.5 mg/ml

**Specificity:**

The antibody neutralizes the wildtype, Alpha B.1.1.7, Beta B.1.351, Gamma P.1, Delta B.1.617.2 and Delta Plus B.1.617.2.1 variant trimeric proteins. Not tested on other variants or on monomeric Spike RBD protein.

**Isotype**

Human IgG1

**Secondary detection:**

Anti-Human secondary

**Formulated In:**

1X PBS, 0.2% BSA

**Purification:**

Protein A

**Format:**

Aqueous buffer solution

**Storage:**

-20°C. Stable for at least 6 months from date of receipt. Avoid freeze/thaw cycles.

**MW:**

150 kDa

**Assay Conditions:**

*Experimental design and assay protocol to measure the neutralizing functional activity of the antibody using "SARS-CoV-2 Spike Trimer (S1+S2):ACE2 Inhibitor Screening Colorimetric Assay Kit" (BPS Bioscience #79999)*

1. Coat a flat bottom clear 96-well plate with 50 µl of Spike protein (1 µg/ml diluted in PBS) and incubate overnight at 4°C.
2. On the next day, wash with PBS and block with 100 µl of blocking buffer for 1 hour at room temperature with slow shaking.

3. Wash the plate 3 times with PBS and preincubate the Spike protein with 50  $\mu$ l of neutralizing antibody. We recommend serial dilutions in duplicates ranging from 300 nM to 0 nM. Dilute the neutralizing antibody in blocking

buffer and add 50  $\mu$ l of diluted antibody to the plate. Incubate for 30 minutes at room temperature with slow shaking. For the wells labeled "blank" and "positive control", add 50  $\mu$ l of blocking buffer instead of antibody dilution.

4. Dilute ACE2-biotin (BPS Bioscience #100665) to 1-2 ng/ $\mu$ l in blocking buffer and add 50  $\mu$ l to the wells. Skip the wells labeled "blank" and add 50  $\mu$ l of blocking buffer instead. Incubate for 1 hour at room temperature with slow shaking.

5. Wash the wells 3 times using the assay buffer and add 50  $\mu$ l of HRP-Streptavidin (BPS Bioscience #79742) diluted in blocking buffer to all wells. Incubate for 30 minutes at room temperature with slow shaking.

6. Wash the wells 3 times and add 100  $\mu$ l of Colorimetric HRP Substrate (BPS Bioscience #79651) to all wells. Allow samples to develop color until positive control wells become blue. This typically takes between 30 seconds to 5 minutes.

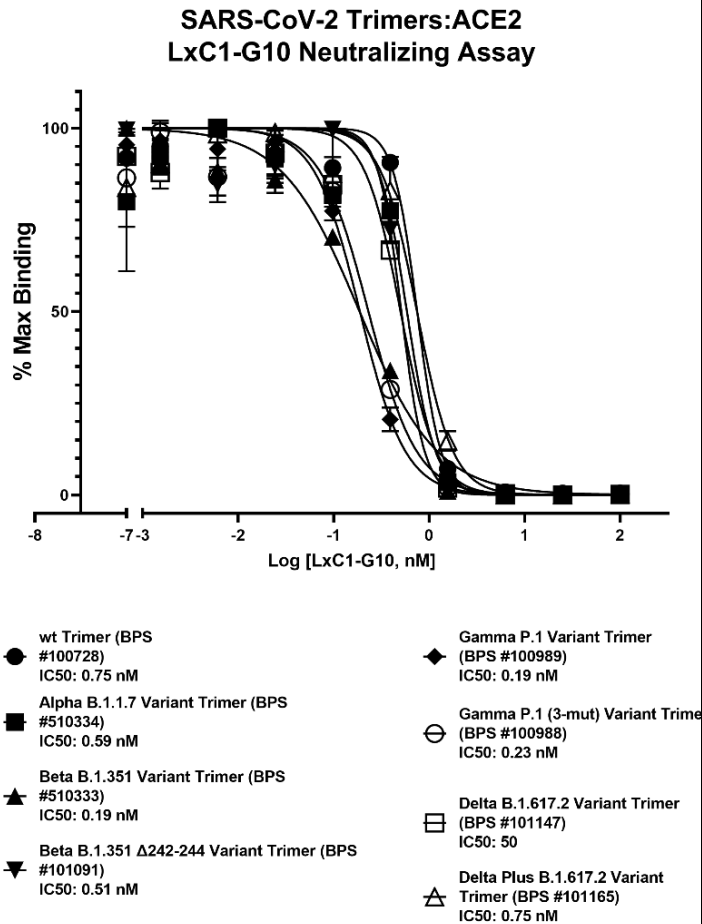
7. Quickly quench the reaction with an equal volume (100  $\mu$ l) of 1N HCl. The blue color will turn yellow.

8. Read absorbance at 450 nm. Subtract the "blank" value from all other measurements.

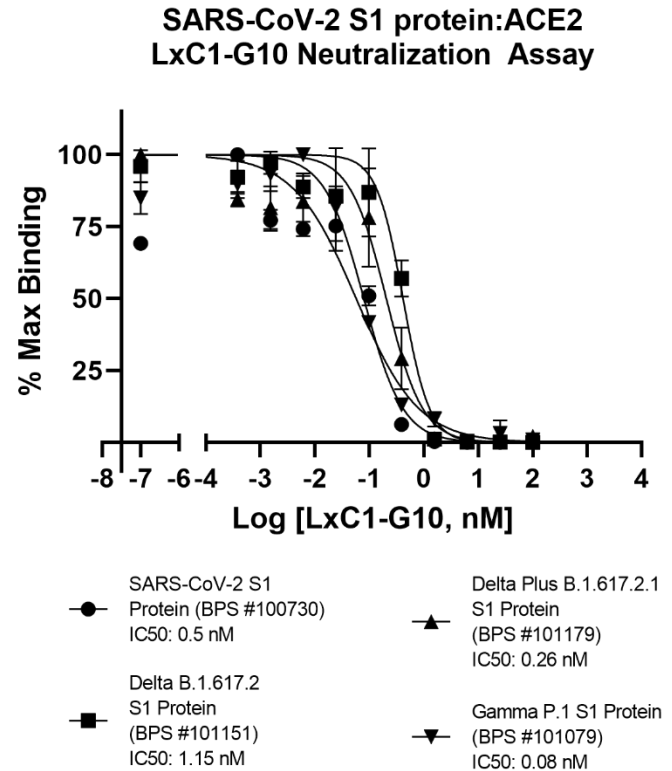
**Applications:**

This product is for research use only. It is not suitable for human, diagnostic or therapeutic use. The human monoclonal neutralizing IgG can be used for functional assays to block SARS-CoV-2 Spike protein and ACE2 binding.

## Quality Control Data

Neutralization of SARS-CoV-2 spike **Trimeric** proteins

Clone LxC1-G10 mAb competes with and blocks the binding of ACE2-biotin to spike trimer wild-type (BPS Bioscience #100728) as well as Alpha B.1.1.7 (BPS Bioscience #510334), Beta B.1.351 (BPS Bioscience #510333), Beta B.1.351Δ242-244 (BPS Bioscience #101091), Gamma P.1 (BPS Bioscience #100989), Delta B.1.617.2 (BPS Bioscience #101147) and Delta Plus B.1.617.2.1 (BPS Bioscience #101165) variants. The percent binding of Trimer:ACE2 is determined at various concentrations of the neutralizing antibody following the assay conditions described above.

Neutralization of SARS-CoV-2 spike **S1** proteins

Clone LxC1-G10 mAb competes with and blocks the binding of ACE2-biotin to spike S1 wild-type (BPS Bioscience # 100730) as well as Delta B.1.617.2 (BPS Bioscience #101151), Delta Plus B.1.617.2.1 (BPS Bioscience #101179) and Gamma P.1 (BPS Bioscience #101079) variants. The percent binding of S1 protein:ACE2 is determined at various concentrations of the neutralizing antibody

**Related Products**

<i>Products</i>	<i>Catalog #</i>	<i>Size</i>
Spike S1 Neutralizing Antibody (Clone C-A11) (SARS-CoV-2)	101024	100 µg
Spike Trimer Neutralizing Antibody (Clone hC-A11) (SARS-CoV-2)	101061	100 µg
ACE2, His-Avi-Tag, Biotin-labeled HiP™	100665	20 µg/50 µg
Spike S1 RBD, Avi-His-tag (SARS-CoV-2)	100696	100 µg/1 mg
Spike RBD (B.1.1.7 Variant), Avi-His-Tag (SARS-CoV-2)	100977	100 µg/1 mg
Spike Trimer (S1+S2), His-tag (SARS-CoV-2)	100728	100 µg/1 mg
Spike Trimer (S1+S2) (B.1.1.7 Variant), His-Tag (SARS-CoV-2)	510334	100 µg/1 mg
Spike Trimer (S1+S2) (B.1.351, Beta Variant), His-Tag (SARS-CoV-2)	510333	100 µg/1 mg
Spike S1 RBD (B.1.617.2, Delta Variant), Avi-His-Tag (SARS-CoV-2)	101153	100 µg/1 mg
Spike Trimer (S1+S2) (P.1 Variant), His-Tag (SARS-CoV-2)	100989	100 µg/1 mg
Spike Trimer (S1+S2) (B.1.617.2; Delta Variant), His-Tag (SARS-CoV-2)	101147	100 µg
Spike Trimer (S1+S2) (B.1.617.2.1, Delta Plus Variant), His-Tag (SARS-CoV-2)	101165	100 µg
Spike Trimer (S1+S2) (B.1.351, Beta Variant, Δ242-244) (SARS-CoV-2)	101091	100 µg
SARS-CoV-2 Spike Trimer (S1+S2):ACE2 Inhibitor Screening Colorimetric Assay Kit	79999	96 reactions
Spike S1 (16-685), Avi-His-tag (SARS-CoV-2)	100730	100 µg/1 mg
Spike S1 (B.1.617.2.1, Delta Plus Variant) Avi-His-Tag (SARS-CoV-2)	101179	100 µg
Spike S1 (B.1.617.2, Delta Variant) Avi-His-Tag (SARS-CoV-2)	101151	100 µg/1 mg