

Product Information

Description: This monoclonal antibody recognizes the SARS-CoV-2 Spike RBD (B.1.1.529, Omicron Variant) protein and neutralizes its interaction with ACE2 [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 the Spike S1 RBD (B.1.1.529, Omicron Variant) (SARS-CoV-2):ACE2 Inhibitor Screening Colorimetric Assay Kit (BPS Bioscience #78339).

Concentration: 0.5 mg/ml

Specificity: The antibody recognizes the Omicron B.1.1.529 variant RBD domain. It has not been tested on other spike variants, on the S1 protein, or on the full-length Spike trimer.

Isotype: Human IgGk

Formulated In: 1X PBS, 0.2% BSA

Purification: Protein A affinity chromatography

Format: Aqueous buffer solution

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

MW: ~150 kDa

Assay Conditions: *The functional activity of the antibody was measured using "Spike S1 RBD (B.1.1.529, Omicron Variant) (SARS-CoV-2): ACE2 Inhibitor Screening Colorimetric Assay Kit" (BPS Bioscience, #78339). Experimental design:*

1. A flat bottom clear 96-well plate was coated with 50 µl of spike RBD protein (1 µg/ml diluted in PBS) and incubated overnight at 4°C.
2. The next day, the plate was washed three times with 1 x Immuno Buffer 1 and blocked with 100 µl of blocking buffer for 1 hour at room temperature with slow shaking.
3. The spike protein was preincubated with 50 µl of neutralizing antibody (using serial three-fold dilutions in duplicates, ranging from 200 nM to 0 nM). The neutralizing antibody was diluted in blocking buffer, 50 µl of diluted antibody was added to the plate and incubated for 30 minutes at room temperature with slow shaking. For the wells labeled "blank" and "positive control", 50 µl of blocking buffer was added instead of diluted antibody.
4. ACE2-Biotin (BPS Bioscience, #100665) was diluted to 1.5 ng/µl in blocking buffer and 50 µl was added to the wells containing spike protein and neutralizing antibody. 50 µl of blocking buffer was added to the wells labeled "Blank" instead of ACE2-Biotin. The plate was incubated for 1 hour at room temperature with slow shaking.
5. The wells were washed 3 times with 1 x Immuno Buffer 1. 50 µl of HRP-Streptavidin (BPS Bioscience, #79742) diluted in blocking buffer was added to all wells for 30 minutes at room temperature with slow shaking.
6. The wells were washed 3 times before addition of 100 µl of Colorimetric HRP Substrate (BPS Bioscience, #79651) to all wells.

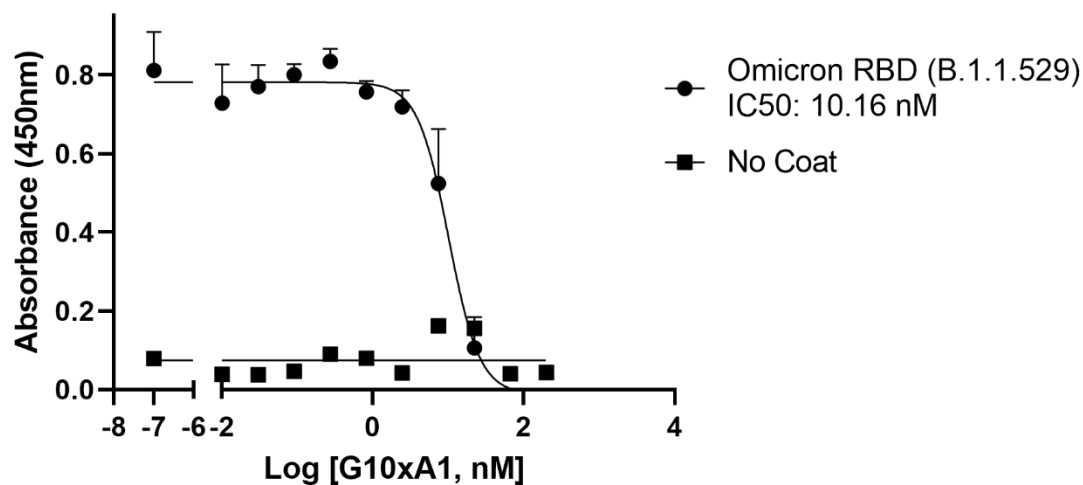
- The reaction was quenched with an equal volume (100 μ l) of 1N HCl.
- Absorbance was read at 450 nm. The "blank" value was subtracted from all other measurements.

Applications:

This product is for research use only. It is not suitable for human, diagnostic or therapeutic use. The 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 RBD (B.1.1.529, Omicron Variant)



Clone G10xA1 neutralizing antibody competes with and blocks the binding of ACE2-biotin and Omicron B.1.1.529 Variant RBD spike protein. The IC₅₀ of RBD:ACE2 neutralization is determined at various concentrations of the neutralizing antibody (200 nm to 0 nm, three-fold dilutions) following the assay conditions described above.

Related Products

<i>Products</i>	<i>Catalog #</i>	<i>Size</i>
Spike Neutralizing Antibody (Clone G10xA5) (SARS-CoV-2)	101327	100 µg
Spike S1 RBD (B.1.1.529, Omicron Variant) (SARS-CoV-2):ACE2 Inhibitor Screening Colorimetric Assay Kit	78339	96 reactions
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 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
SARS-CoV-2 Spike Trimer (S1+S2):ACE2 Inhibitor Screening Colorimetric Assay Kit	79999	96 reactions