Product Information

Description: This antibody is a humanized monoclonal antibody which recognizes SARS-CoV-2 spike RBD and the full-length spike proteins in the native trimeric conformation. This antibody is derived from rabbit monoclonal C-A11 neutralizing antibody (BPS Bioscience, #101024). It cross-reacts with the wildtype as well as the B.1.617.2 (Delta Variant), B.1.617.2.1 (Delta PLUS Variant), B.1.1.7 (Alpha Variant) RBDs and spike protein trimers [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 Sike protein. This neutralizing antibody has been functionally tested using BPS Bioscience Spike RBD: ACE2 Inhibitor Screening Kits (available for purchase).

Concentration: 0.5 mg/ml
Species: Humanized antibody
Specificity: The antibody neutralizes the wildtype, B.1.1.7 (Alpha), B.1.617.2 (Delta) and B.1.617.2.1 (Delta Plus) variants of SARS-CoV-2 Spike RBD and Trimeric proteins
Isotype Human IgG1
Secondary detection: Anti-Human secondary
Formulated In: PBS
Purification: Protein A
Format: Aqueous buffer solution
Storage: 4°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 for measuring 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 plate 3 times with PBS and preincubate the spike protein with 50 µl of neutralizing antibody. We recommend serial dilutions in duplicates ranging from 300nM to 0 nM. Neutralizing antibody should be diluted in blocking buffer and 50 µl of diluted antibody should be added to the plate and incubated for 30 minutes at room temperature with slow shaking. For the wells labeled "blank" and "positive control", add 50 µl of blocking buffer instead.
4. Dilute ACE2-biotin (BPS Bioscience #100665) to 1.5 ng/µl in blocking buffer and add 50 µl to the wells. Skip the wells labeled "blank" and add 50 µl blocking buffer instead. Incubate for 1 hour room temperature with slow shaking

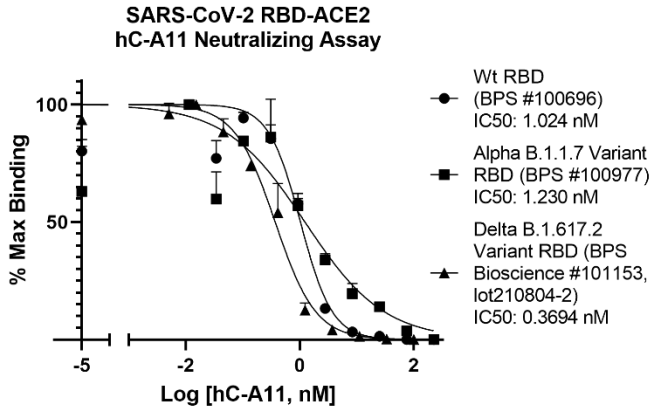
5. Wash the wells 3 times and add 50 µl of HRP-Streptavidin (BPS Bioscience #79742) diluted in blocking buffer to all wells. Incubate for 30 minutes at room temperature with slow shaking.
6. Wash wells 3 times and add 100 µl of Colorimetric HRP Substrate (BPS Bioscience #79651) to all wells. Allow samples 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 µl) 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 humanized monoclonal neutralizing IgG can be used for functional assays testing inhibitors against SARS-CoV-2 Spike protein and ACE2 binding.

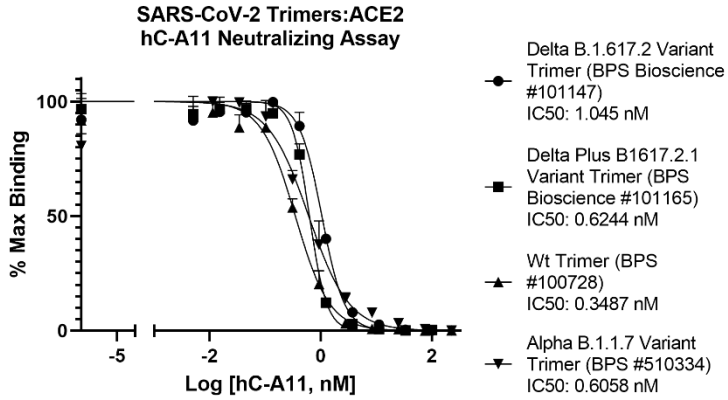
Quality Control Data

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



Clone hC-A11 mAb (BPS Bioscience #101061) competes with and blocks the binding of ACE2-biotin and wildtype spike RBD, Alpha B.1.1.7 variant RBD, and Delta B.1.617.2 variant RBD. The percent binding of RBD:ACE2 is determined at various concentrations of hC-A11 following the assay conditions described above.

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



Clone hC-A11 mAb (BPS Bioscience #101061) competes with and blocks the binding of ACE2-biotin and wildtype spike trimer, Alpha B.1.1.7 variant trimer, Delta B.1.617.2 variant trimer and Delta Plus B.1.617.2.1 variant trimer. The percent binding of Trimer:ACE2 is determined at various concentrations of hC-A11 following the assay conditions described above.

Related Products

Products	*Catalog #*	*Size*
Spike S1 Neutralizing Antibody (Clone C-A11) (SARS-CoV-2)	101024	100 µg
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
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, Alpha 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, Alpha 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
SARS-CoV-2 Spike Trimer (S1+S2):ACE2 Inhibitor Screening Colorimetric Assay Kit	79999	96 reactions