

SARS-CoV-2 (COVID-19) Spike 681P Antibody [8G10B1]

Infectious Disease, COVID-19

Catalog # ASC12192

Product Information

Application	WB, E
Other Accession	QHD43416
Host	Mouse
Clonality	Monoclonal
Isotype	IgG3
Clone Names	S
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated

Additional Information

Gene ID	43740568
Alias Symbol	S
Other Names	SARS-CoV-2 Spike 681P antibody: Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), Surface Glycoprotein, Spike protein
Reconstitution & Storage	SARS-CoV-2 Spike 681P antibody can be stored at 4 °C for three months and -20 °C, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	SARS-CoV-2 (COVID-19) Spike 681P Antibody [8G10B1] is for research use only and not for use in diagnostic or therapeutic procedures.

Background

In September of 2020 a new lineage of SARS-CoV-2, known as B.1.1.7 and named as Alpha variant, was discovered in the United Kingdom. This lineage developed 14 lineage-specific amino acid replacements and 3 deletions. These changes caused an increase in transmission of Alpha variant (B.1.1.7 lineage) by at least 50%, leading to increased disease severity and higher death rates. The effectiveness of COVID19 vaccines are not affected by the Alpha variant. One of the mutations associated with this lineage is a N501Y in the spike protein of the virus. It is believed that this mutation is able to increase the spike protein's affinity for the host ACE2 receptor and it has been associated with increased infectivity and virulence. B.1.1.7 viruses have also been shown to have a P681H mutation in the cleavage site of spike protein. This location is one of the residues that make up the furin proteolytic cleavage site between S1 and S2 in spike protein.

References

Duchene et al. Virus Evolution 6(2): veaa061. Gu et al. Science 369(6511):1603-1607 Hoffmann et al. Molecular Cell 78(4):779-784.e5 Davies et al. Science 372(6538):eabg3055. Davies et al. Nature. 593(7858):270-274. Graham, et al. The Lancet Public Health. 6(5): e335-e345. Horby et al. New & Emerging

Images

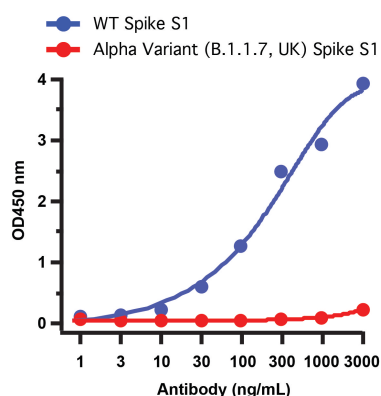


Figure 1 ELISA Validation of Spike 681P Antibodies with SARS-CoV-2 Spike S1 Protein
Coating Antigens: SARS-CoV-2 spike S1 proteins: WT and alpha variant (B.1.1.7, UK), 2 µg/mL, incubated at 4 °C overnight. Detection Antibodies: SARS-CoV-2 Spike 681P antibody, ASC12192, dilution: 1-3000 ng/mL, incubated at RT for 1 hr. Secondary Antibodies: Goat anti-mouse HRP at 1:5,000, incubated at RT for 1 hr. SARS-CoV-2 spike 681P antibody (ASC12192) detected WT spike S1 protein (10-300), but not alpha variant spike S1 protein by ELISA.

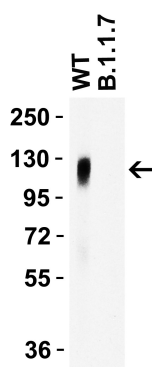


Figure 2 WB Validation of Spike 681P Antibodies with SARS-CoV-2 Spike S1 Protein
Loading: 30 ng of SARS-CoV-2 spike S1 proteins: WT and alpha variant (B.1.1.7, UK). Detection Antibodies: SARS-CoV-2 Spike 681P antibody, ASC12192, 1 µg/mL, incubated at RT for 1 hr. Secondary Antibodies: Goat anti-mouse HRP at 1:5,000, incubated at RT for 1 hr. SARS-CoV-2 spike 681P antibody (ASC12192) detected WT spike S1 protein (10-300), but not alpha variant spike S1 protein by WB.

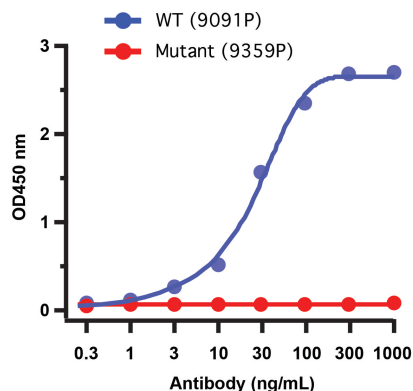


Figure 3 ELISA Validation of Spike 681P Antibodies with Mutant and WT Peptide
Coating Antigen: SARS-CoV-2 spike S1 peptides: WT (9091P) and alpha variant (B.1.1.7, UK) (9359P), 1 µg/mL, incubate at 4 °C overnight. Detection Antibodies: SARS-CoV-2 681P antibody, ASC12192, dilution: 0.3-1000 ng/mL, incubated at RT for 1 hr. Secondary Antibodies: Goat anti-mouse HRP at 1:5,000, incubated at RT for 1 hr. SARS-CoV-2 spike 681P antibody (ASC12192) detected WT peptide (681P, 9091P), but not alpha variant spike S1 peptide (681H, 9359P).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.