



SARS-CoV-2/SARS-CoV Spike Antibody

Cat. No.: 3223

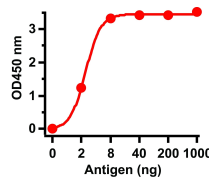


Figure 3 ELISA Test

Antibodies: SARS-CoV-2/SARS-CoV Spike Antibody, 3223 (1 µg/mL). An ELISA was performed using immunogen as coating antigen and the anti-SARS-CoV -2/SARS-CoV Spike antibody as the capture antibody. Secondary: Goat

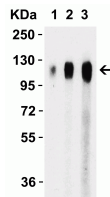


Figure 1 Western Blot Validation with Human Recombinant Protein

Loading: 50 ng per lane of human SARS-CoV-2 Spike S1 recombinant protein. Antibodies: SARS-CoV-2/SARS-CoV Spike, 1h incubation at RT in 5% NFD/MTBST. Secondary: Goat anti-rabbit IgG HRP conjugate at 1:10000 dilution. Lane 1: 1 µg/mL Lane 2: 2 µg/mL Lane 3: 4 µg/mL

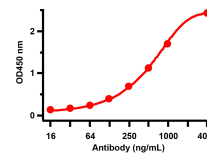


Figure 2 ELISA Validation with Human Recombinant Protein

Antibodies: SARS-CoV-2 Spike antibody, 3223. An ELISA was performed using human SARS-CoV-2 Spike S1 recombinant protein as coating antigen and the SARS-CoV-2 Spike antibody, as the capture antibody. Secondary: Goat anti-rabbit IgG HRP conjugate at 1:20000 dilution. Detection range is from 16 ng/mL to 4000 ng/mL.

Ψ Specifications

HOST SPECIES:	Rabbit
SPECIES REACTIVITY:	Virus
HOMOLOGY:	Predicted reactivity based on immunogen sequence: SARS-CoV2 Spike protein: (identity 65%, homology 88%)
IMMUNOGEN:	Anti-SARS-CoV-2/SARS-CoV Spike antibody (3223) was raised against a peptide corresponding to 17 amino acids near the center of SARS-CoV Spike glycoprotein. The immunogen is located within amino acids 550-600 of SARS-CoV Spike.

TESTED APPLICATIONS:	ELISA, WB
APPLICATIONS:	SARS-CoV-2/SARS-CoV Spike antibody can be used for the detection of SARS-CoV-2/SARS-CoV Spike protein in ELISA and in Western Blot. It will detect 2 ng of free peptide at 1 µg/mL.
SPECIFICITY:	SARS-CoV-2/SARS-CoV Spike antibody can detect both SARS-CoV-2 Spike protein and SARS-CoV Spike protein.

Ψ Advanced Validation

VALIDATION:	Recombinant Protein Test (Figure 1): Anti-SARS-CoV-2/SARS-CoV antibodies (3223) detected human SARS-CoV-2 Spike S1 recombinant protein at different concentrations.
ISOFORMS:	SARS-CoV-2 Spike has one isoform (1273aa) and SARS-CoV has one isoform (1255aa).

Ψ Properties

PURIFICATION:	SARS-CoV-2/SARS-CoV Spike Antibody is affinity chromatography purified via peptide column.
CLONALITY:	Polyclonal
ISOTYPE:	IgG
CONJUGATE:	Unconjugated
PHYSICAL STATE:	Liquid
BUFFER:	SARS-CoV-2/SARS-CoV Spike Antibody is supplied in PBS containing 0.02% sodium azide.
CONCENTRATION:	1 mg/mL
STORAGE CONDITIONS:	SARS-CoV-2/SARS-CoV Spike 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.

Ψ Additional Info

OFFICIAL SYMBOL:	S
ALTERNATE NAMES:	SARS-CoV-2/SARS-CoV Spike antibody: E2, Spike glycoprotein, E2, S glycoprotein
ACCESSION NO.:	P59594
PROTEIN GI NO.:	30173397
GENE ID:	1489668
USER NOTE:	Optimal dilutions for each application to be determined by the researcher.

BACKGROUND:	Coronavirus disease 2019 (COVID-19), formerly known as 2019-nCoV acute respiratory disease, is an infectious disease caused by SARS-CoV-2, a virus closely related to the SARS virus (1). The disease is the cause of the 2019–20 coronavirus outbreak (2). The structure of 2019-nCoV consists of the following: a Spike protein (S), hemagglutinin-esterase dimer (HE), a membrane glycoprotein (M), an envelope protein (E) a nucleocapsid protein (N) and RNA. Coronavirus invades cells through Spike (S) glycoproteins, a class I fusion protein. It is the major viral surface protein that coronavirus uses to bind to the human cell surface receptor. It also mediates the fusion of host and viral cell membrane, allowing the virus to enter human cells and begin infection (3). The spike protein is the major target for neutralizing antibodies and vaccine development (4). The protein modeling suggests that there is strong interaction between Spike protein receptor-binding domain and its host receptor angiotensin-converting enzyme 2 (ACE2), which regulate both the cross-species and human-to-human transmissions of COVID-19 (5). The recent study has shown that the SARS-CoV-2 spike protein binds ACE2 with higher affinity than SARS-CoV spike protein (6).
REFERENCES:	1) Gorbalenya. bioRxiv: 2020.
	2) Hui et al. Int J Infect Dis. 2020;91:264-266.
	3) Belouzard et al. Viruses. 2012;4(6):1011-33.
	4) Lee et al. J Virol. 2006;80(8):4079-87.
	5) Wan et al. J Virol. 2020.
	6) Wrapp et al. Science. 2020.

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