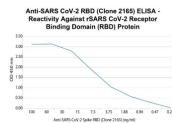




# SARS-CoV-2 Spike RBD Antibody [2165] (Biotin)

Cat. No.: 10-053



Coating: Purified Recombinant SARS-CoV-2 Spike RBD, concentration of 1 ul/well, 100 ul/well overnight 2-8°C. Detection: Anti-SARS-CoV-2 RBD (Clone 2165) conjugated to HRP was serially diluted starting at 25 ng/ml down to 0.23 ng/ml, 100 ul/well for 1 hour at 37°C. Substrate: TMB, 100 ul/well for 15 min. at room temperature followed by 450 nm stop solution, 50ul/well.

## Ψ Specifications

<b>SPECIES REACTIVITY:</b>	Virus
<b>IMMUNOGEN:</b>	Sequenced from human survivors of COVID-19 (SARS-CoV-2). The spike RBD is expressed on the surface of SARS-CoV-2.
<b>TESTED APPLICATIONS:</b>	ELISA, IHC
<b>APPLICATIONS:</b>	ELISA (Quality Tested by ProSci); IHC (Other applications as reported in literature)
<b>SPECIFICITY:</b>	Anti-SARS-CoV-2 Spike RBD-Biotin, clone 2165, specifically targets an epitope on the SARS-CoV-2 spike protein receptor-binding domain (RBD). This antibody does not cross-react with the N-terminal domain (NTD) of the spike protein or the RBD of SARS-CoV.

## Ψ Properties

<b>CLONALITY:</b>	Monoclonal
<b>ISOTYPE:</b>	Human IgG1
<b>CONJUGATE:</b>	Biotin
<b>PHYSICAL STATE:</b>	Liquid
<b>BUFFER:</b>	This biotinylated monoclonal antibody is formulated in 0.01 M phosphate buffered saline (PBS) pH 7.4, 1% BSA and 0.09% sodium azide as a preservative.
<b>CONCENTRATION:</b>	0.5 mg/ml
<b>STORAGE CONDITIONS:</b>	This biotinylated monoclonal antibody is stable when stored at 2-8 ° C. Do not freeze.

## Additional Info

<b>OFFICIAL SYMBOL:</b>	S
<b>ALTERNATE NAMES:</b>	SARS-CoV-2 Spike RBD Antibody, Receptor Binding Domain Monoclonal Antibody
<b>PROTEIN GI NO.:</b>	SARS-CoV-2
<b>USER NOTE:</b>	43740568

## Background and References

<b>REFERENCES:</b>	<p>1) Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), the causative agent of coronavirus disease 2019 (COVID-19), is an enveloped, single-stranded, positive-sense RNA virus that belongs to the Coronaviridae family 1. The SARS-CoV-2 genome, which shares 79.6% identity with SARS-CoV, encodes four essential structural proteins: the spike (S), envelope (E), membrane (M), and nucleocapsid protein (N) 2. The S protein is a transmembrane, homotrimeric, class I fusion glycoprotein that mediates viral attachment, fusion, and entry into host cells 3. Each ~180 kDa monomer contains two functional subunits, S1 (~700 a.a) and S2 (~600 a.a), that mediate viral attachment and membrane fusion, respectively. S1 contains two major domains, the N-terminal (NTD) and C-terminal domains (CTD). The CTD contains the receptor-binding domain (RBD), which binds to the angiotensin-converting enzyme 2 (ACE2) receptor on host cells 3-5. Although both SARS-CoV and SARS-CoV-2 bind the ACE2 receptor, the RBDs only share ~73% amino acid identity, and the SARS-CoV-2 RBD binds with a higher affinity compared to SARS-CoV 3, 6. The RBD is dynamic and undergoes hinge-like conformational changes, referred to as the "down" or "up" conformations, which hide or expose the receptor-binding motifs, respectively 7. Following receptor binding, S1 destabilizes, and TMPRSS2 cleaves S2, which undergoes a pre- to post-fusion conformation transition, allowing for membrane fusion 8, 9. Polyclonal RBD-specific antibodies can block ACE2 binding 10, 11, and anti-RBD neutralizing antibodies are present in the sera of convalescent COVID19 patients 12, identifying the RBD as an attractive candidate for vaccines and therapeutics. In addition, the RBD is poorly conserved, making it a promising antigen for diagnostic tests 13 14. Serologic tests for the RBD are highly sensitive and specific for detecting SARS-CoV-2 antibodies in COVID19 patients 13 15. Furthermore, the levels of anti-RBD antibodies correlated with SARS-CoV-2 neutralizing antibodies, suggesting the RBD could be used to predict an individual's risk of disease 13.</p>
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## CITATIONS

<b>CITATIONS:</b>	1)Huo J, Zhao Y, Ren J, et al. Cell Host Microbe. S1931-3128(20)30351-6. 2020
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