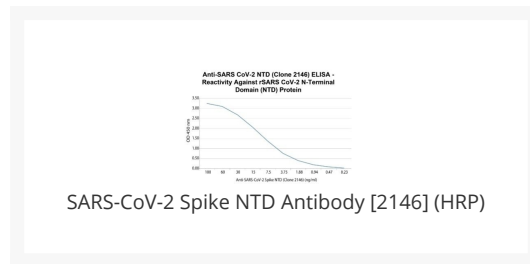




SARS-CoV-2 Spike NTD Antibody [2146] (HRP)

Cat. No.: 10-057



Ψ Specifications

SPECIES REACTIVITY:	Virus
IMMUNOGEN:	Sequenced from human survivors of COVID-19 (SARS-CoV-2). The spike NTD is expressed on the surface of SARS-CoV-2.
TESTED APPLICATIONS:	ELISA, IHC
APPLICATIONS:	ELISA (Quality Tested by ProSci); IHC (Other applications as reported in literature)
SPECIFICITY:	Anti-SARS-CoV-2 Spike NTD-HRP, clone 2146, specifically targets an epitope on the SARS-CoV-2 spike protein N-terminal domain. This antibody does not cross-react with the receptor-binding domain (RBD) of the spike protein or the NTD of SARS-CoV.

Ψ Properties

CLONALITY:	Monoclonal
ISOTYPE:	Human IgG1
CONJUGATE:	HRP
PHYSICAL STATE:	Liquid
BUFFER:	This HRP-conjugated antibody is formulated in 0.01 M phosphate buffered saline (PBS) pH 7.4, 1% BSA. (Warning: Use of sodium azide as a preservative will inhibit the enzyme activity of horseradish peroxidase)

CONCENTRATION:	0.5 mg/ml
STORAGE CONDITIONS:	This horseradish peroxidase conjugated monoclonal antibody is stable when stored at 2-8° C. Do not freeze.

Ψ Additional Info

OFFICIAL SYMBOL:	S
ALTERNATE NAMES:	SARS-CoV2 Spike NTD, COVID-19, 2019-nCoV, Severe acute respiratory syndrome coronavirus 2, SARS-CoV2
PROTEIN GI NO.:	SARS-CoV-2
USER NOTE:	43740568

Ψ Background and References

REFERENCES:	<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). In both SARS-CoV and SARS-CoV-2, the CTD contains the receptor-binding domain (RBD), which binds to the angiotensin-converting enzyme 2 (ACE2) receptor on host cells³⁻⁵. The NTD of SARS-CoV does not bind to ACE2⁶, and the function of NTD in SARS-CoV-2 infection is not well understood. In other CoVs, the NTD may promote attachment by binding to sugar moieties⁷ and might play a role in the conformational change of S2 required for membrane fusion⁸. While most neutralizing antibodies target the RBD domain and block receptor binding, potent neutralizing antibodies targeting NTD were isolated from convalescent COVID19 patients⁹, identifying the NTD as an attractive candidate for vaccines and therapeutics. In addition, the NTD is a promising antigen for diagnostic tests, as there is only 53.5% homology between the NTD of SARS-CoV-2 and SARS-CoV¹⁰.</p>
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	6) Li W, Zhang C, Sui J, et al. EMBO J. 24(8):1634-1643. 2020.
	7) Wang Q, Zhang Y, Wu L, et al. Cell. 181(4):894-904.e9. 2020.
	8) Park, Y., Walls, A.C., Wang, Z. et al. Nat Struct Mol Biol 26, 1151–1157. 2019.
	9) Zhou, H., Chen, Y., Zhang, S. et al. Nat Commun 10, 3068. 2019.
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CITATIONS:

1)Ou, X., Liu, Y., Lei, X. et al. Nat Commun 11, 1620. 2020.

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