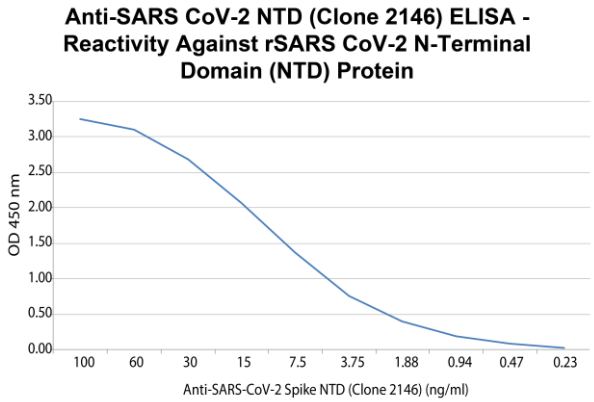
Anti-SARS-CoV-2 Spike NTD [Clone 2146] — Purified No Carrier Protein

Recombinant Monoclonal Antibody



Coating: Purified Recombinant SARS-CoV-2 Spike NTD (Prod. No. S853) concentration of 1 ug/ml, 100 ul/well overnight at 2-8°C.
Detection: Anti-SARS-CoV-2 NTD (Clone 2146) 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 (Leinco T118), 100 ul/well for 15 min. at room temperature followed by Leinco 450 nm Stop Solution (Leinco T125), 50 ul/well.

Product Information

Product No.:	LT2000
Clone:	2146
RRID:	AB_2893936
Isotype:	Human IgG1
Storage:	Sterile 2-8°C

Product Description

Specificity:
Anti-SARS-CoV-2 Spike NTD, clone 2146, specifically targets an epitope on the SARS-CoV-2 spike protein N-terminal domain.

Antigen Distribution:
The spike NTD is expressed on the surface of SARS-CoV-2.

Background:
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 cells[3-5]. The NTD of SARS-CoV-2 does not bind to ACE2[6], 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 moieties[7] and might play a role in the conformational change of S2 required for membrane fusion[8]. While most neutralizing

antibodies target the RBD domain and block receptor binding, potent neutralizing antibodies targeting NTD were isolated from convalescent COVID19 patients[9], 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-CoV[10].

Known Reactivity Species:
SARS-CoV-2, Virus

Expression Host:
HEK-293 Cells

Format:
Purified No Carrier Protein

Immunogen:
Sequenced from human survivors of COVID-19 (SARS-CoV-2)

Formulation
This recombinant monoclonal antibody is aseptically packaged and formulated in 0.01 M phosphate buffered saline (150 mM NaCl) PBS pH 7.2 - 7.4 with no carrier protein, potassium, calcium or preservatives added. Due to inherent biochemical properties of antibodies, certain products may be prone to precipitation over time. Precipitation may be removed by aseptic centrifugation and/or filtration.

Purity
≥90% monomer by analytical SEC and SDS-Page

Storage and Stability
This antibody may be stored sterile as received at 2-8°C for up to one month. For longer term storage, aseptically aliquot in working volumes without diluting and store at ≤ -70°C. **Avoid Repeated Freeze Thaw Cycles.**

Product Preparation
Recombinant antibodies are manufactured in an animal free facility using only *in vitro* protein free cell culture techniques and are purified by a multi-step process including the use of protein A or G to assure extremely low levels of endotoxins, leachable protein A or aggregates.

Applications
Applications and Recommended Usage (Quality Tested By Leinco):

ELISA

Other Applications Reported in Literature:

IHC

Country of Origin
USA

References
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