Order online now!

www.rockland.com
tech@rockland.com
+1 484.791.3823

Datasheet for 200-401-MS4

SARS-CoV-2 Nucleocapsid (N) Protein Antibody

Overview

Description:	Anti-SARS-CoV-2 Nucleocapsid (N) Protein (RABBIT) Antibody - 200-401-MS4
Item No.:	200-401-MS4
Size:	500 µg
Applications:	ELISA, WB
Reactivity:	SARS-CoV-2
Host Species:	Rabbit

Product Details

Background:	SARS-CoV-2 (Severe acute respiratory syndrome coronavirus 2 or COVID-19) is related to SARS-CoV, MERS, and four milder coronaviruses (HKU1, NL63, OC43 and 229E). SARS-CoV-2 is an enveloped positive-strand RNA virus that consists of four structural proteins: spike (S) protein, envelope (E) protein, membrane (M) protein and nucleocapsid (N) protein. The spike protein is the most important surface protein of coronavirus. SARS-CoV-2 has a high affinity binding to human receptor ACE2 (angiotensin-converting enzyme 2) within respiratory epithelial. ACE2 is a membrane-bound aminopeptidase that has a vital role in the cardiovascular and immune systems. The nucleocapsid protein is a most abundant protein of coronavirus. The coronavirus nucleocapsid protein is the major structural component of virions that associates with genomic RNA to form a long, flexible, helical nucleocapsid. Anti-SARS-CoV-2 Nucleocapsid (N) Protein Antibody is useful for researchers interested in diagnostics and viral research.
Synonyms:	rabbit anti-SARS CoV 2 Nucleocapsid Protein Antibody, N-protein antibody, SARS CoV2 antibody, 2019-nCoV, COVID-19, Severe acute respiratory syndrome antibody, Severe acute respiratory syndrome coronavirus 2
Host Species:	Rabbit
Clonality:	Polyclonal
Format:	IgG

Target Details

Gene Name:	N
Reactivity:	SARS-CoV-2

Immunogen Type:	Recombinant Protein
Immunogen:	Anti-SARS-CoV-2 Nucleocapsid (N) Protein Antibody was produced by repeated immunizations with purified recombinant SARS-CoV-2 Nucleocapsid protein with C-terminal His-tag, derived from the transfected human HEK293 cells.
Purity/Specificity:	This protein A purified antibody is directed against SARS Coronavirus 2 Nucleocapsid (N) protein. The product was purified from monospecific antiserum by protein A affinity purification. BLAST analysis was used to suggest reactivity with related Coronavirus proteins. Cross reactivity with homologues from other sources has not been determined.
Relevant Links:	• NCBI - QHD43423 • NCBI - MN908947.3 • GeneID - 43740575 • UniProtKB - P0DTC9

Application Details

Tested Applications:	ELISA, WB
Application Note:	Anti-SARS-CoV-2 Nucleocapsid (N) Protein Antibody has been tested for use in ELISA, Bio-Layer Interferometry (BLI), and Western Blot. Specific conditions for reactivity should be optimized by the end user. Expect a band approximately 47 kDa in size corresponding to SARS-CoV-2 Nucleocapsid (N) protein by western blotting in the appropriate cell lysate or extract.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	User Optimized
WB:	1:1000-1:2000

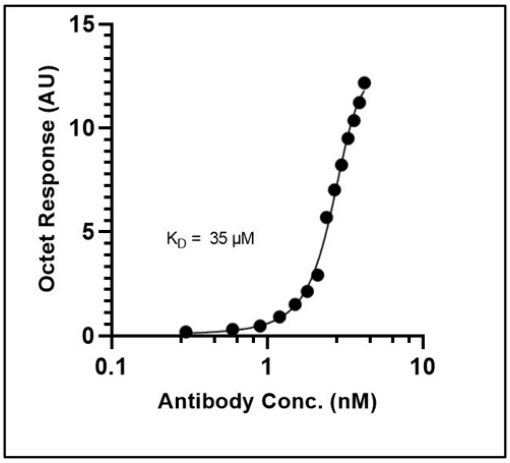
Formulation

Physical State:	Lyophilized
Concentration:	5.0 mg/ml by UV absorbance at 280 nm
Buffer:	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Preservative:	0.01% (w/v) Sodium Azide
Stabilizer:	None
Reconstitution Volume:	500 µL
Reconstitution Buffer:	Restore with deionized water (or equivalent)

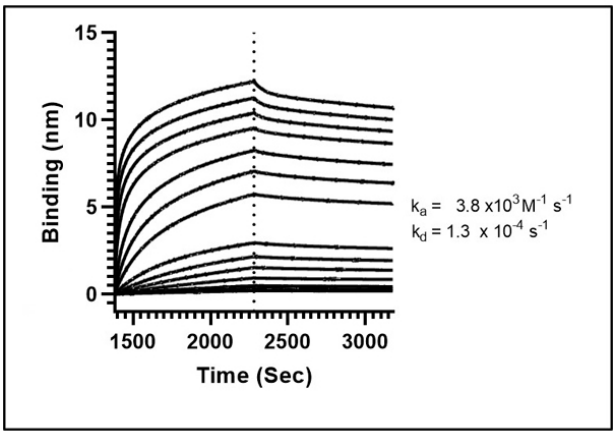
Shipping & Handling

Shipping Condition:	Ambient
Storage Condition:	Store vial at 4° C prior to restoration. For extended storage aliquot contents and freeze at -20° C or below. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.
Expiration:	Expiration date is one (1) year from date of receipt.

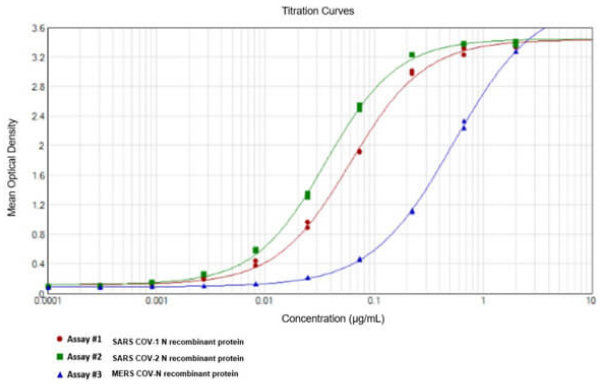
Images



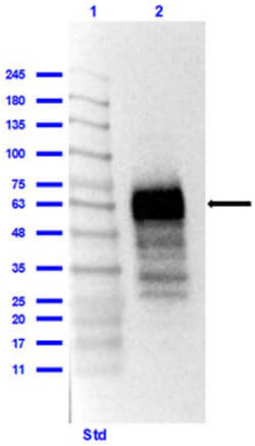
ELISA
Fitting of Kinetic Data to bivalent binding site model. Steady state signals are fitted to a bivalent binding site model. A 4-parameter non-linear regression curve was used for the integration of the data. The Rabbit Anti-SARS-CoV-2 Nucleocapsid (N) Protein Antibody (p/n 200-401-MS4) presents a KD=35 µM (affinity constant) to Anti-SARS-CoV-2 Nucleocapsid (N) Protein.



ELISA
Binding mode and kinetic analysis of Rabbit Anti-SARS-CoV-2 Nucleocapsid (N) Protein Antibody (p/n 200-401-MS4). Using Octet R4, SARS-COV-2N was immobilized at 20 µg/mL on an AR2G biosensor and exposed to Rabbit Anti-SARS-CoV-2 Nucleocapsid (N) Protein Antibody over a range of 2.0 nM – 16.7 µM. Each curve represents the acquired signal of its protein concentration. The interaction fits to a bivalent binding site kinetic model. The association constant (ka=3.8x10^3 M^-1 s^-1) and dissociation constant (kd=1.3x10^-4 s^-1) values are depicted in the graph. The assay was performed as per the manufacturer's protocol.



ELISA
ELISA results of Rabbit Anti-SARS CoV-2 Nucleocapsid (N) Protein. Each well was coated in duplicate with 0.5 µg of SARS CoV-1 N [Red Line], SARS CoV-2 N [Green Line], MERS N [Blue Line]. The starting dilution of antibody was 2µg/ml and the X-axis represents the Log10 of a 3-fold dilution. This titration is a 4-parameter curve fit where the IC50 is defined as the titer of the antibody. SARS CoV-1 N IC50: 61ng/mL, SARS CoV-2 N IC50: 36ng/mL. Assay performed using Goat Anti-Rabbit IgG HRP conjugated (p/n 611-1302) and TMB substrate (p/n TMBE-1000).



Western Blot
Western Blot Results of Rabbit Anti-SARS CoV-2 Nucleocapsid (N) Protein Antibody. Lane 1: Opal Prestained Molecular Weight (p/n MB-210-0500). Lane 2: SARS CoV-2 N protein (10ng). Primary Antibody: Anti-SARS CoV-2 N Protein at 1µg/mL overnight for 2 days at 2-8°C. Secondary Antibody: Goat Anti-Rabbit IgG HRP conjugated Antibody (p/n 611-1302) at 1:40,000 for 30 mins at RT. Block: BlockOut Buffer (p/n MB-073) for 1hr at RT. Predicted MW: ~47kDa; ~55kDa for glycosylated CoV-2-His-tag. Observed MW: ~63kDa. Other bands are due to overload of protein. Exposure: 1 sec.

References

- Hasanpourghadi, M et al. T cell responses to adenoviral vectors expressing the SARS-CoV-2 nucleoprotein. *Current Trends in Microbiology* (2021)

Disclaimer

This product is for research use only and is not intended for therapeutic or diagnostic applications. Please contact a technical service representative for more information. All products of animal origin manufactured by Rockland Immunochemicals are derived from starting materials of North American origin. Collection was performed in United States Department of Agriculture (USDA) inspected facilities and all materials have been inspected and certified to be free of disease and suitable for exportation. All properties listed are typical characteristics and are not specifications. All suggestions and data are offered in good faith but without guarantee as conditions and methods of use of our products are beyond our control. All claims must be made within 30 days following the date of delivery. The prospective user must determine the suitability of our materials before adopting them on a commercial scale. Suggested uses of our products are not recommendations to use our products in violation of any patent or as a license under any patent of Rockland Immunochemicals, Inc. If you require a commercial license to use this material and do not have one, then return this material, unopened to: Rockland Inc., P.O. BOX 5199, Limerick, Pennsylvania, USA.