

Datasheet for 600-401-MS8**SARS-CoV-2 Spike Protein (RBD) Antibody****Overview**

Description:	Anti-SARS-CoV-2 Spike Protein (RBD) (RABBIT) Antibody - 600-401-MS8
Item No.:	600-401-MS8
Size:	100 µg
Applications:	ELISA, IF, Other
Reactivity:	SARS-CoV-2
Host Species:	Rabbit

Product Details

Background:	SARS-CoV-2 (Severe acute respiratory syndrome coronavirus 2) the virus that causes the disease COVID-19, is related to SARS-CoV, MERS-CoV, and other betacoronaviruses (HKU1, NL63, OC43 and 229E). SARS-CoV-2 is an enveloped positive strand RNA virus that consists of several structural proteins including spike (S) protein, envelope (E) protein, membrane (M) protein and nucleocapsid (N) protein; and other non-structural proteins (NSPs). Spike proteins located on the surface of the virus, have a high affinity for binding to human receptor ACE2 (angiotensin-converting enzyme 2) within respiratory epithelial which serves as an entry mechanism for infection. As such, the S protein may be vital to blocking viral infection and vaccine development. Anti-SARS-CoV-2 Spike Protein Antibody is useful for researchers interested in diagnostics, vaccines, and viral research.
Synonyms:	rabbit anti-SARS CoV 2 Spike Protein Receptor Binding Domain Antibody, Spike glycoprotein antibody, SARS CoV2 antibody, 2019-nCoV, COVID-19, S glycoprotein, Severe acute respiratory syndrome antibody, Severe acute respiratory syndrome coronavirus 2 (2019-nCoV) (SARS-CoV-2)
Host Species:	Rabbit
Clonality:	Polyclonal
Format:	IgG

Target Details

Gene Name:	S
Reactivity:	SARS-CoV-2

Immunogen Type:	Conjugated Peptide
Immunogen:	This affinity purified antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding to an internal region of the SARS Coronavirus Spike Protein within the Receptor Binding Domain (RBD).
Purity/Specificity:	Anti-SARS-CoV-2 Spike affinity purified antibody is directed against SARS Coronavirus 2 Spike protein. The product was purified from monospecific antiserum by immunoaffinity chromatography over SARS CoV-2 Spike resin. 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 - QHD43416.1 • NCBI - MN908947.3 • UniProtKB - P0DTC2

Application Details

Tested Applications:	ELISA, IF
Suggested Applications:	Other (Based on references)
Application Note:	Anti-SARS-CoV-2 Spike protein purified antibody has been tested for use in ELISA and IF. This antibody shows reactivity to recombinant SARS COV-2, S1 subunit protein and recombinant SARS COV-2 whole spike protein. Specific conditions for reactivity should be optimized by the end user.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	1:150,000 - 1:450,000
IF:	1:1000

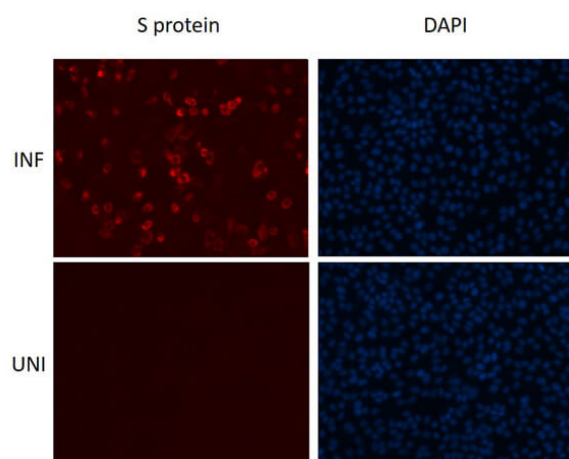
Formulation

Physical State:	Liquid (sterile filtered)
Concentration:	1.13 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

Shipping & Handling

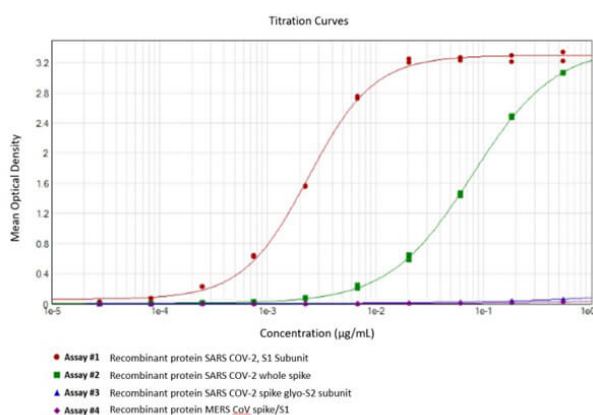
Shipping Condition:	Dry Ice
Storage Condition:	Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several 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



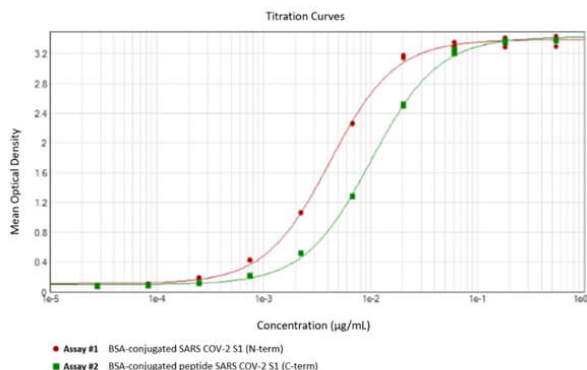
Immunofluorescence Microscopy

Immunofluorescence assay using Rabbit Anti-SARS-CoV-2 Spike Protein (RBD) Antibody, showing viral protein detection. Vero E6 cells were either infected with the SARS-CoV-2 Washington isolate (INF) at an MOI of 0.1 or uninfected (UNI) for 24 hours. The cells were then fixed in 4% PFA and stained overnight at 4°C with primary antibodies directed against SARS-CoV-2 Spike (S) Protein at 1:1000 dilution. Imaged using an anti-rabbit secondary conjugated to AlexaFluor 568 [red] and Nuclear Counterstain DAPI [blue]. Image Courtesy of Mohsan Saeed Lab/Da-Yuan Chen, National Emerging Infectious Diseases Laboratories (NEIDL), Boston University.



ELISA

ELISA Results of Rabbit Anti-SARS Cov-2 Spike (RBD) Antibody. Each well was coated in duplicate with 0.5µg of rec SARS-Cov-2 S1 subunit [RED line], rec SARS Cov-2 whole spike protein [GREEN line], rec SARS Cov-2 spike glyco-S2 subunit protein [BLUE line], and rec MERS Cov spike/S1 protein [PURPLE line]. The working dilution for SARS-Cov-2 S1 is 1:419,000 and SARS Cov-2 whole spike is 1:12,700. The starting dilution of antibody was 10µg/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-2 S1 subunit IC50: 2ng/mL and SARS Cov-2 whole spike protein IC50: 79ng/mL.



ELISA

ELISA Results of Rabbit Anti-SARS Cov-2 Spike (RBD) Antibody. Each well was coated in duplicate with 0.5µg of BSA conjugated SARS-Cov-2 S1 (N-Term) [RED line] and BSA conjugated SARS-Cov-2 S1 (C-Term) [GREEN line]. The working dilution for BSA conjugated SARS-Cov-2 S1 (N-Term) is 1:239,000 and BSA conjugated SARS-Cov-2 S1 (C-Term) is 1:98,800. The starting dilution of antibody was 0.55µg/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-2 S1 (N-Term) IC50: 4ng/mL and SARS-Cov-2 S1 (C-Term) IC50: 10ng/mL.

References

- Kaleta T et al. Antibody escape and global spread of SARS-CoV-2 lineage A. 27. *Nat Commun.* (2022)
- Wang Y et al. Enhancing the Stability of COVID-19 Serological Assay through Metal-Organic Framework Encapsulation. *Adv Healthc Mater.* (2021)
- Weigang S et al. Within-host evolution of SARS-CoV-2 in an immunosuppressed COVID-19 patient: a source of immune escape variants. *Nat Commun.* (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.