PRODUCT INFORMATION

SARS-CoV/SARS-CoV-2 Nucleocapsid Protein Rabbit Monoclonal Antibody (Clone 040)

Item No. 31987

Overview and Properties

Contents:	This vial contains 50 or 100 µl of protein A-affinity purified recombinant monoclonal antibody
Synonyms:	SARS-CoV/SARS-CoV-2 NP, SARS-CoV/SARS-CoV-2 Nucleoprotein, Severe Acute Respiratory Syndrome Coronavirus/Severe Acute Respiratory Syndrome Coronavirus 2 Nucleocapsid Protein
Immunogen:	Recombinant SARS-CoV nucleocapsid protein (His-tagged)
Cross Reactivity:	(+) Nucleocapsid protein, SARS-CoV-2 Delta (B.1.617) nucleocapsid protein (D377Y), SARS-CoV-2 Delta (B.1.617) nucleocapsid protein (R203M, D377Y), SARS-CoV-2 Delta (B.1.617.3) nucleocapsid protein (P67S, R230M, D377Y), SARS-CoV-2 Alpha (B.1.1.7) nucleocapsid protein (R203K, G204R), SARS-CoV-2 Alpha (B.1.1.7) nucleocapsid protein (I292T), SARS-CoV-2 Alpha (B.1.1.7) nucleocapsid protein (D3L, R203K, G204R, S235F), SARS-CoV-2 Alpha (B.1.1.7) nucleocapsid protein (D3L, S235F), SARS-CoV-2 Alpha (B.1.1.7/B.1.237) nucleocapsid protein (S194L), SARS-CoV-2 Alpha/Beta (B.1.1.7/B.1.351/A.2.2) nucleocapsid protein (P13L), SARS-CoV-2 Beta (B.1.351/B.1.351.2/B.1.351.3/B.1.427/B.1.429) nucleocapsid protein (T205I), SARS-CoV-2 Gamma (P.1/P.1.1/P.1.2) nucleocapsid protein (P80R), SARS-CoV-2 Eta (B.1.525) nucleocapsid protein (A12G, T205I)
Species Reactivity:	(+) SARS-CoV, SARS-CoV-2, SARS-CoV-2 Omicron (B.1.1.529), SARS-CoV-2 Omicron (BA.2), SARS-CoV-2 Omicron XE (BA.1 x BA.2), SARS-CoV-2 Omicron (BA.4), SARS-CoV-2 Delta (B.1.617.2); (-) MERS-CoV, HCoV-229E, HCoV-NL63, HCoV-HKU1 (isolate N5), HCoV-OC43; other species not tested
Molecular Weight:	45.6 kDa
Form:	Liquid
Storage:	-80°C (as supplied)
Stability:	≥1 year
Storage Buffer:	0.2 µm filtered solution in PBS
Clone:	040
Host:	Rabbit
Isotype:	IgG
Applications:	ELISA, Immunocytochemistry (ICC), Immunofluorescence (IF), and Western blot (WB); the recommended starting dilution is 1:5,000 for ELISA, 1:1,000-1:10,000 for WB, and 1:20-1:100 for IF. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent *via* email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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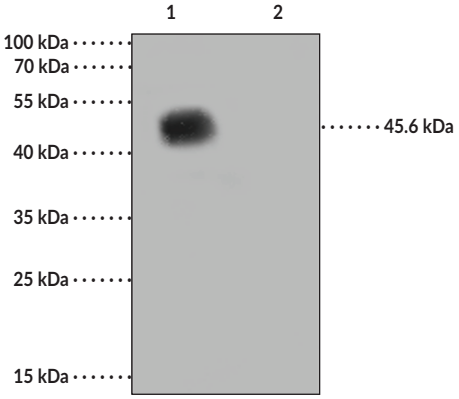
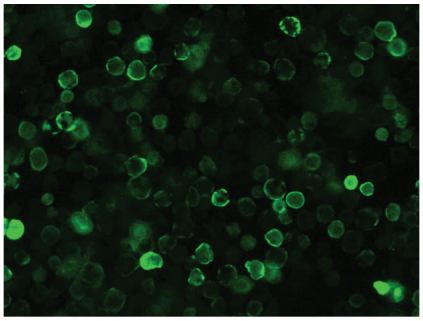
PRODUCT INFORMATION

Images

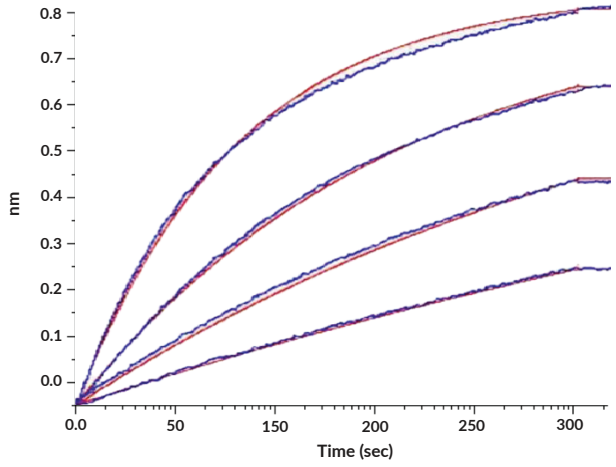


Lane 1: SARS-CoV-2 nucleocapsid overexpressed HEK293 whole cell lysate (10 µg)
Lane 2: HEK293 whole cell lysate (10 µg)

WB of SARS-CoV/SARS-CoV-2 Nucleocapsid Protein Rabbit Monoclonal Antibody (Clone 040) at 1:5,000 dilution.



Immunofluorescent analysis of nucleocapsid overexpressed in HEK293 cells. Cells were stained with purified SARS-CoV/SARS-CoV-2 Nucleocapsid Protein Rabbit Monoclonal Antibody (Clone 040), followed by an AlexaFluor®488-conjugated second step antibody.



Loaded recombinant SARS-CoV-2 nucleocapsid protein (His- tagged, biotinylated) on SA Biosensor can bind SARS-CoV/SARS-CoV-2 Nucleocapsid Protein Rabbit Monoclonal Antibody (Clone 040) with an affinity constant of 0.01 nM as determined by the Octet RED system.

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Description

Severe acute respiratory syndrome coronavirus (SARS-CoV) and SARS-CoV-2 nucleocapsid proteins are encoded by the N gene in SARS-CoV and SARS-CoV-2 RNA.[1,2] SARS-CoV and SARS-CoV-2 are members of the *Betacoronavirus* genus of viruses that have approximately 79% sequence identity and share 27 T cell epitopes in common.[3,4,5] The SARS-CoV-2 nucleocapsid protein has greater than 90% similarity to the SARS-CoV nucleocapsid protein and contains two unique B cell epitopes and two T cell epitopes that are structurally stable, non-allergenic, and induce production of IFN-γ.[2,5] SARS-CoV and SARS-CoV-2 nucleocapsid proteins package the viral RNA into a helical ribonucleoprotein complex (RNP), which is a template for viral replication, and are integral for viral self-assembly and involved in regulation of the host cell cycle.[2,6] SARS-CoV and SARS-CoV-2 are the causative agents of SARS and COVID-19, respectively, both of which are primarily respiratory illnesses characterized by fever, cough, and shortness of breath that can lead to life-threatening complications.[4,7,8] Cayman's SARS-CoV/SARS-CoV-2 Nucleocapsid Protein Rabbit Monoclonal Antibody (Clone 040) can be used for ELISA, immunocytochemistry (ICC), immunofluorescence (IF), and Western blot (WB) applications. This recombinant antibody recognizes wild-type and various mutant nucleocapsid proteins at 45.6 kDa from SARS-CoV, SARS-CoV-2, and several SARS-CoV-2 Alpha, Beta, Gamma, Delta, Eta, and Omicron subvariants.

References

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