PRODUCT INFORMATION

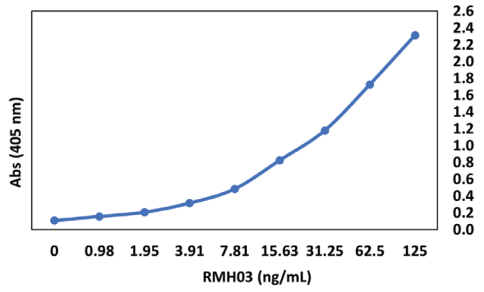
SARS-CoV-2 Nucleocapsid Chimeric Human Monoclonal Antibody (Clone RMH03)

Item No. 42860

Overview and Properties

Contents:	This vial contains 100 µg of protein A-affinity purified recombinant monoclonal antibody
Synonyms:	2019-nCoV NP, 2019-nCoV Nucleocapsid Protein, 2019-nCoV Nucleoprotein, COVID-19 NP, COVID-19 Nucleocapsid Protein, COVID-19 Nucleoprotein, SARS-CoV-2 NP, SARS-CoV-2 Nucleoprotein, Severe Acute Respiratory Syndrome Coronavirus 2 Nucleocapsid Protein
Immunogen:	Recombinant SARS-CoV-2 nucleocapsid protein
Cross Reactivity:	(+) SARS-CoV-2 nucleocapsid protein; (-) SARS-CoV nucleocapsid protein
Species Reactivity:	(+) SARS-CoV-2
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥1 year
Storage Buffer:	PBS, with 50% glycerol, 1% BSA, and 0.09% sodium azide
Clone:	RMH03
Host:	*E. coli*
Isotype:	IgG
Applications:	Sandwich ELISA with SARS-CoV-2 Nucleocapsid Rabbit Monoclonal Antibody (Clone RM420). Other applications were not tested, therefore optimal working concentration/ dilution should be determined empirically.

Image



Binding curve of SARS-CoV-2 Nucleocapsid Chimeric Human Monoclonal Antibody (Clone RMH03) and recombinant 2019-nCov Nucleocapsid protein. ELISA plate was coated with 50 ng recombinant 2019-nCov Nucleocapsid protein at a concentration of 1 µg/ml. A two-fold serial dilution from 125 ng/ml was performed using RMH03. For detection, AP-conjugated goat anti-human IgG secondard antibody was used.

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Description

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) nucleocapsid protein is a viral protein encoded by the *N* gene in SARS-CoV-2 RNA.[1] SARS-CoV-2 is a member of the *Betacoronavirus* genus of viruses and has 88% sequence identity with two bat-derived SARS-like CoVs.[2] SARS-CoV-2 nucleocapsid protein is composed of an N-terminal domain (NTD) that binds RNA, a disordered linker region that contains regulatory phosphorylation sites, a C-terminal domain (CTD) that mediates dimerization, and a C-terminal tail.[3] In a similar virus, SARS-CoV, the nucleocapsid protein packages the viral RNA into a helical ribonucleoprotein (RNP) complex that is a template for viral replication.[4] The SARS-CoV nucleocapsid protein is integral for viral self-assembly and is involved in cell cycle regulation. The SARS-CoV-2 nucleocapsid protein gene sequence is greater than 90% similar to the SARS-CoV nucleocapsid protein, and it contains 27 T cell epitopes that are identical to SARS-CoV T cell epitopes.[5] SARS-CoV-2 nucleocapsid protein inhibits the formation of stress granules, which sequester viral factors and are involved in the host antiviral response.[6] SARS-CoV-2 is the causative agent of COVID-19, a primarily respiratory illness characterized by fever, cough, and shortness of breath that can lead to life-threatening complications.[7-9] Cayman's SARS-CoV-2 Nucleocapsid Chimeric Human Monoclonal Antibody (Clone RMH03) is composed of human IgG1 constant domains fused to the antigen-binding domain of a rabbit anti-SARS-CoV-2 nucleocapsid monoclonal antibody. It can be used as a detection antibody paired with the capture antibody SARS-CoV-2 Nucleocapsid Rabbit Monoclonal Antibody (Clone RM420) (Item No. 42859) in sandwich ELISAs.

References

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