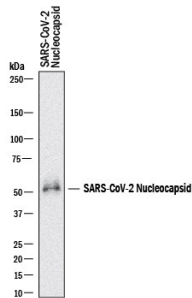
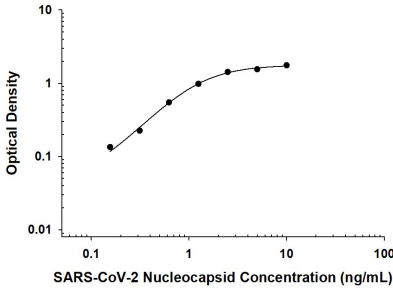
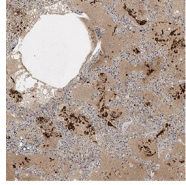


DESCRIPTION	
Species Reactivity	SARS-CoV-2
Specificity	Detects SARS-CoV-2 Nucleocapsid in ELISAs and Western blots. No cross-reactivity with MERS Nucleocapsid is observed in Western blots.
Source	Monoclonal Mouse IgG ₁ Clone # 1035145
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>Spodoptera frugiperda</i> , Sf 21-derived SARS-CoV-2 Nucleocapsid protein Met1-Ala419 Accession # YP_009724397.2
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

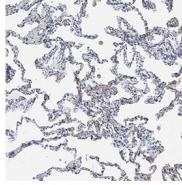
APPLICATIONS		
Please Note: Optimal dilutions should be determined by each laboratory for each application. <i>General Protocols</i> are available in the <i>Technical Information</i> section on our website.		
	Recommended Concentration	Sample
Western Blot	2 µg/mL	Recombinant SARS-CoV-2 Nucleocapsid protein
Immunohistochemistry	5-25 µg/mL	Immersion fixed paraffin-embedded sections of SARS-CoV-2 infected human lung
ELISA	This antibody functions as an ELISA capture antibody when paired with Mouse Anti-SARS-CoV-2 Nucleocapsid Monoclonal Antibody (Catalog # MAB104742). <i>This product is intended for assay development on various assay platforms requiring antibody pairs.</i>	

DATA	
<p>Western Blot</p>  <p>Detection of SARS-CoV-2 Nucleocapsid by Western Blot. Western blot shows recombinant SARS-CoV-2 Nucleocapsid protein. PVDF membrane was probed with 2 µg/mL of Mouse Anti-SARS-CoV-2 Nucleocapsid Monoclonal Antibody (Catalog # MAB104741) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF018). A specific band was detected for SARS-CoV-2 Nucleocapsid at approximately 50 kDa (as indicated). This experiment was conducted under reducing conditions and using Western Blot Buffer Group 1.</p>	<p>ELISA</p>  <p>SARS-CoV-2 Nucleocapsid ELISA Standard Curve. Recombinant SARS-CoV-2 Nucleocapsid protein was serially diluted 2-fold and captured by Mouse Anti-SARS-CoV-2 Nucleocapsid Monoclonal Antibody (Catalog # MAB104741) coated on a Clear Polystyrene Microplate (Catalog # DY990). Mouse Anti-SARS-CoV-2 Nucleocapsid Monoclonal Antibody (Catalog # MAB104742) was biotinylated and incubated with the protein captured on the plate. Detection of the standard curve was achieved by incubating Streptavidin-HRP (Catalog # DY998) followed by Substrate Solution (Catalog # DY999) and stopping the enzymatic reaction with Stop Solution (Catalog # DY994).</p>

Immunohistochemistry



Cov-2 infected human lung



Normal human lung

SARS-Cov-2 Nucleocapsid in SARS-CoV-2 Infected Human Lung. SARS-CoV-2

Nucleocapsid was detected in immersion fixed paraffin-embedded sections of SARS-CoV-2 infected human lung (left, positive staining) and normal human lung (right, negative control) using Mouse Anti-SARS-CoV-2 Nucleocapsid Monoclonal Antibody (Catalog # MAB104741) at 5 µg/mL for 1 hour at room temperature followed by incubation with the Anti-Mouse IgG VisUCyte™ HRP Polymer Antibody (Catalog # VC001). Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using Antigen Retrieval Reagent-Basic (Catalog # CTS013). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to SARS-CoV-2 infected cells. Staining was performed using our protocol for IHC Staining with VisUCyte HRP Polymer Detection Reagents.

PREPARATION AND STORAGE

Reconstitution Reconstitute at 0.5 mg/mL in sterile PBS.

Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
*Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C

Stability & Storage Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

SARS-CoV-2, which causes the global pandemic coronavirus disease 2019 (Covid-19), belongs to a family of viruses known as coronaviruses that are commonly comprised of four structural proteins: Spike protein (S), Envelope protein (E), Membrane protein (M), and Nucleocapsid protein (N) (1). While the S, E and M proteins build up the viral envelop, the N protein is involved transcription, replication and packaging of the viral RNA genome into a helical ribonucleocapsid (RNP) (2, 3). The SARS-CoV-2 N protein is a ~45 kDa protein composed of two independent structural domains connected by a linker region. The N-terminal region contains an RNA binding domain, the linker region interacts with the M protein and the C-terminal region contains a self-association domain (2,3). The SARS-CoV2 N protein shares 91% and 47% amino acid sequence identity with SARS-CoV-1 and MERS N protein, respectively. The SARS-CoV-2 N protein displays VSR (viral suppressor of RNA interference) activity in mammalian cells (4). In addition, the N protein is an abundant protein during coronavirus infection and displays high immunogenic activity (5, 6), so it has been used to develop serological diagnostic kit for Covid-19 IgM and IgG antibody tests (7).

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