

**DESCRIPTION**

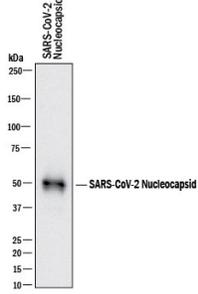
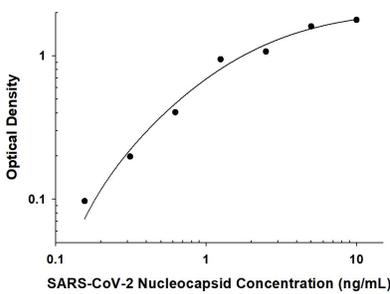
<b>Species Reactivity</b>	SARS-CoV-2
<b>Specificity</b>	Detects SARS-CoV-2 Nucleocapsid ELISA.
<b>Source</b>	Recombinant Monoclonal Rabbit IgG Clone # 2815F
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	Spodoptera frugiperda, Sf 21 (baculovirus)-derived SARS-CoV-2 Nucleocapsid Met1-Ala419 Accession # YP_009724397.2
<b>Formulation</b>	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. *General Protocols* are available in the *Technical Information* section on our website.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Western Blot</b>	1 µg/mL	Recombinant SARS-CoV-2 Nucleocapsid protein
<b>ELISA</b>	This antibody functions as an ELISA capture antibody when paired with Rabbit Anti-SARS-CoV-2 Nucleocapsid Monoclonal Antibody (Catalog # <a href="#">MAB10857</a> ). This product is intended for assay development on various assay platforms requiring antibody pairs.	

**DATA**

<p><b>Western Blot</b></p>  <p><b>Detection of SARS-CoV-2 Nucleocapsid by Western Blot.</b> Western blot shows recombinant SARS-CoV-2 Nucleocapsid protein. PVDF membrane was probed with 1 µg/mL of Rabbit Anti-SARS-CoV-2 Nucleocapsid Monoclonal Antibody (Catalog # MAB10475) followed by HRP-conjugated Anti-Rabbit IgG Secondary Antibody (Catalog # HAF008). A specific band was detected for Nucleocapsid at approximately 52 kDa (as indicated). This experiment was conducted under reducing conditions and using Western Blot Buffer Group 1.</p>	<p><b>ELISA</b></p>  <p><b>SARS-CoV-2 Nucleocapsid ELISA Standard Curve.</b> Recombinant SARS-CoV-2 Nucleocapsid protein was serially diluted 2-fold and captured by Rabbit Anti-SARS-CoV-2 Nucleocapsid Monoclonal Antibody (Catalog # MAB10475) coated on a Clear Polystyrene Microplate (Catalog # DY990). Rabbit Anti-SARS-CoV-2 Nucleocapsid Monoclonal Antibody (Catalog # MAB10857) 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>
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**PREPARATION AND STORAGE**

<b>Reconstitution</b>	Reconstitute at 0.5 mg/mL in sterile PBS.
<b>Shipping</b>	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
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## 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).

## References:

1. Wu, F. *et al.* (2020) *Nature* **579**:265.
2. Chang, C. K. *et al.* (2006) *J. Biomed. Sci.* **13**:59.
3. Hurst, K. R. *et al.* (2009) *J. Virol.* **83**:7221.
4. Mu, J. *et al.* (2020) *Sci. China Life Sci.* doi: 10.1007/s11427-020-1692-1.
5. Che, X. Y. *et al.* (2004) *J. Clin. Microbiol.* **42**:2629.
6. Guan, M. *et al.* (2004) *Clin. Diagn. Lab. Immunol.* **11**:287.
7. Liu, W. *et al.* (2020) *J. Clin. Microbiol.* doi: 10.1128/JCM.00461-20.