SARS-CoV-2 Nucleocapsid Antibody

Recombinant Monoclonal Rabbit IgG Clone # 2815D
Catalog Number: MAB10857

DESCRIPTION

Species Reactivity	SARS-CoV-2
Specificity	Detects SARS-CoV-2 Nucleocapsid in direct ELISAs.
Source	Recombinant Monoclonal Rabbit IgG Clone # 2815D
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	*Spodoptera frugiperda, Sf* 21 (baculovirus)-derived SARS-CoV-2 Nucleocapsid 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.

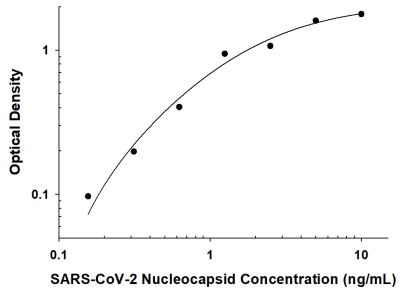
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

ELISA	This antibody functions as an ELISA detection antibody when paired with Rabbit Anti-SARS-CoV-2 Nucleocapsid Monoclonal Antibody (Catalog # MAB10475).This product is intended for assay development on various assay platforms requiring antibody pairs.

DATA

ELISA



SARS-CoV-2 Nucleocapsid ELISA Standard Curve. 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).

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.

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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:

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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.

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