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12-8448: Anti-SARS-CoV-2 Nucleocapsid (N) (Clone NP1-E9)-Purified No Carrier Protein

Clonality :	Monoclonal
Clone Name :	NP1-E9
Application :	ELISA
Alternative Name :	COV2-NP1-E9, SARS-CoV-2 Nucleocapsid, SARS-CoV-2 Nucleoprotein, Protein N, SARS-CoV N Protein
Isotype :	Human IgG1

Description

Specificity: Anti-SARS-CoV-2 Nucleocapsid, clone NP1-E9, specifically targets an epitope on the SARS-CoV-2 nucleocapsid protein. Futhermore, it is reported to bind to the oligomerization domain of the N protein.
Antigen Distribution: The nucleocapsid protein is expressed in the internal nucleocapsid of SARS-CoV-2.
Background: Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), the causative agent of coronavirus disease 2019 (COVID-19), is an enveloped, single-stranded, positive-sense RNA virus that belongs to the Coronaviridae family 1. The SARS-CoV-2 genome, which shares 79.6% identity with SARS-CoV, encodes four essential structural proteins: the spike (S), envelope (E), membrane (M), and nucleocapsid protein (N) 2. The N protein is 46 kDa and consists of two highly conserved structural domains, the N-terminal domain (NTD) and C-terminal domain (CTD), connected by a linker region. The NTD and CTD are involved in RNA binding and self-oligomerization, respectively 3, 4. The primary function of the N protein is to bind to and package the viral RNA genome into a helical ribonucleoprotein complex 5. The N protein is also involved in other critical steps of the viral life cycle, including transcription, replication, and modulating infected cell signaling pathways 6, 7. The N protein is abundantly expressed during infection and is highly conserved, sharing 90% amino acid homology with the SARS-CoV N protein 8. It is also immunogenic, and antibodies 8,9 and memory T cells 10, 11 targeting the N protein are present in the sera of convalescent COVID-19 patients, identifying the N protein as a suitable candidate for vaccine development and diagnostic assays. Diagnostic assays based on the N protein effectively detect antibodies in the sera of patients infected with SARS-CoV-2 12. The N protein also contributes to immune evasion by antagonizing antiviral RNAi 13, suggesting its potential value as a targeted therapeutic.

Product Info

Amount :	100 µg / 500 µg
Purification :	Purity :>=90% monomer by analytical SEC and SDS-Page Preparation : Recombinant antibodies are manufactured in an animal free facility using only in vitro protein free cell culture techniques and are purified by a multi-step process including the use of protein A or G to assure extremely low levels of endotoxins, leachable protein A or aggregates.
Content :	Concentration:>=1.0 mg/ml Formulation: This recombinant monoclonal antibody is aseptically packaged and formulated in 0.01 M phosphate buffered saline (150 mM NaCl) PBS pH 7.2 - 7.4 with no carrier protein, potassium, calcium or preservatives added. Due to inherent biochemical properties of antibodies, certain products may be prone to precipitation over time. Precipitation may be removed by aseptic centrifugation and/or filtration.
Storage condition :	This antibody may be stored sterile as received at 2-8°C for up to one month. For longer term storage, aseptically aliquot in working volumes without diluting and store at <=-70°C.?Avoid Repeated Freeze Thaw Cycles.

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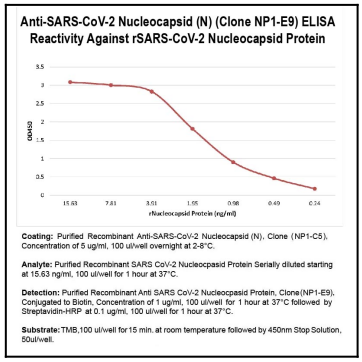

Figure 1

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