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12-8477: Anti-SARS-CoV-2 Nucleocapsid (N) (Clone NP1-E6) HRP

Clonality :	Monoclonal
Clone Name :	NP1-E6
Application :	ELISA
Alternative Name :	COV2-NP1-E6, 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-E6, specifically targets an epitope on the SARS-CoV-2 nucleocapsid protein. Furthermore, it is reported to not bind directly to the RNA binding domain or 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 belonging to the Coronaviridae family1. The SARS-CoV-2 genome encodes four essential proteins: the spike (S), envelope (E), membrane (M), and nucleocapsid (N) proteins2. SARS-CoV-2 shares 79.6% identity with the original SARS-CoV2. 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 a couple of primary functions, including RNA binding and self-oligomerization3,4. This results in binding to and packaging of the viral RNA genome into a helical ribonucleoprotein5. The N protein is involved in other critical steps of the viral life cycle, including transcription, replication, and modulating infected cell signaling pathways6,7. The N protein is a suitable candidate for vaccine development and diagnostic assays8 for several reasons. It is abundantly expressed during infection and is highly conserved, sharing 90% amino acid homology with the SARS-CoV N protein9. Furthermore, antibodies9,10 and memory T cells11,12 targeting the N protein are identified in the sera of convalescent COVID-19 patients, demonstrating it as immunogenic. The N protein also suppresses antiviral RNAi, evading the innate immune system13, suggesting its potential value as a targeted therapeutic.

Product Info

Amount :	50 µg
Content :	Concentration:0.5 mg/ml Formulation: This HRP-conjugated antibody is formulated in 0.01 M phosphate buffered saline (150 mM NaCl) PBS pH 7.2 - 7.4, 1% BSA. (Warning: Use of sodium azide as a preservative will inhibit the enzyme activity of horseradish peroxidase)
Storage condition :	This horseradish peroxidase conjugated monoclonal antibody is stable when stored at 2-8°C.?Do not freeze.

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