

## 12-8474: Anti-SARS-CoV-2 Nucleocapsid (N) (Clone NP1-B9) HRP

<b>Clonality :</b>	Monoclonal
<b>Clone Name :</b>	NP1-B9
<b>Application :</b>	ELISA
<b>Alternative Name :</b>	COV2-NP1-B9, SARS-CoV-2 Nucleocapsid, SARS-CoV-2 Nucleoprotein, Protein N, SARS-CoV N Protein
<b>Isotype :</b>	Human IgG1

### Description

Specificity: Anti-SARS-CoV-2 Nucleocapsid, clone NP1-B9, specifically targets an epitope on the SARS-CoV-2 nucleocapsid protein. Furthermore, 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 belonging to the Coronaviridae family<sup>1</sup>. The SARS-CoV-2 genome encodes four essential proteins: the spike (S), envelope (E), membrane (M), and nucleocapsid (N) proteins<sup>2</sup>. 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-oligomerization<sup>3,4</sup>. This results in binding to and packaging of the viral RNA genome into a helical ribonucleoprotein<sup>5</sup>. The N protein is involved in other critical steps of the viral life cycle, including transcription, replication, and modulating infected cell signaling pathways<sup>6,7</sup>. The N protein is a suitable candidate for vaccine development and diagnostic assays<sup>8</sup> for several reasons. It is abundantly expressed during infection and is highly conserved, sharing 90% amino acid homology with the SARS-CoV N protein<sup>9</sup>. Furthermore, antibodies<sup>9,10</sup> and memory T cells<sup>11,12</sup> 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 system<sup>13</sup>, suggesting its potential value as a targeted therapeutic.

### Product Info

<b>Amount :</b>	50 µg Concentration:0.5 mg/ml
<b>Content :</b>	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)
<b>Storage condition :</b>	This horseradish peroxidase conjugated monoclonal antibody is stable when stored at 2-8°C. Do not freeze.