

**DESCRIPTION**

<b>Species Reactivity</b>	SARS-CoV-2
<b>Specificity</b>	Detects SARS-CoV-2 Spike S2 Subunit in direct ELISAs.
<b>Source</b>	Recombinant Monoclonal Rabbit IgG Clone # 2812A
<b>Purification</b>	Protein A or G purified
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant human SARS-CoV-2 Spike S2 Subunit Met697-Pro1213
<b>Conjugate</b>	Alexa Fluor Plus 594 Excitation Wavelength: 590 nm Emission Wavelength: 618 nm
<b>Formulation</b>	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide.  *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

**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>Western Blot</b>	Optimal dilution of this antibody should be experimentally determined.
<b>ELISA</b>	Optimal dilution of this antibody should be experimentally determined.

**DATA**

**PREPARATION AND STORAGE**

<b>Shipping</b>	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

**BACKGROUND**

SARS-CoV-2, which causes the global pandemic coronavirus disease 2019 (Covid-19), belongs to a family of viruses known as coronaviruses that also include MERS and SARS-CoV-1. Coronaviruses are commonly comprised of four structural proteins: Spike protein(S), Envelope protein (E), Membrane protein (M) and Nucleocapsid protein (N) (1). SARS-CoV-2 Spike Protein (S Protein) is a glycoprotein that mediates membrane fusion and viral entry. The S protein is homotrimeric, with each ~180-kDa monomer consisting of two subunits, S1 and S2 (2). As with most coronaviruses, proteolytic cleavage of the S protein into two distinct peptides, S1 and S2 subunits, is required for activation. The S1 subunit is focused on attachment of the protein to the host receptor while the S2 subunit is involved with cell fusion (2-4). A metalloproteinase, angiotensin-converting enzyme 2 (ACE-2), has been identified as a functional receptor for SARS-CoV2, similar to SARS-CoV-1, through interaction with a receptor binding domain (RBD) located at the C-terminus of S1 subunit (5, 6). The S2 subunit of SARS-CoV-2 shares 90% and 41% amino acid sequence identity with the S2 subunit of SARS-CoV-1 and MERS, respectively. It has been demonstrated the S Protein can invade host cells through the CD147/EMMPRIN receptor and mediate membrane fusion (7, 8).

**References:**

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2. Bosch, B.J. *et al.* (2003). *J. Virol.* **77**:8801.
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4. Millet, J.K. and G. R. Whittaker (2015) *Virus Res.* **202**:120.
5. Li, W. *et al.* (2003) *Nature* **426**:450.
6. Wong, S.K. *et al.* (2004) *J. Biol. Chem.* **279**:3197.
7. Wang, X. *et al.* (2020) <https://doi.org/10.1038/s41423-020-0424-9>.
8. Wang, K. *et al.* (2020) <https://www.biorxiv.org/content/10.1101/2020.03.14.988345v>.

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