

Purified anti-SARS-CoV-2 S Protein S1 Recombinant Antibody

Catalog# / Size	938701 / 25 µg 938702 / 100 µg
Clone	AM001414
Regulatory Status	RUO
Other Names	Spike glycoprotein, S glycoprotein (E2)
Isotype	Human IgG1, κ
Description	<p>Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is a single- stranded RNA virus that belongs in a family of viruses known as coronaviruses. SARS-CoV-2 infection, known as COVID-19, was declared a pandemic by WHO on March 11, 2020 and among other symptoms leads to respiratory infection, pulmonary failure which can be fatal. SARS-CoV-2 is structurally composed of 4 main proteins (e.g. spike glycoprotein, envelope glycoprotein, membrane glycoprotein and nucleocapsid protein) and several accessory proteins. The spike glycoprotein (S) is a transmembrane molecule that forms homotrimers on the surface of the virus and facilitates virulence through binding to angiotensin-converting enzyme 2 (ACE2) expressed on host cells. This protein is composed of two subunits S1 and S2. S1 is responsible for binding to the host cell via ACE2 receptor and the S2 subunit is responsible for fusion with the host cell.</p> <p>This antibody is specific for the S1 subunit of SARS-CoV-2 and was derived, sequenced and expressed from patients that had recovered from COVID-19 infection.</p>

Product Details

Verified Reactivity	SARS-CoV-2
Antibody Type	Recombinant
Host Species	Human
Immunogen	SARS-CoV-2
Formulation	140mM HEPES, pH 7.5, 70 mM NaCl, 32 mM NaOAc, 0.035% sodium azide
Preparation	The antibody was purified by affinity chromatography.
Concentration	1.0 mg/mL
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C.
Application	Block - Quality tested ELISA - Verified
Recommended Usage	<p>Each lot is quality control tested by its ability to block the binding between recombinant human ACE2 (Cat. No. 792002) and SARS-CoV-2 S protein S1-Fc chimera (Cat. No. 793004). ND₅₀ range is 0.03 - 0.12 µg/mL. It is recommended that the reagent be titrated for optimal performance for each application.</p> <p>Recommended concentration for direct ELISA application is 45 ng/mL.</p>
Application Notes	Note: Clone AM001414 is also referred to as Clone 414-1
Additional Product Notes	<p>Prior to use, quick spin the antibody vial to ensure recovery of maximum volume.</p> <p>Antibody can be stored in single use aliquots in -20°C for 2 years. Avoid repeated freeze and thaws.</p>
Application References	Wan J. <i>et al.</i> 2020. <i>bioRxiv</i> . doi: https://doi.org/10.1101/2020.05.19.104117
RRID	<p>AB_2876764 (BioLegend Cat. No. 938701)</p> <p>AB_2876764 (BioLegend Cat. No. 938702)</p>

Antigen Details

Structure	Spike glycoprotein is a homotrimer. Each monomer consists of 1,273 a.a with a molecular weight of approximately 141 kD and consists of S1 and S2 subunits. S1 subunit is 673 a.a. long.
Distribution	Viral envelope protein, host cell membrane, host cell endoplasmic reticulum-Golgi intermediate compartment membrane
Function	Host cell surface receptor binding
Interaction	ACE2
Ligand/Receptor	ACE2
Biology Area	COVID-19

Antigen References

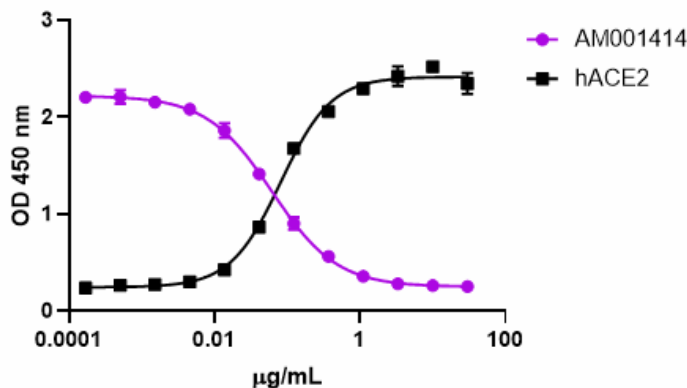
1. Walls AC, *et al.* 2020. *Cell*. 181(2):281-292.
2. Yan R, *et al.* 2020. *Science*. 367 (6485):1444-1448.
3. Wrapp D, *et al.* 2020. *Science*. 367 (6483):1260-1263.
4. Shang J, *et al.* 2020. *PNAS*. 117(21):11727-11734

Gene ID [43740568](#)

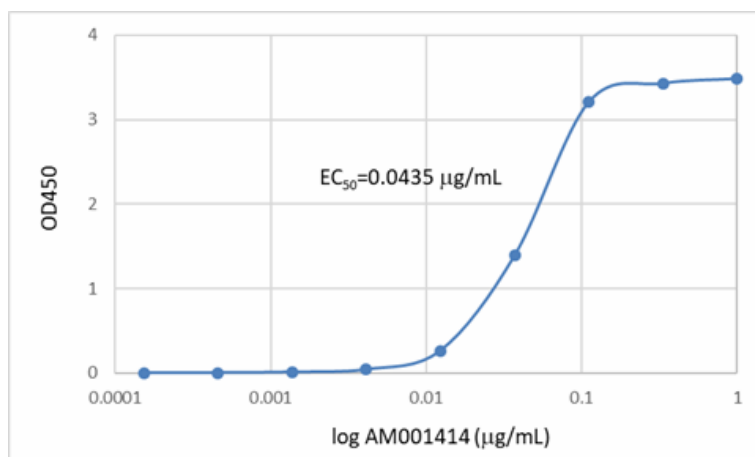
Other Formats

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Product Data



Recombinant human ACE2 (Cat. No. 792002) (black squares) binds to immobilized recombinant SARS-CoV-2 S protein S1-Fc chimera (Cat. No. 793004) in a dose-dependent manner. Purified anti-SARS-CoV-2 S protein S1 recombinant antibody (clone AM001414) (purple circles) inhibits the binding in a dose-dependent manner. This antibody blocks the binding of 0.5 $\mu\text{g/mL}$ recombinant human ACE2 to 1.0 $\mu\text{g/mL}$ immobilized recombinant SARS-CoV-2 S protein S1-Fc chimera with an ND_{50} range of 0.03 - 0.12 $\mu\text{g/mL}$.



Recombinant SARS-CoV-2 S protein S1 (Cat. No. 792904) coated onto Nunc™ Maxisorp™ ELISA plates (Cat. No. 423501) at 2 $\mu\text{g/mL}$ and then incubated with a dilution series of purified anti-SARS-CoV-2 S protein S1 recombinant antibody (clone AM001414). Bound antibodies were detected with biotinylated anti-human IgG secondary antibody followed by avidin-horseradish peroxidase and TMB substrate solution. Absorbance was measured at 450 nm.

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