

# PRODUCT INFORMATION



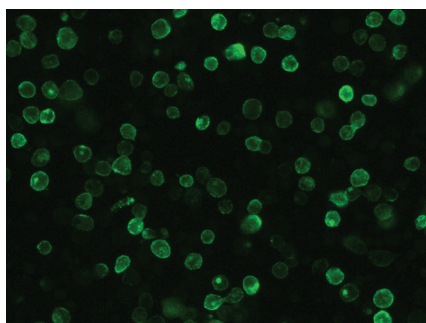
## SARS-CoV-2 Spike Glycoprotein S2 Subunit Extracellular Domain Chimeric Monoclonal Antibody (Clone D001)

Item No. 31998

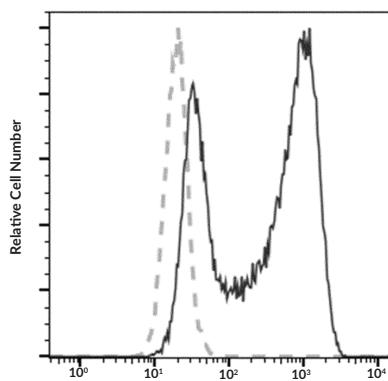
### Overview and Properties

<b>Contents:</b>	This vial contains 100 µl of protein A-affinity purified monoclonal antibody.
<b>Synonyms:</b>	2019-nCoV Surface Glycoprotein S2 Subunit, COVID-19 Spike Glycoprotein S2 Subunit, SARS-CoV-2 Spike Glycoprotein S2 Subunit, Severe Acute Respiratory Syndrome Coronavirus 2 Spike Glycoprotein S2 Subunit
<b>Immunogen:</b>	Recombinant C-terminal His-tagged SARS-CoV-2 spike glycoprotein S2 subunit ECD
<b>Cross Reactivity:</b>	See page 2
<b>Species Reactivity:</b>	(+) SARS-CoV-2; (-) MERS-CoV; other species not tested
<b>Form:</b>	Liquid
<b>Storage:</b>	-80°C (as supplied)
<b>Stability:</b>	≥1 year
<b>Storage Buffer:</b>	0.2 µm filtered solution in PBS
<b>Clone:</b>	D001
<b>Host:</b>	Chimeric monoclonal antibody combining the constant domains of human IgG1k with variable regions from a mouse immunized with purified recombinant SARS-CoV-2 spike glycoprotein S2 subunit ECD
<b>Isotype:</b>	Human IgG1
<b>Applications:</b>	ELISA, Flow cytometry (FC), Immunocytochemistry (ICC), Immunofluorescence (IF); the recommended starting dilution is 1:5,000-1:10,000 for ELISA, 1:25-1:100 for FC, and 1:20-1:100 for IF. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

### Images



Immunofluorescent analysis of HEK293 cells overexpressing the spike glycoprotein. Cells were labeled with purified SARS-CoV-2 Spike Glycoprotein S2 Subunit Extracellular Domain Chimeric Monoclonal Antibody (Clone D001), followed by a FITC-conjugated secondary antibody.



SARS-CoV-2 Spike Glycoprotein S2 Subunit Extracellular Domain Chimeric Monoclonal Antibody with negative control

Flow cytometric analysis of the SARS-CoV-2 spike glycoprotein overexpressed in HEK293 cells. Cells were labeled with purified SARS-CoV-2 Spike Glycoprotein S2 Subunit Extracellular Domain Chimeric Monoclonal Antibody (Clone D001), followed by a FITC-conjugated secondary antibody. The fluorescence histograms were derived from gated events with the forward and side light-scatter characteristics of intact cells.

**WARNING**  
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

**SAFETY DATA**  
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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**Cross Reactivity:** (+) SARS-CoV-2 spike glycoprotein S2 subunit,  
SARS-CoV-2 Omicron (XBB) spike glycoprotein RBD,  
SARS-CoV-2 Omicron (BQ.1.1) spike glycoprotein S1+S2 trimer,  
SARS-CoV-2 Omicron (BF.7) spike glycoprotein S1+S2 trimer,  
SARS-CoV-2 (BA.4.6) spike glycoprotein S1+S2 trimer,  
SARS-CoV-2 (BA.2.75) spike glycoprotein S1+S2 trimer,  
SARS-CoV-2 Omicron (BA.2.75.2) spike glycoprotein S1+S2 trimer,  
SARS-CoV-2 Omicron (BA.1.1) spike glycoprotein S1+S2 trimer,  
SARS-CoV-2 Omicron (B.1.1.529) S1+S2 trimer,  
SARS-CoV-2 Omicron (BA.2) spike glycoprotein S1+S2 trimer,  
SARS-CoV-2 XD (BA.1 x AY.4) spike glycoprotein S1+S2 trimer,  
SARS-CoV-2 Delta (B.1.617.2) spike glycoprotein S1+S2 trimer,  
SARS-CoV-2 Delta (B.1.617.2) spike glycoprotein S1+S2,  
SARS-CoV-2 spike glycoprotein S1+S2 ECD,  
SARS-CoV spike glycoprotein S1+S2 ECD,  
MERS-CoV spike glycoprotein S1+S2 ECD

(-) SARS-CoV-2 Omicron (BQ.1.1) spike glycoprotein RBD,  
SARS-CoV-2 Omicron (BA.4.6/BF.7) spike glycoprotein RBD,  
SARS-CoV-2 (BA.2.75) spike glycoprotein RBD,  
SARS-CoV-2 Omicron (BA.2.75.2) spike glycoprotein RBD,  
SARS-CoV-2 (BA.2.3.20) spike glycoprotein RBD,  
SARS-CoV-2 Omicron (BA.1.1) spike glycoprotein RBD,  
SARS-CoV-2 Omicron (B.1.1.529) spike glycoprotein S1 subunit,  
SARS-CoV-2 Omicron (B.1.1.529) spike glycoprotein RBD,  
SARS-CoV-2 Omicron (BA.2) spike glycoprotein S1 subunit,  
SARS-CoV-2 Omicron (BA.2) spike glycoprotein RBD,  
SARS-CoV-2 Omicron (BA.2) spike glycoprotein S1 subunit NTD,  
SARS-CoV-2 Omicron (BA.2.12.1) spike glycoprotein RBD,  
SARS-CoV-2 Omicron (BA.4) spike glycoprotein RBD,  
SARS-CoV-2 Omicron (BA.5) spike glycoprotein RBD,  
SARS-CoV-2 Delta (B.1.617.2) spike glycoprotein S1 subunit,  
SARS-CoV-2 Delta (B.1.617.2) spike glycoprotein RBD,  
SARS-CoV-2 Delta (B.1.617.2) spike glycoprotein S1 subunit NTD,  
SARS-CoV-2 spike glycoprotein S1 subunit,  
SARS-CoV-2 spike glycoprotein RBD,  
HCoV-OC43 spike glycoprotein S1+S2,  
HCoV-NL63 spike glycoprotein S1+S2,  
HCoV-HKU1 (isolate N5) spike glycoprotein S1+S2,  
HCoV-229E spike glycoprotein S1+S2

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## Description

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is an enveloped positive-stranded RNA virus, a member of the *Betacoronavirus* genus, and the causative agent of COVID-19.<sup>1-5</sup> The SARS-CoV-2 spike glycoprotein, also known as the surface glycoprotein, is a viral structural protein encoded by the S gene in SARS-CoV-2 RNA.<sup>1</sup> It is composed of an S1 and S2 subunit divided by a furin S-cleavage site not found in other SARS-CoVs.<sup>6,3</sup> The C-terminal S2 subunit, which facilitates fusion between viral and host cell membranes, contains a fusion peptide (FP) and two heptad repeats (HRs), as well as transmembrane and cytoplasmic domains.<sup>7,8</sup> Upon insertion of the FP in the target cell membrane, the HRs form a six-helical bundle (6-HB) that enables SARS-CoV-2 to fuse with the target cell. The SARS-CoV-2 spike glycoprotein S2 subunit increases amyloid- $\beta$  (1-40) (A $\beta$ 40) and A $\beta$ 42 levels in primary mouse neuron culture supernatants and the number of hippocampal and cortical A $\beta$  plaques in APP<sup>swe</sup>/PSEN1<sup>dE9</sup> transgenic mice.<sup>9</sup> Cayman's SARS-CoV-2 Spike Glycoprotein S2 Subunit Extracellular Domain Chimeric Monoclonal Antibody (Clone D001) is composed of human IgG1 $\kappa$  constant domains and variable regions from a mouse immunized with purified recombinant SARS-CoV-2 spike glycoprotein S2 subunit extracellular domain (ECD). It can be used for ELISA, flow cytometry (FC), immunocytochemistry (ICC), and immunofluorescence (IF) applications.

## References

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