

PRODUCT INFORMATION

SARS-CoV/SARS-CoV-2 Spike Glycoprotein Chimeric Monoclonal Antibody

Item No. 30832

Overview and Properties

Contents:	This vial contains 50 or 100 µl of protein A-purified monoclonal antibody.
Synonyms:	SARS-CoV/SARS-CoV-2 Spike Protein, Severe Acute Respiratory Syndrome Coronavirus/Severe Acute Respiratory Syndrome Coronavirus 2 Spike Glycoprotein
Immunogen:	Recombinant SARS-CoV spike RBD protein
Species Reactivity:	(+) SARS-CoV spike RBD, SARS-CoV spike S1, SARS-CoV-2 spike S1, SARS-CoV-2 spike RBD; (-) MERS-CoV spike S1, HCoV-HKU1 (isolate N1) spike S1, HCoV-HKU1 (isolate N5) spike S1, HCoV-NL63 spike S1, HCoV-229E spike S1, HCoV-OC43 spike S1 and S2 ECD protein
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥1 year
Storage Buffer:	0.2 µm filtered solution in PBS
Clone:	D005
Host:	Chimeric monoclonal antibody combining the constant domains of the human IgG1 molecule with mouse variable regions. The variable region was obtained from a mouse immunized with purified, recombinant SARS-CoV Spike RBD Protein. The antibody was produced using recombinant antibody technology.
Isotype:	IgG1
Applications:	ELISA; the recommended starting dilution is 1:5,000-1:10,000. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

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.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

Severe acute respiratory syndrome coronavirus (SARS-CoV) surface glycoprotein, also known as the spike protein, is a viral structural protein encoded by the *S* gene in SARS-CoV RNA that contains the receptor binding domain (RBD).¹ SARS-CoV is a member of the *Betacoronavirus* genus of viruses and has an approximately 79% sequence identity with SARS-CoV-2, the causative agent of COVID-19.^{2,3} The spike protein of SARS-CoV and the related viruses SARS-CoV-2 and Middle East respiratory syndrome coronavirus (MERS-CoV) is a transmembrane glycoprotein that assembles into homotrimers on the virus surface and is comprised of an N-terminal S1 subunit, which contains the receptor binding domain (RBD), and a C-terminal S2 subunit, which facilitates fusion between viral and host cell membranes.⁴⁻⁶ The 193-amino acid RBD of the SARS-CoV spike protein is a target for neutralizing antibodies.^{5,7} The SARS-CoV RBD, which spans amino acid residues 318 to 510, is 73% identical to that of SARS-CoV-2 and can bind to human angiotensin-converting enzyme 2 (ACE2), which is the host cell surface receptor for both SARS-CoV and SARS-CoV-2.⁴⁻⁷ SARS-CoV is the causative agent of SARS, a primarily respiratory illness characterized by fever, cough, shortness of breath, and an approximately 10% fatality rate.³ Cayman's SARS-CoV-2 Surface Glycoprotein Chimeric Monoclonal Antibody is comprised of human IgG1k constant domains and variable regions from a mouse immunized with purified recombinant SARS-CoV Surface Glycoprotein RBD protein. This antibody can be used for ELISA.

References

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2. Lu, R., Zhao, X., Li, J., *et al.* Genomic characterisation and epidemiology of 2019 novel coronavirus: Implications for virus origins and receptor binding. *Lancet* **395(10224)**, 565-574 (2020).
3. Meo, S.A., Alhowikan, A.M., Al-Khlaiwi, T., *et al.* Novel coronavirus 2019-nCoV: Prevalence, biological and clinical characteristics comparison with SARS-CoV and MERS-CoV. *Eur. Rev. Med. Pharmacol. Sci.* **24(4)**, 2012-2019 (2020).
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6. Walls, A.C., Park, Y.-J., Tortorici, M.A., *et al.* Structure, function, and antigenicity of the SARS-CoV-2 spike glycoprotein. *Cell* **181(2)**, 281-292 (2020).
7. Tian, X., Li, C., Huang, A., *et al.* Potent binding of 2019 novel coronavirus spike protein by a SARS coronavirus-specific human monoclonal antibody. *Emerg. Microbes Infect.* **9(1)**, 382-385 (2020).

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