

PRODUCT INFORMATION



SARS-CoV-2 Spike Glycoprotein (433-506)

Item No. 30430

Overview and Properties

Synonyms:	SARS-CoV-2 Surface Glycoprotein, Severe Acute Respiratory Syndrome Coronavirus 2 Spike Glycoprotein
Amino Acids:	433-506
Molecular Weight:	8.41 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	≥95%

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Description

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) surface glycoprotein (433-506) is a fragment of the SARS-CoV-2 surface glycoprotein, also known as the spike glycoprotein, encoded by the S gene in SARS-CoV-2 RNA.¹ It contains amino acids 433-506 of the full-length SARS-CoV-2 spike glycoprotein sequence. SARS-CoV-2 is a member of the *Betacoronavirus* genus of viruses and has 88% sequence identity with two bat-derived SARS-like CoVs.² The SARS-CoV-2 genome contains approximately 30 kilobases that encode four structural proteins: spike, envelope, membrane, and nucleocapsid.^{1,3} The SARS-CoV-2 spike glycoprotein is located on the outer envelope of the virion and is comprised of an S1 and S2 subunit divided by a furin S-cleavage site not found in other SARS-CoVs.^{4,5} The S1 subunit contains the N-terminus and a receptor binding domain (RBD; Item No. 30429), and the S2 subunit contains a fusion peptide, two heptad repeats, and the C-terminal domain.⁴ SARS-CoV-2 is the causative agent of COVID-19, a primarily respiratory illness characterized by fever, cough, and shortness of breath that can lead to life-threatening complications.⁶⁻⁸ Cayman's SARS-CoV-2 Spike Glycoprotein (433-506) contains the SARS-CoV-2 receptor binding motif (Item No. 30428) and a disulfide bridge between Cys480 and Cys488.

References

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4. Liu, Z., Xiao, X., Wei, X., *et al.* Composition and divergence of coronavirus spike proteins and host ACE2 receptors predict potential intermediate hosts of SARS-CoV-2. *J. Med. Virol.* (2020).
5. Walls, A.C., Park, Y.-J., Tortorici, M.A., *et al.* Structure, function, and antigenicity of the SARS-CoV-2 spike glycoprotein. *Cell* **180**, 1-12 (2020).
6. 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).
7. Klok, F.A., Kruip, M.J.H.A., van der Meer, N.J.M., *et al.* Incidence of thrombotic complications in critically ill ICU patients with COVID-19. *Thromb. Res.* **50049-3848(20)**, 30120-1 (2020).
8. Yang, F., Shi, S., Zhu, J., *et al.* Analysis of 92 deceased patients with COVID-19. *J. Med. Virol.* (2020).

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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