

PRODUCT INFORMATION



SARS-CoV-2 Spike Glycoprotein Receptor Binding Motif

Item No. 30428

Overview and Properties

Amino Acids:	438-506
Molecular Weight:	8.053 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 receptor binding motif is a fragment of the surface glycoprotein, also known as the spike glycoprotein, encoded by the S gene in SARS-CoV-2 RNA.¹ It contains amino acids 438-506 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 The SARS-CoV-2 receptor binding motif is a component of the RBD that shares 73% sequence identity to that of SARS-CoV, 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-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.⁸⁻¹⁰ Cayman's SARS-CoV-2 Spike Glycoprotein Receptor Binding Motif contains an N-terminal biotin tag and a disulfide bridge between Cys480 and Cys488.

References

1. Kandeel, M., Ibrahim, A., Fayed, M., et al. *J. Med. Virol.* (2020).
2. Lu, R., Zhao, X., Li, J., et al. *Lancet* **395**(10224), 565-574 (2020).
3. Ahmed, S.F., Quadeer, A.A., and McKay, M.R. *Viruses* **2020**(12), 254 (2020).
4. Liu, Z., Xiao, X., Wei, X., et al. *J. Med. Virol.* (2020).
5. Walls, A.C., Park, Y.-J., Tortorici, M.A., et al. *Cell* **180**, 1-12 (2020).
6. Hoffmann, M., Kleine-Weber, H., Schroeder, S., et al. *Cell* **181**, 1-10 (2020).
7. Tian, X., Li, C., Huang, A., et al. *Emerg. Microbes Infect.* **9**(1), 382-385 (2020).
8. Meo, S.A., Alhowikan, A.M., Al-Khlaiwi, T., et al. *Eur. Rev. Med. Pharmacol. Sci.* **24**(4), 2012-2019 (2020).
9. Klok, F.A., Kruip, M.J.H.A., van der Meer, N.J.M., et al. *Thromb. Res.* **S0049-3848**(20), 30120-1 (2020).
10. Yang, F., Shi, S., Zhu, J., et al. *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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