PRODUCT INFORMATION

SARS-CoV-2 Spike Glycoprotein Receptor Binding Domain (human IgG1 Fc-tagged)

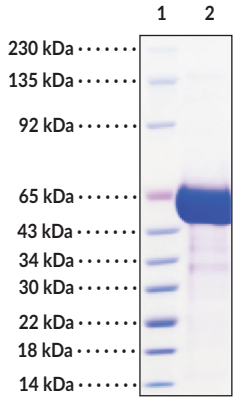
Item No. 30429

Overview and Properties

Synonym:	SARS-CoV-2 Surface Receptor Binding Domain, Severe Acute Respiratory Syndrome Coronavirus 2 Spike Glycoprotein Receptor Binding Domain
Amino Acids:	319-541
Molecular Weight:	52.3 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	≥90% estimated by SDS-PAGE
Supplied in:	1 mg/ml in a solution of PBS, pH 7.2

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

Image



Lane 1: MW Markers
Lane 2: SARS-CoV-2 Spike Glycoprotein Receptor Binding Domain

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM

PRODUCT INFORMATION

Description

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) surface glycoprotein receptor binding domain is a fragment of the SARS-CoV-2 surface glycoprotein, also known as the spike glycoprotein, which is a viral structural protein encoded by the *S* gene in SARS-CoV-2 RNA.[1] It contains amino acids 319-541 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 spike protein of SARS-CoV-2 and the related viruses SARS-CoV 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-2 RBD, which spans amino acid residues 329 to 521, is 73% identical 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.[4,6,7] 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 Surface Glycoprotein Receptor Binding Domain protein can be used as an antigen or for Western blot, ELISA, protein-protein interaction studies, and other *in vitro* binding and *in vivo* functional assays

References

1. Kandeel, M., Ibrahim, A., Fayez, 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* **12(3)**, E254 (2020).
4. Liu, Z., Xiao, X., Wei, X., *et al. J. Med. Virol.* (2020).
5. He, Y., Zhou, Y., Liu, S., *et al. Biochem. Biophys. Res. Commun.* **324(2)**, 773-781 (2004).
6. Walls, A.C., Park, Y.-J., Tortorici, M.A., *et al. Cell* **180**, 1-12 (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).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM