

# PRODUCT INFORMATION



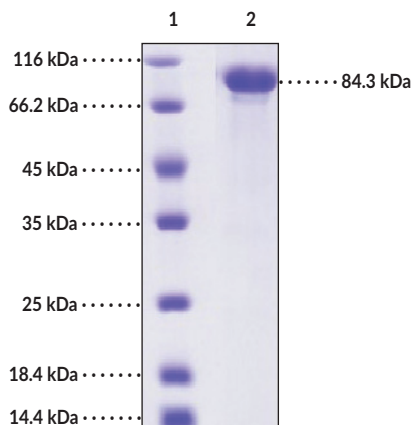
## SARS-CoV-2 Spike Glycoprotein S2 Subunit

Item No. 31815

### Overview and Properties

- Synonyms:** 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
- Source:** Recombinant C-terminal mouse IgG1 Fc-tagged SARS-CoV-2 surface glycoprotein S2 subunit expressed in insect cells
- Amino Acids:** 686-1,213
- Uniprot No.:** PODTC2
- Molecular Weight:** 84.3 kDa
- Storage:** -80°C (as supplied)
- Stability:** ≥1 year
- Purity:** ≥95% estimated by SDS-PAGE
- Supplied in:** Lyophilized from sterile 20 mM Tris, pH 7.0, 300 mM sodium chloride, and 100 mM glycine
- Endotoxin Testing:** <1.0 EU/g, determined by the LAL endotoxin assay
- Protein Concentration:** *batch specific* mg/ml
- 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 S2 Subunit

SDS-PAGE Analysis of SARS-CoV-2 Spike Glycoprotein S2 Subunit

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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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

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## Description

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) surface glycoprotein, also known as the spike glycoprotein, is a viral structural protein encoded by the *S* gene in SARS-CoV-2 RNA.<sup>1</sup> SARS-CoV-2 is a member of the *Betacoronavirus* genus of viruses and has 88% sequence identity with two bat-derived SARS-like CoVs.<sup>2</sup> The SARS-CoV-2 genome contains approximately 30 kilobases that encode four structural proteins: spike, envelope, membrane, and nucleocapsid.<sup>1,3</sup> 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.<sup>4-6</sup> The SARS-CoV-2 S2 subunit shares 88% sequence identity with the SARS-CoV S2 subunit and contains a fusion peptide (FP) and two heptad repeats (HRs), as well as transmembrane and cytoplasmic domains.<sup>7</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. SARS-CoV-2 is the causative agent of the COVID-19 respiratory illness characterized by fever, cough, and shortness of breath that can progress to pneumonia and potentially death in high-risk populations.<sup>8</sup> Cayman's SARS-CoV-2 Surface Glycoprotein S2 Subunit protein is a disulfide-linked homodimer. The reduced monomer, comprised of the SARS-CoV-2 surface glycoprotein S2 subunit (amino acids 686-1,213) fused to mouse IgG1 Fc at its C-terminus, consists of 762 amino acids and has a calculated molecular weight of 84.3 kDa.

## 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. Ahmed, S.F., Quadeer, A.A., and McKay, M.R. Preliminary identification of potential vaccine targets for the COVID-19 coronavirus (SARS-CoV-2) based on SARS-CoV immunological studies. *Viruses* **12(3)**, E254 (2020).
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CAYMAN CHEMICAL  
1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA  
PHONE: [800] 364-9897  
[734] 971-3335  
FAX: [734] 971-3640  
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