

PRODUCT INFORMATION



SARS-CoV-2 Spike Glycoprotein Receptor Binding Domain N501Y variant (rabbit IgG1 Fc-tagged)

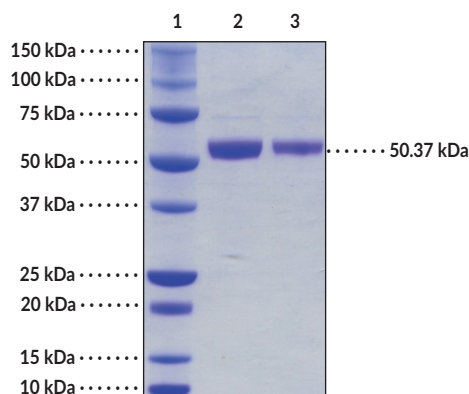
Item No. 33867

Overview and Properties

Synonyms:	SARS-CoV-2 Spike RBD, SARS-CoV-2 Spike Receptor Binding Domain, Severe Acute Respiratory Syndrome Coronavirus 2 Spike Glycoprotein Receptor Binding Domain, Spike S1 RBD, UK Variant, WHO Label: Alpha
Source:	Active recombinant C-terminal rabbit IgG1 Fc-tagged SARS-CoV-2 Spike Glycoprotein Receptor Binding Domain N501Y variant expressed in HEK293 cells
Amino Acids:	21-243, 319-541 of P0DTC2
Uniprot No.:	P0DTC2
Molecular Weight:	50.37 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	≥90% estimated by SDS-PAGE
Supplied in:	PBS, pH 7.4, with 5% mannitol, 5% trehalose, 0.01% polysorbate 20, and 10% glycerol
Protein Concentration:	<i>batch specific</i> mg/ml
Bioactivity:	See figure for details

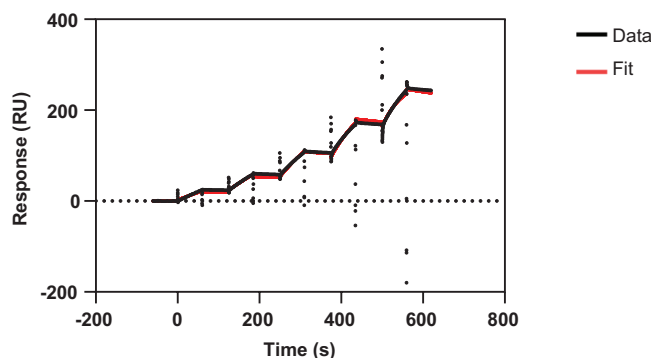
Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Images



Lane 1: MW Markers
Lane 2: SARS-CoV-2 Spike Glycoprotein Receptor Binding Domain N501Y variant (4 µg)
Lane 3: SARS-CoV-2 Spike Glycoprotein Receptor Binding Domain N501Y variant (2 µg)

SDS-PAGE Analysis of SARS-CoV-2 Spike Glycoprotein Receptor Binding Domain N501Y variant.



SARS-CoV-2 Spike Glycoprotein Receptor Binding Domain N501Y variant specifically binds ACE2. SARS-CoV-2 Spike Glycoprotein Receptor Binding Domain N501Y variant was captured on a Protein G Chip S series and SPR analysis was used to determine ACE2 (human, recombinant) (Item No. 30587) binding affinity on a Biacore T200, using single-cycle kinetics with five concentrations of ACE2.

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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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) is an enveloped positive-stranded RNA virus, a member of the *Betacoronavirus* genus, and the causative agent of COVID-19.¹⁻⁵ The SARS-CoV-2 spike glycoprotein, also known as the surface glycoprotein, is located on the outer envelope of the virion.¹ It is composed of an S1 and S2 subunit divided by a furin S-cleavage site not found in other SARS-CoVs.^{6,7} The S1 subunit contains the receptor-binding domain (RBD), which binds to the carboxypeptidase angiotensin-converting enzyme 2 (ACE2), and the S1 and S2 subunits are cleaved by the protease TMPRSS2 to facilitate viral fusion with the host cell membrane.⁸⁻¹⁰ In this way, ACE2 acts as the functional receptor for SARS-CoV-2. The asparagine-to-tyrosine substitution at position 501 (N501Y) is located within the spike glycoprotein RBD and increases SARS-CoV-2 affinity for human ACE2, which may increase virus transmissibility.¹¹ This mutation is shared by three SARS-CoV-2 variants of concern (VOC): B.1.1.7, P.1, and B.1.351, originally identified in the United Kingdom, Brazil, and South Africa, respectively. Cayman's SARS-CoV-2 Spike Glycoprotein Receptor Binding Domain N501Y variant (rabbit IgG1 Fc-tagged) protein can be used for ELISA, surface plasmon resonance (SPR), and Western blot (WB) applications.

References

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CAYMAN CHEMICAL
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ANN ARBOR, MI 48108 · USA
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