PRODUCT INFORMATION

SARS-CoV-2 Spike Glycoprotein Receptor Binding Domain K417N, E484K, N501Y variant (rabbit IgG1 Fc-tagged)

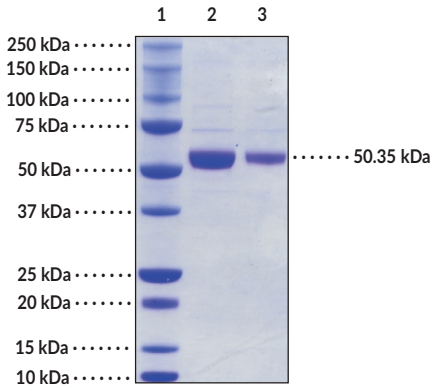
Item No. 33868

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, South African Variant, Spike S1 RBD, WHO Label: Beta
Source:	Active recombinant C-terminal rabbit IgG1 Fc-tagged SARS-CoV-2 Spike Glycoprotein Receptor Binding Domain K417N, E484K, N501Y variant expressed in HEK293 cells
Amino Acids:	21-243, 319-541 of P0DTC2
Uniprot No.:	P0DTC2
Molecular Weight:	50.35 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	***batch specific*** (≥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:	***batch specific*** mg/ml
Bioactivity:	See figure for details

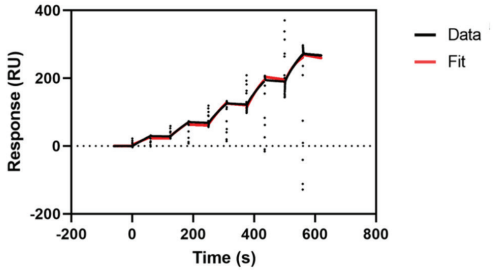
Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Images



Lane 1: MW Markers
Lane 2: SARS-CoV-2 Spike Glycoprotein (4 µg)
Lane 3: SARS-CoV-2 Spike Glycoprotein (2 µg)

SDS-PAGE Analysis of SARS-CoV-2 Spike Glycoprotein Receptor Binding Domain K417N, E484K, N501Y variant (rabbit IgG1 Fc-tagged).



SARS-CoV-2 Spike Glycoprotein Receptor Binding Domain K417N, E484K, N501Y variant (rabbit IgG1 Fc-tagged) was captured on a Protein G Chip 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.

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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 SARS-CoV-2 variant of concern (VOC) B.1.351, originally identified in South Africa, contains three substitutions located within the spike glycoprotein RBD.[11,12] The lysine-to-asparagine substitution at position 417 (K417N) reduces SARS-CoV-2 affinity for human ACE2, whereas the glutamate-to-lysine substitution at position 484 (E484K) and the asparagine-to-tyrosine substitution at position 501 (N501Y) increase SARS-CoV-2 affinity for human ACE2.[11] Collectively, the K417N, E484K, and N501Y substitutions are associated with enhanced viral infectivity and resistance to antibody-mediated neutralization.[12] Cayman's SARS-CoV-2 Spike Glycoprotein Receptor Binding Domain K417N, E484K, N501Y variant (rabbit IgG1 Fc-tagged) can be used for ELISA, surface plasmon resonance (SPR), and Western blot applications.

References

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