Recombinant SARS-CoV-2 (K417N, E484K, N501Y Mutant) Spike Glycoprotein (S1) RBD, His-tagged

Cat. No. S-306S **Lot. No.** (See product label)

SPECIFICATION

Product Overview	SARS-CoV-2 (501Y.V2) RBD contains K417N, E484K, N501Y mutations relative to Wuhan Hu-1 with a C-terminus His tag was expressed in HEK293 and purified by affinity chromatography.
Species	SARS-COV-2
Source	HEK293
ProteinLength	15-237
Description	Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is the virus that causes coronavirus disease 2019 (COVID-19). The sequence WIV04/2019, belonging to the GISAID S clade / PANGOLIN A lineage / Nextstrain 19B clade, is believed to be the original sequence infecting humans. However, there are many thousands of variants of SARS-CoV-2 and subtypes of the virus can be placed into much larger groupings such as lineages or clades. The 501.V2 variant, also known as 501.V2, 20H/501Y.V2 (formerly 20C/501Y.V2), or lineage B.1.351, was first detected in South Africa in December 2020. It was reported that the prevalence of the variant was higher among young people with no underlying health conditions, more frequently resulting in serious illness compared to other variants. It was speculated that this variant may be driving a second wave of the COVID-19 epidemic in the country due to it spreading at a more rapid pace than other earlier variants of the virus. Routine sequencing by South African health authorities

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	found that this new SARS-CoV-2 variant had largely replaced other SARS-CoV-2 viruses circulating in the Eastern Cape, Western Cape, and KwaZulu-Natal provinces. The 501.V2 variant contains several mutations that allow it to attach more easily to human cells, namely N501Y, K417N, and E484K and preliminary studies suggest the variant is associated with a higher viral load, which may suggest potential for increased transmissibility. The N501Y mutation is also present in the UK Lineage B.1.1.7. This mutation is of concern because it is located in the SARS-CoV-2 (501.V2) spike RBD, the viruses receptor-binding domain and increases binding to the receptor ACE2 (angiotensin converting enzyme 2).
Form	Liquid
Molecular Mass	Expected Molecular Weight: 27 kDa Observed Molecular Weight: ~30 kDa
Purity	Greater than 90% purity.
Storage	Short Term Storage: -80 centigrade Long Term Storage: -80 centigrade Can be frozen
Storage Buffer	DPBS
Shipping	Dry Ice

GENE INFORMATION

Gene Name	S surface glycoprotein [Severe acute respiratory syndrome coronavirus 2]
Official Symbol	S

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Synonyms	S; surface glycoprotein; spike glycoprotein; surface glycoprotein; structural protein; spike protein
Gene ID	43740568
mRNA Refseq	MN908947
Protein Refseq	YP_009724390
SDS-PAGE	Coomassie-stained SDS-PAGE showing purified SARS-CoV-2 RBD with K417N, E484K and N501Y mutations.

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