Recombinant SARS-CoV-2 (B.1.351/501Y.V2) Spike Glycoprotein (S1) RBD, His-tagged

Cat. No. HUM-325 **Lot. No.** (See product label)

SPECIFICATION

Product Overview	SARS-CoV-2 (501Y.V2) RBD mutant from South African variant. Contains amino acid changes K417N, E484K, N501Y relative to Wuhan Hu-1. The protein was produced in HEK293 cells and purified from culture supernatant. SARS-CoV-2, previously known as the 2019 Novel Coronavirus (2019-nCoV), causes the pandemic COVID-19 disease.
Tag	His
Background	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 (Zhukova et al., 2020). However, there are many thousands of variants of SARS-CoV-2 (Koyama et al., 2020) 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 (Tegally et al., 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 found that this new SARS-CoV-2 variant had largely replaced other SARS-CoV-2 viruses circulating in the Eastern Cape, Western Cape,

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	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).
Formulation	DPBS
Notes	This product is intended for research and manufacturing uses only. It is not a diagnostic device. The user assumes all responsibility for care, custody and control of the material, including its disposal, in accordance with all regulations.
Type	Recombinant
ClassID 1	Infectious Disease

GENE INFORMATION

Synonyms	SARS-CoV-2 (B.1.351/501Y.V2) Spike Glycoprotein (S1) RBD

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