

Recombinant SARS-CoV-2 (B.1.617.2) Spike Glycoprotein (S1) RBD, His-tagged

Cat. No. HUM-339 **Lot. No.** (See product label)

SPECIFICATION

Product Overview SARS-CoV-2 (B.1.617.2) RBD mutant from the Indian (Delta) variant. Contains amino acid changes L452R, T478K 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. WHO have designated variants of concern as Alpha (United Kingdom), Beta (South Africa), Gamma (Brazil) and Delta (India), depending on location of earliest documented samples.

B.1.617, also known as the "double mutant" variant, was first detected in India in October 2020. Since then, three sub lineages of this variant have been detected, namely B.1.617.1, B.1.617.2 and B.1.617.3. The B.1.617.2 is extremely transmissible and is the fourth strain of the SARS-CoV-2 virus to have undergone a mutation toward a more virulent and transmissible form. The B.1.617 lineage possesses 13 to 17 mutations, three of which are in the virus' spike protein. B.1.617.2 has mutations in

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the gene encoding the SARS-CoV-2 spike protein causing the substitutions T478K, P681R and L452R, which are known to affect transmissibility of the virus as well as whether it can be neutralized by antibodies for previously circulating SARS-CoV-2 variants. The L452R mutation confers stronger affinity of the spike protein for the ACE2 receptor and decreased recognition capability of the immune system. Public Health England (PHE) have assessed transmissibility as equivalent to B.1.1.7 (Alpha variant), first identified in the UK (Kent variant). The variant is thought to be partly responsible for India's second wave of the pandemic beginning in February 2021. It later contributed to a third wave in the United Kingdom and South Africa (WHO; CDC).

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.1.617.2) Spike Glycoprotein (S1) RBD

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