

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

Cat. No. HUM-373 **Lot. No.** (See product label)

SPECIFICATION

Product Overview

SARS-CoV-2 Spike S1 RBD is a recombinant receptor-binding domain antigen, expressed in HEK293 cells and purified from culture supernatant with a His-tag to These proteins can be used as diagnostic standard antigens, targets of neutralizing antibodies and in the development of antibodies to detect SARS-CoV-2 in patients.

Tag

His

Background

SARS-CoV-2 is a respiratory virus which causes coronavirus disease 2019 (COVID-19). This disease spreads primarily through contact with an infected person via respiratory droplets generated when a person coughs or sneezes, or through droplets of saliva or discharge from the nose. Infection with SARS-CoV-2 can cause mild symptoms including a runny nose, sore throat, cough, and fever. However, it can be more severe for some people and can lead to pneumonia or breathing difficulties. The elderly, and people with pre-existing medical conditions (such as, diabetes and heart disease) appear to be more vulnerable to becoming severely ill with the virus (WHO, 2020).

The coronavirus spike (S) glycoprotein is a class I viral fusion protein on the outer envelope of the virion that plays a critical role in viral infection by recognizing host cell receptors and mediating fusion of the viral and cellular membranes (Li, 2016). Each monomer of trimeric S protein is about 180 kDa, and contains two subunits, S1 and S2, mediating attachment and membrane fusion, respectively. Two major domains in coronavirus S1 have been identified, the N-terminal domain (S1-NTD) and C-terminal domain (S1-CTD). Either or both of these S1 domains can function as a receptor-

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binding domain (RBD), depending on virus; SARS-CoV and MERS-CoV both use C-domain to bind their receptors (Ou et al., 2020). Angiotensin-converting enzyme 2 (hACE2)²¹ and human dipeptidyl peptidase 4 (hDPP4)²² have been identified as the receptors for SARS-CoV and MERS-CoV, respectively. While S proteins of SARS-CoV-2 share about 76% amino acid identities with SARS-CoV, the amino acid sequence of potential RBD of SARS-CoV-2 is only about 74% homologous to that of SARS-CoV. It has been reported that human ACE2 is also the entry receptor of SARS-CoV-2, and that a serine protease is important for SARS-CoV-2 Spike activation (Hoffmann et al., 2020).

Formulation

Presented as liquid in 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 Spike Glycoprotein (S1) RBD

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