

RP02266

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Recombinant SARS-CoV-2 Spike RBD (L452R, E484Q) Protein with His tag

Catalog No.: RP02266

Recombinant

Sequence Information

Species SARS-CoV-2
Gene ID
Swiss Prot

Tags
C-His

Synonyms

S1-RBD protein;NCP-CoV RBD Protein;novel coronavirus RBD Protein;2019-nCoV RBD Protein;S glycoprotein Subunit1 RBD Protein

Product Information

Source HEK293 Cells
Purification > 95% by SDS-PAGE.

Endotoxin

< 0.1 EU/μg of the protein by LAL method.

Formulation

Lyophilized from a 0.22 μm filtered solution of PBS, pH 7.4. Contact us for customized product form or formulation.

Reconstitution

Reconstitute to a concentration of 0.1-0.5 mg/mL in sterile distilled water.

Background

The spike (S) glycoprotein of coronaviruses contains protrusions that will only bind to certain receptors on the host cell. Known receptors bind S1 are ACE2, angiotensin-converting enzyme 2; DPP4, dipeptidyl peptidase-4; APN, aminopeptidase N; CEACAM, carcinoembryonic antigen-related cell adhesion molecule 1; Sia, sialic acid; O-ac Sia, O-acetylated sialic acid. The spike is essential for both host specificity and viral infectivity. The term 'peplomer' is typically used to refer to a grouping of heterologous proteins on the virus surface that function together. The spike (S) glycoprotein of coronaviruses is known to be essential in the binding of the virus to the host cell at the advent of the infection process. It's been reported that SARS-CoV-2 (COVID-19 coronavirus, 2019-nCoV) can infect the human respiratory epithelial cells through interaction with the human ACE2 receptor. The spike protein is a large type I transmembrane protein containing two subunits, S1 and S2. S1 mainly contains a receptor binding domain (RBD), which is responsible for recognizing the cell surface receptor. S2 contains basic elements needed for the membrane fusion. The S protein plays key parts in the induction of neutralizing-antibody and T-cell responses, as well as protective immunity. The main functions for the Spike protein are summarized as: Mediate receptor binding and membrane fusion; Defines the range of the hosts and specificity of the virus; Main component to bind with the neutralizing antibody; Key target for vaccine design; Can be transmitted between different hosts through gene recombination or mutation of the receptor binding domain (RBD), leading to a higher mortality rate.

Basic Information

Description

Recombinant SARS-CoV-2 Spike RBD(L452R, E484Q) Protein is produced by HEK293 expression system. The target protein is expressed with sequence (Arg319-Phe541) of SARS-CoV-2 Spike RBD(with mutations L452R, E484Q) (Accession #YP_009724390.1) fused with a polyhistidine tag at the C-terminus. The mutations were identified in the SARS-CoV-2 variant (known as variant B.1.617) which emerged in the India.

Bio-Activity

Storage

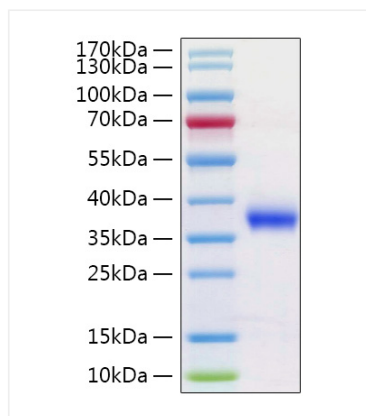
Store the lyophilized protein at -20°C to -80 °C for long term. After reconstitution, the protein solution is stable at -20 °C for 3 months, at 2-8 °C for up to 1 week. Avoid repeated freeze/thaw cycles.

Contact



www.abclonal.com

Validation Data



Recombinant SARS-CoV-2 Spike RBD (L452R, E484Q) Protein was determined by SDS-PAGE with Coomassie Blue, showing a band at 35 kDa.