Recombinant SARS-COV-2 Spike RBD(L452R, E484Q) Protein

Catalog No.: RP01337

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Sequence Information

Species	Gene ID
SARS-COV-2	43740568 （RBD）(L452R, E484Q)

Swiss Prot	Tags
P0DTC2	C-His

Synonyms

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

Product Information

Source	Purification
HEK293 cells	≥ 95 % as determined by SDS-PAGE.

Calculated MW	Observed MW
25.98 kDa	35-40 kDa

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.

Reconstitution

Centrifuge the vial before opening. Reconstitute to a concentration of

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 cells expression system. The target protein is expressed with sequence (Arg319-Phe541(L452R,E484Q)) of SARS-COV-2 RBD (Accession #YP_009724390.1) fused with a 6×His tag at the C-terminus.

Activity

Measured by its binding ability in a functional ELISA. Immobilized SARS-CoV-2 Spike RBD at 2 μg/mL (100 μL/well) can bind recombinant Human ACE2 with a linear range of 0.03-37.5 ng/mL.

Shipping

Lyophilized proteins are shipped at ambient temperature.
Liquid proteins are shipped at frozen temperature with dry ice.
Upon receipt, store it immediately at the temperature recommended below.

Storage

Store at -20℃

Operational Notes

For your safety and health, please wear a lab coat and disposable gloves for handling.

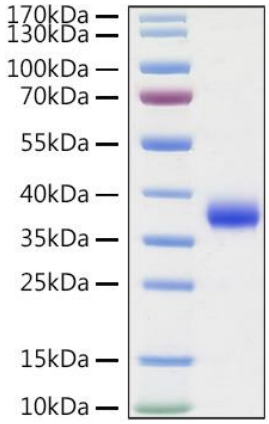
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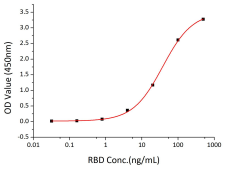
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0.1-0.5 mg/mL in sterile distilled water. Avoid vortex or vigorously pipetting the protein. For long term storage, it is recommended to add a carrier protein or stablizer (e.g. 0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose), and aliquot the reconstituted protein solution to minimize free-thaw cycles.

Validation Data



Recombinant SARS-COV-2 Spike RBD(L452R,E484Q) Protein was determined by SDS-PAGE under reducing conditions with Coomassie Blue.



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