

## Recombinant COVID-19 (2019 novel coronavirus) Spike protein (S2 ECD), His-tagged

**Cat. No.** Spike-197V    **Lot. No.** (See product label)

### SPECIFICATION

<b>Product Overview</b>	Recombinant COVID-19 (2019 novel coronavirus) Spike protein (S2 ECD) was fused to His-tag at C-terminus and expressed in Baculovirus-Insect cells.
<b>Species</b>	Sars-CoV-2
<b>Source</b>	Insect Cells
<b>ProteinLength</b>	539
<b>Description</b>	<p>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 COVID-19 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</p>

 Tel: 1-631-559-9269    1-516-512-3133

 Email: [info@creative-biomart.com](mailto:info@creative-biomart.com)     Fax: 1-631-938-8127

 45-1 Ramsey Road, Shirley, NY 11967, USA

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.

<b>Predicted N Terminal</b>	Ser
<b>Form</b>	Lyophilized from sterile 20mM PB, 300mM NaCl, 10% glycerol, pH 7.0. Normally 5%-8% trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization.
<b>Molecular Mass</b>	The recombinant COVID-19 Spike Protein (S2 ECD, His tag) consists of 539 amino acids and predicts a molecular mass of 59.37 kDa.
<b>Endotoxin</b>	<1.0 EU per µg protein as determined by the LAL method.
<b>Purity</b>	>90% as determined by SDS-PAGE.
<b>Stability</b>	Samples are stable for up to twelve months from date of receipt at -20 to -80 centigrade.
<b>Storage</b>	Store it under sterile conditions at -20 to -80 centigrade. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
<b>Reconstitution</b>	It is recommended that sterile water be added to the vial to prepare a stock solution of 0.25 mg/ml. Centrifuge the vial at 4°C before opening to recover the entire contents.



### Shipping


In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature.

Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.


## GENE INFORMATION

### Synonyms

BHT41\_gp02

 Tel: 1-631-559-9269 1-516-512-3133

 Email: [info@creative-biomart.com](mailto:info@creative-biomart.com)  Fax: 1-631-938-8127

 45-1 Ramsey Road, Shirley, NY 11967, USA