

# Recombinant COVID-19 Spike S1 protein, His-tagged

**Cat. No.** Spike-237V    **Lot. No.** (See product label)

## SPECIFICATION

|                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product Overview</b>     | Recombinant COVID-19 Spike S1 protein (Val16-Arg685) was fused to his-tag at the C-terminus and expressed in human 293 cells (HEK293).                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Species</b>              | Sars-CoV-2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Source</b>               | HEK293                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>ProteinLength</b>        | Val16-Arg685                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Description</b>          | It's been reported that SARS-CoV-2 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. |
| <b>Predicted N Terminal</b> | Val16                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Form</b>                 | Lyophilized from 0.22 µm filtered solution in PBS, pH7.4, 10% trehalose.                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Molecular Mass</b>       | The protein has a calculated MW of 76.9 kDa. The protein migrates as 100-140 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Endotoxin</b>            | Less than 1.0 EU per µg by the LAL method.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

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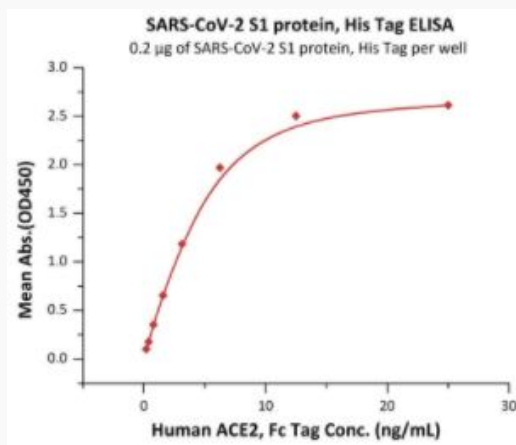
|                         |                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Purity</b>           | >90% as determined by SDS-PAGE.                                                                                                                                                                                                                                                                                                                                 |
| <b>Storage</b>          | <p>For long term storage, the product should be stored at lyophilized state at -20 centigrade or lower.</p> <p>Please avoid repeated freeze-thaw cycles.</p> <p>This product is stable after storage at:</p> <p>-20 to -70 centigrade for 12 months in lyophilized state;</p> <p>-70 centigrade for 3 months under sterile conditions after reconstitution.</p> |
| <b>Reconstitution</b>   | It is recommended that sterile water be added to the vial to prepare a stock solution of 0.2 mg/ml. Centrifuge the vial at 4°C before opening to recover the entire contents.                                                                                                                                                                                   |
| <b>Shipping</b>         | Powder,RT                                                                                                                                                                                                                                                                                                                                                       |
| <b>GENE INFORMATION</b> |                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Gene Name</b>        | S                                                                                                                                                                                                                                                                                                                                                               |
| <b>Official Symbol</b>  | S                                                                                                                                                                                                                                                                                                                                                               |
| <b>Synonyms</b>         | spike glycoprotein                                                                                                                                                                                                                                                                                                                                              |
| <b>Gene ID</b>          | 43740568                                                                                                                                                                                                                                                                                                                                                        |
| <b>Protein Refseq</b>   | YP_009724390.1                                                                                                                                                                                                                                                                                                                                                  |
| <b>UniProt ID</b>       | P0DTC2                                                                                                                                                                                                                                                                                                                                                          |

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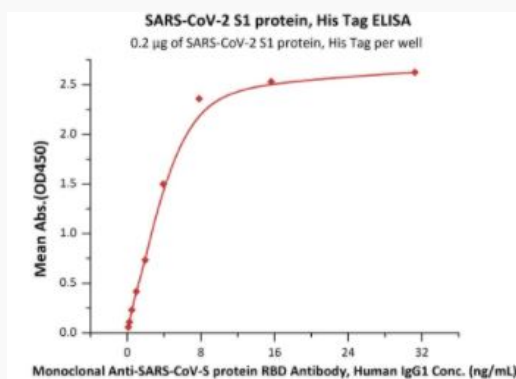
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### Bioactivity-ELISA of Spike-237V



Immobilized COVID-19 S1 protein, His Tag at 2 µg/mL (100 µL/well) can bind Human ACE2, Fc Tag with a linear range of 0.2-6 ng/mL (QC tested).

### Bioactivity-ELISA of Spike-237V



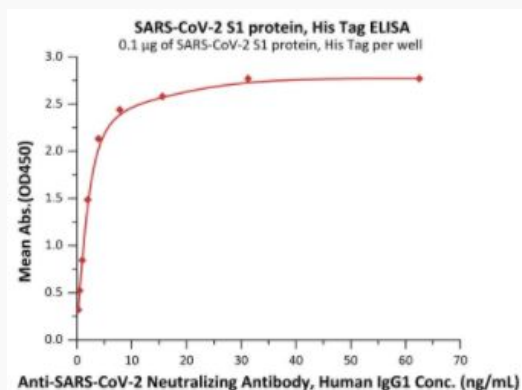
Immobilized COVID-19 S1 protein, His Tag at 2 µg/mL (100 µL/well) can bind Monoclonal Anti-COVID-19-S protein RBD Antibody, Human IgG1 with a linear range of 0.1-4 ng/mL (Routinely tested).

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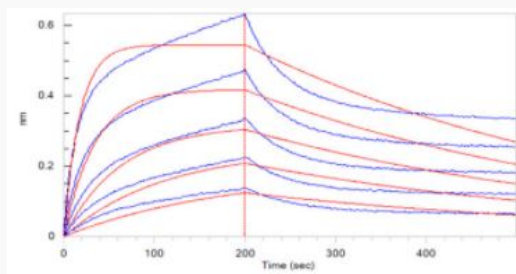
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### Bioactivity-ELISA of Spike-237V



Immobilized COVID-19 S1 protein, His Tag at 1 µg/mL (100 µL/well) can bind Anti-COVID-19 Neutralizing Antibody, Human IgG1 with a linear range of 0.2441-7.8125 ng/mL (Routinely tested).

### Bioactivity-BLI of Spike-237V



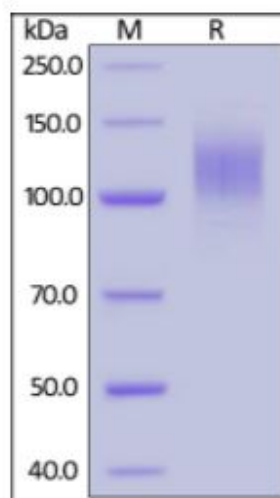
Loaded Human ACE2, Fc Tag on Protein A Biosensor, can bind COVID-19 S1 protein, His Tag with an affinity constant of 21.8 nM as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).

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### SDS-PAGE of Spike-237V



COVID-19 S1 protein, His Tag on SDS-PAGE under reducing (R) condition. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 90%.

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