

## Recombinant COVID-19 S protein RBD, His/Avi-tagged, Biotinylated

**Cat. No.** Spike-211V **Lot. No.** (See product label)

### SPECIFICATION

|                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product Overview</b>     | Recombinant COVID-19 S protein RBD, Biotinylated (Arg319-Phe541) was fused to His/Avi-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>        | Arg319-Phe541                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Description</b>          | 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 neutralizing-antibody and T-cell responses, as well as protective immunity. |
| <b>Predicted N Terminal</b> | Arg319                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <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 28.7 kDa. The protein migrates as 34-37 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.                                                                                                                                                                                                                                                                                                                                                                                                    |

 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

|                       |                                                                                                                                                                                                                                                                                                                                          |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Endotoxin</b>      | Less than 1.0 EU per µg by the LAL method.                                                                                                                                                                                                                                                                                               |
| <b>Purity</b>         | >90% as determined by SDS-PAGE.<br>>90% as determined by SEC-MALS.                                                                                                                                                                                                                                                                       |
| <b>Storage</b>        | For long term storage, the product should be stored at lyophilized state at -20 centigrade or lower.<br>Please avoid repeated freeze-thaw cycles.<br>This product is stable after storage at:<br>-20 to -70 centigrade for 12 months in lyophilized state;<br>-70 centigrade for 3 months under sterile conditions after reconstitution. |
| <b>Reconstitution</b> | It is recommended that sterile water be added to the vial to prepare a stock solution of 0.2 ug/ul. Centrifuge the vial at 4°C before opening to recover the entire contents.                                                                                                                                                            |
| <b>Conjugation</b>    | Biotin                                                                                                                                                                                                                                                                                                                                   |

## GENE INFORMATION

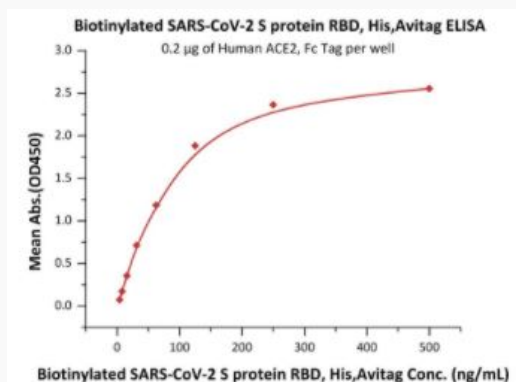
|                        |                                |
|------------------------|--------------------------------|
| <b>Gene Name</b>       | <a href="#">S</a>              |
| <b>Official Symbol</b> | <a href="#">S</a>              |
| <b>Synonyms</b>        | spike glycoprotein             |
| <b>Gene ID</b>         | <a href="#">43740568</a>       |
| <b>Protein Refseq</b>  | <a href="#">YP_009724390.1</a> |
| <b>UniProt ID</b>      | <a href="#">P0DTC2</a>         |

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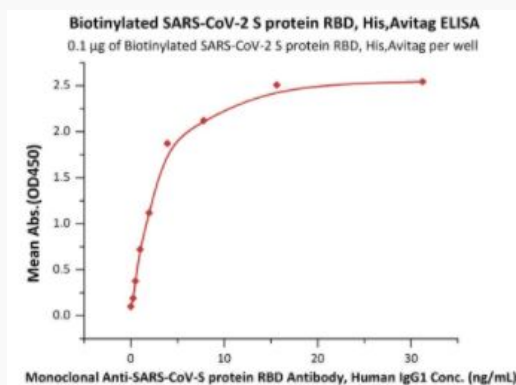
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### Bioactivity-ELISA of Spike-211V



Immobilized Human ACE2, Fc Tag at 2 µg/mL (100 µL/well) can bind Biotinylated COVID-19 S protein RBD, His,Avitag with a linear range of 4-125 ng/mL (QC tested).

### Bioactivity-ELISA of Spike-211V



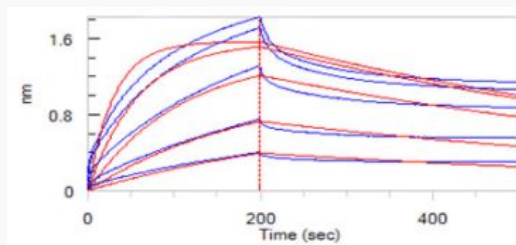
Immobilized Biotinylated COVID-19 S protein RBD, His,Avitag at 1 µg/mL (100 µL/well) on streptavidin precoated (0.5 µg/well) plate, can bind Monoclonal Anti-COVID-19-S protein RBD Antibody, Human IgG1 with a linear range of 0.1-4 ng/mL (Routinely tested).

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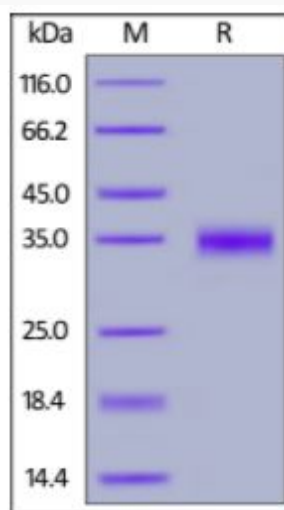
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### Bioactivity-BLI of Spike-211V



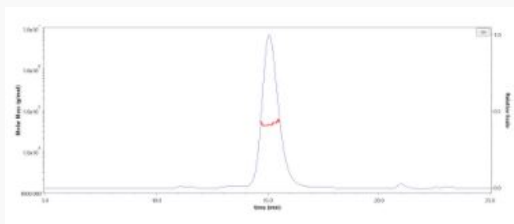
Loaded Biotinylated COVID-19 S protein RBD, His,Avitag on SA Biosensor, can bind Human ACE2, His Tag with an affinity constant of 5.86 nM as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).

### SDS-PAGE of Spike- 211V



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

## SEC-MALS of Spike-211V



The purity of Biotinylated COVID-19 S protein RBD, His, Avitag was more than 90% and around 30-50 kDa verified by SEC-MALS.

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