

Recombinant SARS-CoV 2 Spike NTD mFc-Chimera

| | |
|-----------------------------|---|
| Cat. No. | Ab-P0019 |
| Size | 100 µg |
| Host Species | Human |
| Expression Host | HEK293 |
| Protein construction | A DNA sequence encoding the SARS-CoV-2 (2019-nCoV) Spike Protein (RBD) (YP_009724390.1) (Val16-Ala292) was fused with the Fc region of mouse IgG2a at C-terminus |
| Purity | >95% as determined by SDS-PAGE |
| Bioactivity | Measured by its binding ability in a functional ELISA. |
| Formulation | 0.22µm filtered solution in PBS pH7.4 |
| Storage | Store it under sterile condition at -70°C upon receiving. Recommend to aliquot the protein in to smaller quantities for storage. Avoid repeated freeze –thaw cycles. |
| Molecular Mass | The recombinant SARS-CoV-2 (2019-nCoV) Spike Protein (NTD, mFc fusion) consists of 515 amino acids and predicts a molecular mass of 58.25 kDa. |

Background

The Spike protein (S) of and SL-CoVs which is a type I transmembrane glycoprotein and mediates the entrance to human respiratory epithelial cells by interacting with cell surface receptor such as angiotensin-converting enzyme 2 (ACE2).

The Spike protein is a large type I transmembrane protein containing two subunits, S1 and S2, mediate the attachment and membrane fusion respectively. The receptor binding domain (RBD) is responsible for recognizing the cell surface receptor, and depending on the virus, either N-terminal domain (NTD) or C-terminal domain (C-domain) can act as RBD.

In addition to ACE2 and other surface protein receptors, many coronavirus, such as MERS-CoV, HCoVOC43, and HCoV-HKU1, infect host cells through the binding of NTD region of spike protein and host sialic acid receptors. Since the RBD area is located between NTD areas, the need for research on NTD areas that can interfere with the binding with receptors due to these three dimensional characteristics is growing.

Reference

- 1) Awasthi M. et al., N-terminal domain (NTD) of SARS-CoV-2 spike-protein structurally resembles MERS-CoV NTD sialoside-binding pocket, Research Square [Preprint] (2020)
- 2) Xiuyuan Ou et al., Characterization of spike glycoprotein of SARS-CoV-2 on virus entry and its immune cross-reactivity with SARS-CoV, Nature Communications volume 11, Article number: 1620 (2020)

Image

