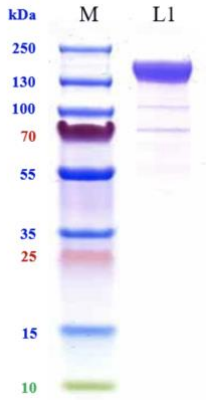
SARS-CoV-2 Spike S1 protein
[Expressed in HEK293 cell]

Origin: Recombinant
Source: HEK293
Tag: Fc tag at C-terminus
Cat No. 41A230
Size: 0.1 mg
Purity: >95%
Endotoxin: <5 EU/mg, determined by the LAL method

Introduction to the molecule
The spike (S) glycoprotein of SARS-CoV-2, which is highly exposed on the viral surface, plays a major role in inducing neutralizing antibody, T cell responses and protective immunity. The S protein contains two subunits: S1 and S2 cleaved by furin in host cells. S1 mediates the interaction of SARS-CoV-2 to the host cell receptor (ACE2) through its receptor-binding domain and is the target of vaccine development.

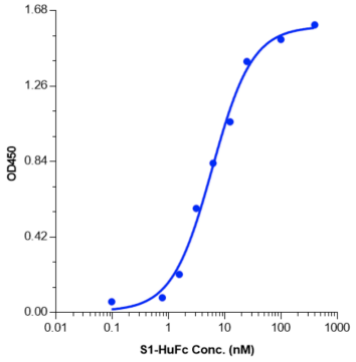
Product information
The recombinant SARS-CoV-2 Spike S1 Protein (YP_009724390.1) (Val16-Arg685) with C-terminal Fc-tag consists of 681 amino acids. Its predicted molecular mass of 77 kDa. The apparent molecular mass of S1 in SDS-PAGE is around 130 kDa, probably due to glycosylation. The concentration of protein was determined by BCA.



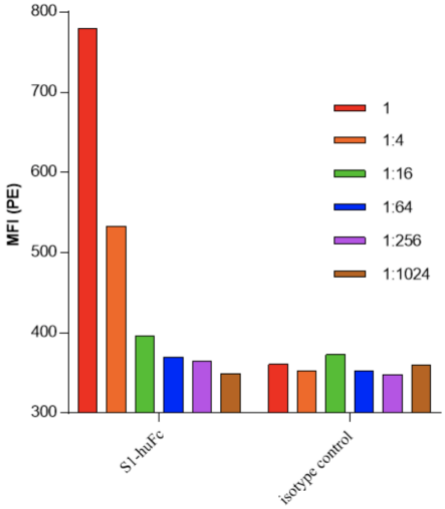
Bioactivity & antigenicity: Strong binding ability with human ACE2 protein and binding capacity to a human anti-S1 monoclonal antibody (determined by ELISA).

Human ACE2 binding assay

Binding capacity with recombinant human ACE2 protein



Binding capacity with receptor on Vero cells



Formulation, Reconstitution and storage:
Lyophilized from sterile PBS, pH 7.4. Lyophilized protein can be stored at 2℃ to 8℃ for short-term, and at -20℃ to -80℃ for long term store. For reconstitution, add 100 µl of deionized water, mix gently and incubate the reconstituted product for 10 minutes at room temperature prior to use. Reconstituted protein should be kept at -20℃ to -80℃. Avoid repeated freeze-thaw cycles.

Reference

1. Shajahan A, *et al*. (2020) Deducing the N- and O-glycosylation profile of the spike protein of novel coronavirus SARS-CoV-2. bioRxiv, https://doi.org/10.1101/2020.04.01.020966.
2. Walls, A C, et al. (2020) Structure, Function, and Antigenicity of the SARS-CoV-2 Spike Glycoprotein. Cell, 181(2), 281-292.e6. https://doi.org/10.1016/j.cell.2020.02.058.