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21-1005-B: Biotinylated SARS-Cov-2 Spike RBD Protein Fc Tag (319-541 aa)

Application : Functional Assay
Alternative Name : 2019-nCoV Spike Protein S1 (RBD), COVID-19 Spike Protein S1 (RBD)

Description

Source: CHO cells.

SARS-CoV-2 shares 79.5% sequence identity with SARS-CoV and is 96.2% identical at the genome level to the bat coronavirus BatCoV RaTG133, suggesting it had originated in bats. The coronaviral genome encodes four major structural proteins: the Spike (S) protein, Nucleocapsid (N) protein, Membrane/Matrix (M) protein and the Envelope (E) protein. The SARS Envelope (E) protein contains a short palindromic transmembrane helical hairpin that seems to deform lipid bilayers, which may explain its role in viral budding and virion envelope morphogenesis. The SARS Membrane/Matrix (M) protein is one of the major structural viral proteins. It is an integral membrane protein involved in the budding of the viral particles and interacts with SARS Spike (S) protein and the Nucleocapsid (N) protein. The N protein contains two domains, both of them bind the virus RNA genome via different mechanisms.

The CoV Spike (S) protein assembles as trimer and plays the most important role in viral attachment, fusion and entry. It is composed of a short intracellular tail, a transmembrane anchor and a large ectodomain that consists of a receptor binding S1 subunit (RBD domain) and a membrane-fusing S2 subunit. The S1 subunit contains a receptor binding domain (RBD), which binds to the cell surface receptor angiotensin-converting enzyme 2 (ACE2) present at the surface of epithelial cells.

Product Info

Amount : 100 µg
Purification : ≥ 95% (SDS-PAGE)
Content : Recombinant protein is supplied at 0.5 mg/ ml in PBS, pH 7.4, 0.05% Azide
Storage condition : Store the protein at 4°C, stable for 6 months.
Amino Acid : Receptor-binding domain (RBD) of SARS-CoV-2 Spike protein S1 (aa 319-541) is fused with the Fc region of human IgG1 at C-terminus. Amino acid sequence was derived from Severe acute respiratory syndrome coronavirus 2 isolate Wuhan-Hu-1, complete genome. ACCESSION NC_045512

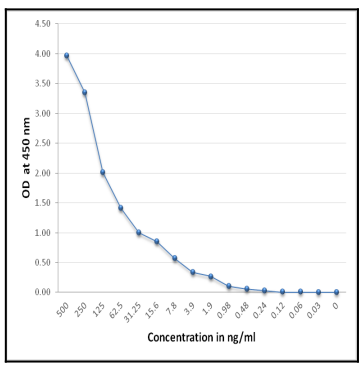

Figure 1: ACE2 (human)(rec.) (Cat.No.: 32-190009) binds with high affinity to the biotinylated Spike (RBD) protein of the virus SARS-CoV-2.

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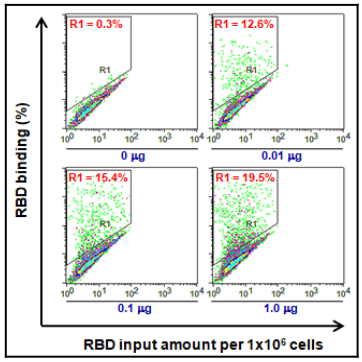

Figure 2: Binding of biotinylated SARS-Cov-2 Spike RBD protein to human ACE2 in the CHO-K1/ACE2 stable cell line. CHO-K1/ACE2 (Abeomics, Cat. No. 14-523ACL) cells were probed with different amounts of biotinylated SARS-Cov-2 Spike RBD protein (Abeomics, Cat. No. 21-1005-B) and analyzed by flow cytometry through fluorescent-labeled Streptavidin detection.

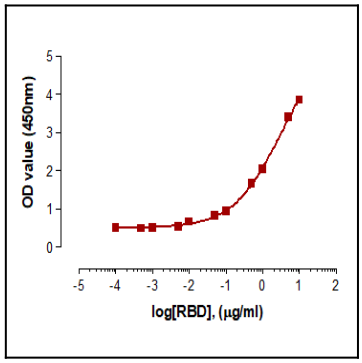

Figure 3: Binding of biotinylated SARS-Cov-2 Spike RBD protein to human ACE2 in the CHO-K1/ACE2 stable cell line. CHO-K1/ACE2 (Abeomics, Cat. No. 14-523ACL) cells were incubated with various concentrations of biotinylated SARS-Cov-2 Spike RBD protein (Abeomics, Cat. No. 21-1005-B) and analyzed through In-Cell ELISA.