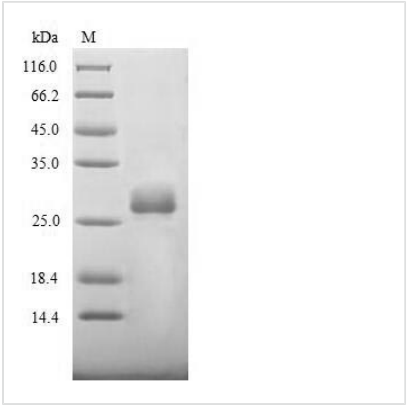
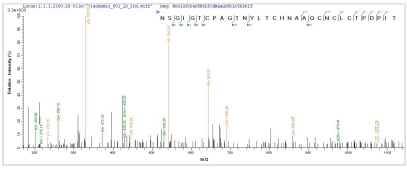
Recombinant Bovine coronavirus Spike glycoprotein (S), partial

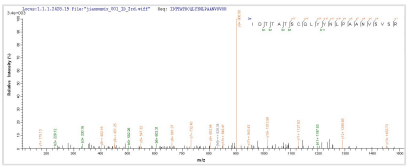
Product Code	CSB-EP322803BJK
Relevance	S1 attaches the virion to the cell membrane by binding to 9-O-acetylated sialic acid containing proteins, initiating the infection. S2 is a class I viral fusion protein. Under the current model, the protein has at least 3 conformational states: pre-fusion native state, pre-hairpin intermediate state, and post-fusion, the coiled coil regions (heptad repeats) assume a trimer-of-hairpins structure, positioning the fusion peptide in close proximity to the C-terminal region of the ectodomain. The formation of this structure appears to drive apposition and subsequent fusion of viral and target cell membranes
Abbreviation	Recombinant Bovine coronavirus S protein, partial
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	P15777
Product Type	Recombinant Protein
Immunogen Species	Bovine coronavirus (strain Mebus) (BCoV) (BCV)
Purity	Greater than 85% as determined by SDS-PAGE.
Sequence	PNLPDCNIEAWLNDKSVPSPLNWERKTFSNCNFNMSSLMSFIQADSFTCNNID AAKIYGMCFSSITIDKFAIPNGRKVDLQLGNLGYLQSFNYRIDTTATSCQLYYNL PAANVSVSRFNPSTWNRRFGFTEQFVFKPQPVGVFTHHDVVYAQHCFKAPS NFCPCKLDGSLCVGNGPGIDAGYKNSGIGTCPAGTNYLTCHNAAQCNCLCTP DPIT
Research Area	Microbiology
Source	E.coli
Target Names	S
Protein Names	E2 Peplomer protein
Expression Region	326-540aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 10xHis-tagged
Mol. Weight	27.2 kDa
Protein Length	Partial
Image	



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.



Based on the SEQUEST from database of E.coli host and target protein, the LC-MS/MS Analysis result of CSB-EP322803BJK could indicate that this peptide derived from E.coli-expressed Bovine coronavirus (strain Mebus) (BCoV) (BCV) S.



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Description

E.coli-expressed bovine coronavirus (BCoV) spike glycoprotein (S) CSB-CSB-EP322803BJK is a recombinant fusion protein of partial BCoV-S (326-540AA) coupled to a 10xHis-tag at the N-terminus. This protein is calculated molecular weight of 11.9 kDa. It was validated by the LC-MS/MS analysis. The SDS-PAGE showed an about 30 kDa molecular weight of this protein and determined the purity of over 85%. This recombinant BCoV-S protein is in-stock now.

The interaction between S protein and the host receptor mediates the viral and cellular membranes, which is essential for CoV entry into target cells. The S protein is a class-I viral fusion protein and a vital target for antibody neutralization and vaccine development. Each monomer of the trimeric S protein consists of the S1 subunit and S2 subunit. The S1 is responsible for receptor binding and recognition, while S2 possesses all fusion machinery required for membrane fusion. S1 can be subdivided into four domains: N-terminal galectin-like domain (NTD)17, C-terminal domain (CTD), subdomain-1 (SD-1), and subdomain-2 (SD-2). Either NTD or CTD or both can serve as the receptor-binding domain (RBD). BCoV uses their NTDs to bind either receptor protein or sialic acid.

Reconstitution

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL.We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.

Shelf Life	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.