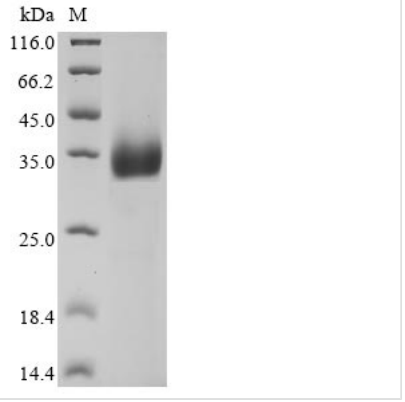
Recombinant Bovine coronavirus Spike glycoprotein (S), partial

Product Code	CSB-YP340678BJN
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.	P25193
Form	Liquid or Lyophilized powder
Storage Buffer	If the delivery form is liquid, the default storage buffer is Tris/PBS-based buffer, 5%-50% glycerol. If the delivery form is lyophilized powder, the buffer before lyophilization is Tris/PBS-based buffer, 6% Trehalose.
Product Type	Recombinant Protein
Immunogen Species	Bovine coronavirus (strain Quebec) (BCoV) (BCV)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	TVQPIADVYRRIPNLPDCNIEAWLNDKSVPSPLNWERKTFSNCNFNMSSLMSFI QADSFTCNNIDAAKIYGMCFSSITIDKFAIPNGRKVDLQLGNLGYLQSFNYRIDT TATSCQLYYNLPAANVSVSRFNPSTWNRRFGFTEQFVFKPQPVGVFTHHDVV YAQHCFKAPKNFCPCKLDGSLCVGNGPGIDAGYKNSGIGTCPAGTNYLTCHN AAQCDCLCTPDPITSKSTGPYKCPQTKYLVGIGEHCSGLAIKSDYCGGNPCTC QPQAFLGWSVDSCLQGDRCNIFANFIFHDVNSGTTCSTDLQKSNTDIILGVCV NY
Research Area	Microbiology
Source	Yeast
Target Names	S
Expression Region	314-634aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	C-terminal 6xHis-tagged
Mol. Weight	36.8 kDa
Protein Length	Partial
Image	



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

Description

Recombinant Bovine coronavirus Spike glycoprotein (S) is produced in a yeast expression system, spanning amino acids 314 to 634 of the protein. This partial protein carries a 6xHis tag at the C-terminus, which helps with purification and detection. The product shows purity levels exceeding 90% when assessed by SDS-PAGE, providing high-quality material for various research applications.

The Spike glycoprotein (S) of Bovine coronavirus appears to play a crucial role in how the virus enters host cells. It enables attachment to cell receptors and the subsequent fusion of viral and cellular membranes—a critical step in the viral life cycle. This protein has become a significant focus in research, helping scientists study virus-host interactions and develop therapeutic interventions.

Potential Applications

Note: The applications listed below are based on what we know about this protein's biological functions, published research, and experience from experts in the field. However, we haven't fully tested all of these applications ourselves yet. We'd recommend running some preliminary tests first to make sure they work for your specific research goals.

1. Antibody Development and Characterization

This recombinant bovine coronavirus spike protein fragment can work as an immunogen for generating polyclonal or monoclonal antibodies specific to the S protein. The C-terminal 6xHis tag allows for straightforward purification and immobilization during antibody screening assays. Researchers may find this protein useful in ELISA-based assays to characterize how antibodies bind and their affinity levels. The high purity (>90%) should provide reliable and reproducible results in immunization protocols and subsequent antibody validation studies.

2. Protein-Protein Interaction Studies

The 6xHis tag makes pull-down assays possible to identify and study potential binding partners of the bovine coronavirus spike protein. Researchers can attach this recombinant protein to nickel-affinity matrices to capture interacting cellular proteins from bovine cell lysates or other relevant biological samples. The defined amino acid region (314-634aa) represents a specific domain that

likely contains important binding sites for host cell receptors or other viral proteins. These studies might provide insights into the molecular mechanisms of viral entry and host-pathogen interactions.

3. Structural and Biochemical Analysis

This recombinant protein fragment works well in biophysical studies aimed at characterizing the structural properties of the bovine coronavirus spike protein. The yeast expression system and high purity make it appropriate for techniques like circular dichroism spectroscopy, dynamic light scattering, or analytical ultracentrifugation. Researchers can investigate protein folding, stability, and conformational changes under different buffer conditions. The C-terminal His tag also allows for controlled protein immobilization in surface plasmon resonance studies or other label-free binding assays.

4. Comparative Coronavirus Research

This bovine coronavirus spike protein fragment appears to be a valuable tool for comparative studies across different coronavirus species. Researchers can pair it with similar recombinant proteins from other coronaviruses to investigate evolutionary relationships and structural conservation within the spike protein family. Cross-reactivity studies using this protein may help identify conserved epitopes or binding domains across coronavirus species. Such comparative analyses contribute to a broader understanding of coronavirus biology and evolution.

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.