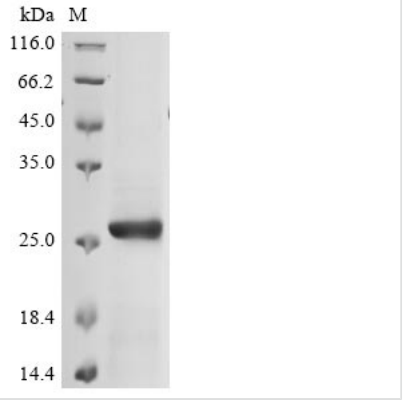
Recombinant Avian infectious bronchitis virus Spike glycoprotein (S), partial

Product Code	CSB-EP322954ARQ
Abbreviation	Recombinant Avian infectious bronchitis virus 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.	P17662
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	Avian infectious bronchitis virus (strain D3896) (IBV)
Purity	Greater than 85% as determined by SDS-PAGE.
Sequence	ESDYMYGSYHPSCKFRLETINNGLWFNSLSVSLGYGPIQGGCKQSVFQNRAT CCYAYSYNGPPLCKGVYRGELTKSFECGLLVFVTKTDGSRIQTRNEPFTLTQH NYNNITLDRCVEYNIYGRVGQGFITNVTNYAINYNYLADGGMAILDTSGAIDIFV VQGEYGLNYYKVNPCEDVNQQFVVSGGKLVGILTSRNETGSQPLENQFYIKIIN GTRRSRR
Research Area	Microbiology
Source	E.coli
Target Names	S
Expression Region	318-538aa
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	25.8 kDa
Protein Length	Partial
Image	



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

Description

This recombinant Avian infectious bronchitis virus Spike glycoprotein (S) is produced in an E.coli expression system, covering the amino acid region 318-538. The protein includes a C-terminal 6xHis tag for easier purification and detection. SDS-PAGE analysis shows the product maintains purity greater than 85%, which appears to provide reliable quality for research applications.

The Spike glycoprotein (S) of Avian infectious bronchitis virus seems to play a crucial role in viral entry into host cells by mediating attachment and fusion. This protein represents a key component of the viral envelope. Scientists commonly study it in virology research for its involvement in virus-host interactions and its potential as a target for vaccine development.

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 IBV spike protein fragment may serve as an immunogen for generating polyclonal or monoclonal antibodies specific to the IBV spike glycoprotein. The C-terminal His-tag makes purification and immobilization easier for antibody screening assays. Researchers can apply this protein in ELISA-based screening to identify antibodies with high specificity and affinity to this particular region of the spike protein. The defined amino acid region (318-538aa) allows for mapping of epitopes within this specific domain of the IBV spike glycoprotein.

2. Protein-Protein Interaction Studies

The His-tagged recombinant protein can be applied in pull-down assays to identify cellular proteins that interact with this specific region of the IBV spike glycoprotein. The His-tag enables immobilization on nickel-affinity matrices for capturing potential binding partners from cell lysates or purified protein libraries. This approach may help clarify the molecular mechanisms underlying IBV

infection and identify host factors involved in viral entry or replication processes.

3. Structural and Biochemical Characterization

This purified protein fragment can be applied for biophysical studies to characterize the structural properties of the 318-538aa region of IBV spike glycoprotein. Researchers can perform circular dichroism spectroscopy, dynamic light scattering, or analytical ultracentrifugation to assess protein folding, stability, and oligomerization state. The high purity (>85%) makes it suitable for detailed biochemical analyses including mass spectrometry for post-translational modification mapping.

4. Vaccine Research and Immunogenicity Studies

The recombinant spike protein fragment can be applied in preclinical vaccine development studies to evaluate its immunogenic potential in animal models. Researchers can assess the ability of this protein domain to trigger immune responses and compare immunogenicity profiles with other IBV antigens. The defined region allows for systematic evaluation of which portions of the spike protein may contribute most effectively to protective immunity in controlled laboratory settings.

5. Diagnostic Assay Development

This recombinant protein can serve as a capture antigen or standard in research-grade immunoassays for IBV detection and quantification. The His-tag appears to make oriented immobilization on assay surfaces easier, potentially improving assay sensitivity and reproducibility. Researchers can use this protein to develop and optimize ELISA protocols, establish standard curves, and validate detection methods for IBV research applications.

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.