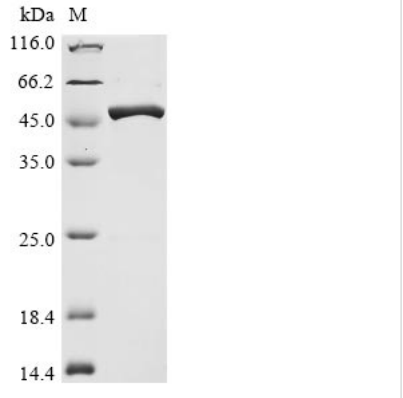
Recombinant Avian infectious bronchitis virus Nucleoprotein (N)

Product Code	CSB-EP857425ARU
Abbreviation	Recombinant Avian infectious bronchitis virus N protein
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.	Q98Y32
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 H52) (IBV)
Purity	Greater than 85% as determined by SDS-PAGE.
Sequence	MASGKAAGKTDAPTPVIKLGGPKPPKVGSSGNVSWFQAIKAKKLNSPPPKFE GSGVPDNENLKPSQQHGYWRRQARFKPGKGGRKPVPDAWYFYYTGTGPAA NLNWGDSQDGIVWVAGKGADTKFRSNQGTRDSDKFDQYPLRFSDGGPDGN FRWDFIPLNRGRSGRSTAASSAASSRAPSREVSRGRRSGSEDDLIARAARIIQ DQQKKGSRITKAKADEMAHRRYCKRTIPPNYKVDQVFGPRTKGKEGNFGDDK MNEEGIKDGRVTAMLNLVPSSHACLFGSRVTPRLQPDGLHLKFEFTTVVPRDD PQFDNYVKICDQCVDGVGTRPKDDEPRPKSRSSSRPATRGNSPAPRQQRPK KEKKPKKQDDEVDKALTSDEERNNAQLEFDDEPKVINWGDSALGENEL
Research Area	Microbiology
Source	E.coli
Target Names	N
Expression Region	1-409aa
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	46.2 kDa
Protein Length	Full Length
Image	



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

Description

This recombinant avian infectious bronchitis virus nucleoprotein (N) is produced in an E. coli expression system and spans the full length of the protein, from amino acids 1 to 409. It features a C-terminal 6xHis-tag for easy purification and detection. The protein achieves a purity greater than 85% as verified by SDS-PAGE, ensuring reliable results for research applications.

The nucleoprotein (N) of the avian infectious bronchitis virus appears to play a crucial role in the virus's replication and assembly processes. It's a structural protein that binds to the viral RNA, forming the ribonucleoprotein complex. This protein seems integral to the study of viral pathogenesis and immune responses, making it an important focus in virology research.

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. Antigen for IBV-specific Antibody Development

This full-length recombinant IBV nucleoprotein can serve as an immunogen for generating polyclonal or monoclonal antibodies specific to avian infectious bronchitis virus. The C-terminal 6xHis tag makes purification and immobilization easier for immunization protocols and subsequent antibody screening assays. While the >85% purity level should be sufficient for antibody production, researchers may want to consider additional purification steps to minimize cross-reactive antibodies against E. coli contaminants. These antibodies could prove valuable as research tools for IBV detection and characterization studies.

2. Protein-Protein Interaction Studies Using His-Tag Affinity

The C-terminal 6xHis tag enables nickel-affinity based pull-down assays to identify potential cellular or viral protein partners that interact with IBV nucleoprotein. Scientists can immobilize the recombinant protein on nickel-coated surfaces or beads and incubate it with cell lysates or purified protein libraries to capture interacting partners. This approach is particularly useful for

studying the role of nucleoprotein in viral replication complexes or host-pathogen interactions. The full-length nature of the protein (1-409aa) ensures that all potential interaction domains are preserved.

3. Biochemical Characterization and Functional Assays

This recombinant nucleoprotein can be used for in vitro biochemical studies to characterize its basic properties such as oligomerization state, RNA-binding capacity, and thermal stability. Expressing the protein in E. coli and subsequent purification via the His-tag provides sufficient material for spectroscopic analyses, gel filtration chromatography, and other biophysical techniques. Researchers can investigate the protein's behavior under different buffer conditions, pH ranges, and salt concentrations to understand its biochemical properties relevant to viral replication.

4. ELISA-Based Research Assays

The His-tagged IBV nucleoprotein can be used in enzyme-linked immunosorbent assays for research applications, including antibody characterization, epitope mapping studies, and comparative immunogenicity assessments. The protein can be directly coated onto ELISA plates or captured via anti-His antibodies for more oriented presentation. The >85% purity appears adequate for these applications, and the full-length protein ensures representation of all potential antigenic epitopes present in the native viral nucleoprotein.

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.