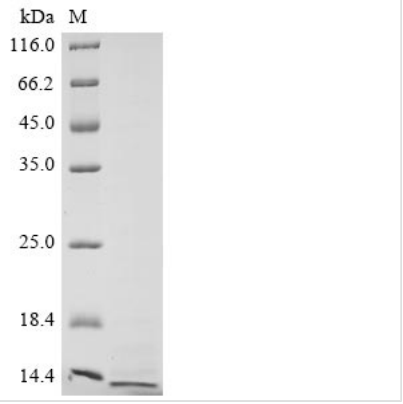
Recombinant Avian infectious bronchitis virus Non-structural protein 3b (3b)

Product Code	CSB-EP361472ARW
Abbreviation	Recombinant Avian infectious bronchitis virus Non-structural protein 3b
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.	P05138
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 M41) (IBV)
Purity	Greater than 85% as determined by SDS-PAGE.
Sequence	MLNLEAIIETGEQVIQKISFNLQHISSVLNTEVFDPFDYCYYRGGNFWEIESAED CSGDDEFIE
Research Area	others
Source	E.coli
Target Names	3b
Expression Region	1-64aa
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	8.4 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 Non-structural protein 3b (3b) gets expressed in E. coli and contains the complete sequence spanning amino acids 1-64. The protein carries a C-terminal 6xHis-tag, which makes purification and detection more straightforward. SDS-PAGE analysis shows purity levels exceeding 85%, suggesting it should work reliably in research settings. This product is meant strictly for research purposes and cannot be used in therapeutic or diagnostic procedures.

Non-structural protein 3b (3b) from avian infectious bronchitis virus appears to play an important role in how the virus completes its lifecycle and replicates. Since it's involved in viral pathogenesis, researchers study this protein to better understand viral mechanisms and how viruses interact with their hosts. Work on protein 3b may help build a clearer picture of viral replication strategies and could inform efforts to develop interventions against avian infectious bronchitis.

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. Viral Protein Interaction Studies

Researchers can use this recombinant IBV non-structural protein 3b in protein-protein interaction assays to hunt for cellular or viral binding partners. The C-terminal 6xHis tag makes it possible to purify and immobilize the protein for pull-down experiments with cell lysates or other viral proteins. These studies might shed light on how protein 3b functions within viral replication complexes or host-pathogen interactions. Its compact size (64 amino acids) seems well-suited for different biochemical interaction screening platforms.

2. Antibody Development and Characterization

The purified recombinant protein 3b works as an antigen for creating specific antibodies against IBV non-structural protein 3b. The >85% purity level appears adequate for immunization protocols in research animals. Scientists could then

use these antibodies to detect IBV infection in research contexts, study where the protein localizes, or build research-grade detection assays. The His-tag also simplifies purification and quality control steps during antibody validation experiments.

3. Structural and Biophysical Analysis

This recombinant protein may prove useful in structural biology studies aimed at understanding the molecular architecture of IBV non-structural protein 3b. The purified protein should work with techniques like circular dichroism spectroscopy, dynamic light scattering, or NMR studies to examine its folding and stability characteristics. The His-tag streamlines protein purification for these analytical approaches. Such structural findings could potentially advance our understanding of coronavirus non-structural protein functions more broadly.

4. ELISA-Based Detection Assay Development

The His-tagged recombinant protein 3b can help develop research-grade ELISA assays for detecting IBV-specific immune responses. Scientists can immobilize the protein on ELISA plates using anti-His antibodies or nickel-coated surfaces. This application would likely benefit studies of immune responses in avian research models or screening serum samples in veterinary research. The established purity level should support consistent assay performance and reproducibility.

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.