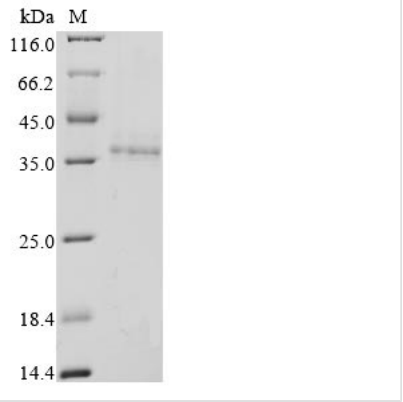
Recombinant Bovine coronavirus Non-structural protein 2a (2a)

Product Code	CSB-BP838639BJE
Abbreviation	Recombinant Bovine coronavirus Non-structural protein 2a
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.	Q91A27
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 98TXSF-110-ENT) (BCoV-ENT) (BCV)
Purity	Greater than 85% as determined by SDS-PAGE.
Sequence	MAVAYADKPNHFINFPLTQFQGFVLNYKGLQFQLLDEGVDCKIQTAPHISLAML DIQPEDYRSVDVAIQEVIDDMHWGEGFQIKFENPHILGRCIVLDVKGVEELHDD LVNYIRDKGCVADQSRKWIGHCTIAQLTDAALSIKENVDFINNMQFNYKITINPS SPARLEIVKLGAERKDGFYETIASHWMGIRFEYNPPTDKLAMIMGYCCLEVVRK ELEEGDLPENDDDAWFKLSYHYENNSWFFRHVYRKSSYFRKSCQNLDCNCL GFYESSVEED
Research Area	Microbiology
Source	Baculovirus
Target Names	2a
Expression Region	1-278aa
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	37.7 kDa
Protein Length	Full Length
Image	



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

Description

This recombinant Bovine coronavirus Non-structural protein 2a gets expressed in a baculovirus system and contains the complete protein sequence spanning amino acids 1 to 278. The protein comes with a C-terminal 6xHis-tag, which makes purification and detection more straightforward. SDS-PAGE analysis confirms the protein reaches over 85% purity, which should deliver reliable results for research work.

Non-structural protein 2a appears to be crucial for how Bovine coronavirus handles replication and transcription. The protein seems to have a significant role in the viral life cycle, positioning it as an important target for researchers trying to understand coronavirus biology. Scientists studying viral pathogenesis and exploring potential therapeutic approaches may find this protein particularly valuable.

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 Immunological Studies

This recombinant bovine coronavirus non-structural protein 2a could work as an antigen for creating specific antibodies against BCoV-ENT. The C-terminal 6xHis tag makes purification easier and helps with immobilization during immunization protocols or ELISA-based antibody screening. Research teams might develop monoclonal or polyclonal antibodies using this protein to study bovine coronavirus infections in lab settings. Since the expression covers the full-length region (1-278aa), it likely provides thorough epitope coverage for antibody recognition studies.

2. Protein-Protein Interaction Studies

Pull-down assays could benefit from this His-tagged recombinant protein to find cellular proteins that interact with bovine coronavirus non-structural protein 2a during viral replication. The His tag's metal affinity purification properties allow

efficient capture of both the protein and its binding partners from cell lysates. This method may help researchers piece together the molecular mechanisms behind how this non-structural protein operates within the viral lifecycle. Co-immunoprecipitation experiments using anti-His tag antibodies can provide additional validation for any interactions discovered.

3. Biochemical Characterization and Enzymatic Assays

Research teams can examine the biochemical properties and potential enzymatic activities of bovine coronavirus non-structural protein 2a using this recombinant protein as a substrate. Scientists might conduct structural studies, stability analyses, and screen for enzymatic functions that could be linked to this viral protein. The baculovirus expression system typically produces properly folded proteins, making it well-suited for functional studies. With purity levels exceeding 85%, the protein should generate dependable results in biochemical assays while minimizing interference from contaminating proteins.

4. Viral Protein Localization and Trafficking Studies

Cell-based assays could incorporate this His-tagged protein to investigate the subcellular localization and trafficking patterns of bovine coronavirus non-structural protein 2a. Scientists might transfect cells with expression constructs or introduce the purified protein directly to observe its cellular distribution through immunofluorescence microscopy using anti-His antibodies. Such studies may reveal details about the protein's contribution to viral replication complex formation and how it interacts with cellular organelles. Using the full-length protein preserves all potential localization signals, which appears important for accurate trafficking studies.

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.