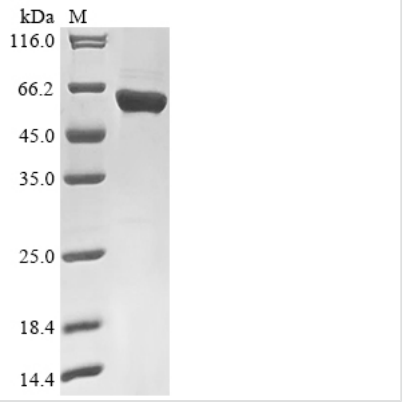
Recombinant Rabies virus Nucleoprotein (N)

Product Code	CSB-EP325815RAJb1
Abbreviation	Recombinant Rabies 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.	P16285
Storage Buffer	Tris-based buffer,50% glycerol
Product Type	Recombinant Proteins
Immunogen Species	Rabies virus(strain SAD B19)(RABV)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	MDADKIVFKVNNQVVSLKPEIIVDQYEYKYPAIKDLKKPCITLGKAPDLNKAYKS VLSGMSAAKLNPDDVCSYLAAAMQFFEGTCPEDWTSYGIVIARKGDKITPGSL VEIKRTDVEGNWALTGGMELTRDPTVPEHASLVGLLLSLYRLSKISGQNTGNY KTNIADRIEQIFETAPFVKIVEHHTLMTTHKMCANWSTIPNFRFLAGTYDMFFSR IEHLYSAIRVGTVVTAYEDCSGLVSFTGFIKQINLTAREAILYFFHKNFEEEIRRM FEPGQETAVPHSYFIHFRSLGLSGKSPYSSNAVGHVFNLIHFVGCYMGQVRSL NATVIAACAPHEMSVLGGYLGEEFFGKGTFERRFFRDEKELQEYEAAELTKTD VALADDGTVNSDDEDYFSGETRSPEAVYTRIMMNGGRLKRSHIRRYVSVSSN HQARPNSFAEFLNKTYSSDS
Research Area	Signal Transduction
Source	E.coli
Target Names	N
Expression Region	1-450aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 10xHis-tagged and C-terminal Myc-tagged
Mol. Weight	58.0 kDa
Protein Length	Full Length
Image	



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

Description

Recombinant Rabies virus Nucleoprotein (N) is produced in an E. coli expression system, spanning the complete sequence from amino acids 1 to 450. The protein carries an N-terminal 10xHis tag and a C-terminal Myc tag, which aid in purification and detection processes. SDS-PAGE analysis indicates purity levels above 90%, and this reagent is intended strictly for research use, maintaining low endotoxin levels to support experimental accuracy.

The rabies virus nucleoprotein (N) appears to serve a crucial function in the viral life cycle. It's primarily responsible for wrapping around the viral RNA genome and forming the ribonucleoprotein complex. This protein seems essential for virus replication and transcription, which is why it has become a key focus in virology research. Studying this protein may offer valuable insights into viral assembly mechanisms and could potentially lead to new therapeutic approaches.

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 Validation Studies

This recombinant rabies virus nucleoprotein shows promise as an immunogen for creating monoclonal or polyclonal antibodies against the rabies N protein. The high purity (>90%) and dual-tag configuration (N-terminal His and C-terminal Myc) appear well-suited for immunization protocols and follow-up antibody characterization work. The His-tag allows for purification-based assays that can help validate antibody specificity. Meanwhile, the Myc-tag proves useful in competition assays for epitope mapping. Since this is the full-length protein (1-450aa), researchers gain access to all potential antigenic sites found in the native viral nucleoprotein.

2. Protein-Protein Interaction Studies

The dual-tagged recombinant protein can be applied in pull-down assays to

discover cellular proteins that interact with rabies virus nucleoprotein during infection. The N-terminal His-tag works well for immobilization on nickel-based resins, allowing researchers to test cell lysates or purified candidate proteins for binding interactions. The C-terminal Myc-tag offers an alternative detection approach for confirming protein presence and checking integrity during binding assays. These experiments might help clarify the molecular mechanisms behind rabies virus replication and how the virus interacts with host cells.

3. ELISA-Based Detection System Development

The recombinant protein can serve in developing and fine-tuning enzyme-linked immunosorbent assays for research purposes. Its high purity level makes it suitable as either a coating antigen or standard in ELISA protocols. Both tags offer flexibility in assay design - the His-tag works for oriented immobilization on nickel-coated plates, while the Myc-tag allows detection using anti-Myc antibodies in sandwich ELISA formats. This protein is likely to function effectively as a positive control or reference standard in serological research studies.

4. Biochemical Characterization and Stability Studies

The purified recombinant nucleoprotein can undergo various biochemical analyses to characterize its properties. This includes examining thermal stability, pH tolerance, and oligomerization behavior. Researchers can monitor the protein's stability across different buffer conditions and storage temperatures using the Myc-tag for detection in Western blot analyses. These studies may provide crucial information for optimizing storage conditions and understanding the biochemical properties of rabies virus nucleoprotein for additional research applications.

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.