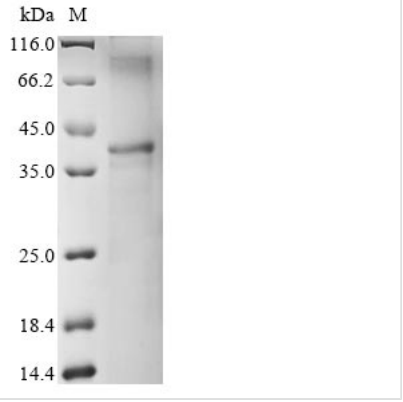
Recombinant Tetranychus urticae Uncharacterized protein

Product Code	CSB-CF3511GNY
Abbreviation	Recombinant Tetranychus urticae Uncharacterized 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.	T1JU70
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	Tetranychus urticae (Two-spotted spider mite)
Purity	Greater than 85% as determined by SDS-PAGE.
Sequence	MRDAFDDQTLKVTVEMTFPTALNEPDQVILDGYIVPSKYLLRQITKILLLLTIAYS SAFRIAYMYIYLLRNCKLTTKLMIIDCAHATIVAINVLLTVLMLLFAFDWNHFRKFI SHIKSLSLETDRLTVRTIKQNRRITQALLIVTFIIYMIIFYTQQKAISIDTVNPFVFNL LCFHEMLIRFVFLFFLNMICNICFWLKAAFNHINSQISDLHDTSDQSFGHLFCKIR DLRQKYSYAVRSTQSAEKLFRWFITLYYIEYFTYNIVNIVMSLGPKMNIDSIWLL FISIATLYFIILTYYLVSVNNLSREGLEDLYELSFKLNTAQSCHENDIFIARMALSD VGFTFANLFTINNNFITSVFTLSFTIIITLASFIYQ
Research Area	Others
Source	in vitro E.coli expression system
Target Names	N/A
Expression Region	1-376aa
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
Mol. Weight	46.9 kDa
Protein Length	Full Length
Image	



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

Description

This recombinant protein from Tetranychus urticae gets produced using an in vitro E.coli expression system. It covers the complete sequence from amino acids 1 to 376 and comes with an N-terminal 10xHis-tag that makes purification and detection much easier. SDS-PAGE analysis shows the protein maintains a purity level above 85%. Important to note: this is strictly for research purposes - not for diagnostic or therapeutic use.

The uncharacterized protein from the two-spotted spider mite, Tetranychus urticae, continues to puzzle scientists. Proteins from this species often get studied for their roles in arthropod physiology and how they might interact with plant hosts. Since these mites are serious agricultural pests, understanding their proteins may suggest new pest control strategies and could contribute valuable insights to agricultural 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. Protein-Protein Interaction Studies via His-Tag Pull-Down Assays

That N-terminal 10xHis-tag allows researchers to immobilize this recombinant protein on nickel-affinity matrices for pull-down experiments. Scientists can then use this setup to hunt for potential binding partners from Tetranychus urticae protein extracts or other arthropod species. The full-length expression (1-376aa) appears to preserve the complete protein structure - something that's probably essential for maintaining those native protein-protein interactions. This approach might help reveal what this mysterious protein actually does within spider mite cellular networks.

2. Antibody Development and Immunological Studies

The purified recombinant protein works well as an immunogen for creating polyclonal or monoclonal antibodies specific to this Tetranychus urticae protein. That high purity level (>85%) likely minimizes cross-reactivity with bacterial

contaminants during immunization protocols. These antibodies could then be put to work in Western blotting, immunofluorescence, or immunohistochemistry studies to figure out where the protein shows up in spider mite tissues and cells. The His-tag also makes ELISA-based antibody screening and characterization assays more straightforward.

3. Structural and Biophysical Characterization

Having this recombinant protein opens doors for structural biology approaches like X-ray crystallography, NMR spectroscopy, or cryo-electron microscopy studies. Biophysical techniques - dynamic light scattering, circular dichroism spectroscopy, thermal stability assays - can help characterize how the protein folds and how stable it is under different conditions. The His-tag makes scaling up purification for structural studies pretty manageable, while the full-length construct keeps the complete domain architecture intact for meaningful structural analysis.

4. Comparative Evolutionary and Phylogenetic Analysis

This recombinant protein could serve as a reference standard for comparative studies across different arthropod species. Such work might reveal evolutionary relationships and whether function stays conserved across species. Researchers can test cross-reactivity with related proteins from other mite species or arachnids to map out evolutionary divergence patterns. Having purified protein available makes direct biochemical comparisons and functional assays possible - something that nicely complements the usual sequence-based phylogenetic analyses.

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.