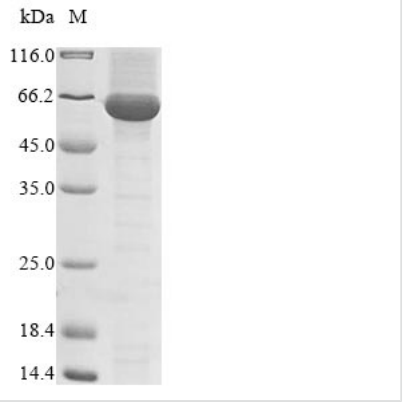
Recombinant Turnip mosaic virus Polyprotein, partial

Product Code	CSB-EP2708TJM
Abbreviation	Recombinant Turnip mosaic virus polyprotein, partial
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.	Q9ICI2
Product Type	Recombinant Protein
Immunogen Species	Turnip mosaic virus (strain Japanese) (TuMV)
Purity	Greater than 85% as determined by SDS-PAGE.
Sequence	TQQNRWMFEQLNGNLKAIAHCPSQLVTKHTVKGKCQMFDLYLKLHDEAREYF QPMLGQYQKSKLNREAYAKDLLKYATPIEAGNIDCDLFEKTVEIVVSDLRGYGF ETCNYVTDENDIFEALNMKSAVGALYKGKKKDYFAEFTPEMKEEILKQSCERLF LGKMGVWNGSLKAELRPLEKVEANKTRTFTAAPLDTLLGGKVCVDDFNNQFY DHNLRAPWSVGMTKFYCGWDRLLESLPDGWVYCDADGSQFDSSLSPYLINA VLNIRLGFMEEWDIGEVMLRNLYTEIVYTPISTPDGTLVKKFKGNNSGQPSTVV DNTLMVILAVNYSLKKSGIPSELRDSIIRFFVNGDDLLLSVHPEYEYILDTMADNF RELGLKYTFDSRTREKGDLWFMSHQGHKREGIWIPKLEPERIVSILEWDRSKE PCHRLEAICAAMIESWGYDKLTHEIRKFYAWMIEQAPFSSLAQEGKAPYIAETA LRKLYLDKEPAQEDLTHYLQAIFEDYEDGAEACVYHQ
Research Area	Others
Source	E.coli
Expression Region	2360-2876aa
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	66.6 kDa
Protein Length	Partial
Image	



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

Description

This recombinant Turnip mosaic virus Polyprotein is expressed in E. coli and comes with an N-terminal 10xHis-tag plus a C-terminal Myc-tag, which makes purification and detection much more straightforward. The protein represents a partial expression covering amino acids 2360-2876. SDS-PAGE analysis shows purity levels above 85%, making it well-suited for research applications that demand high-quality viral protein samples.

The Turnip mosaic virus Polyprotein appears to play a central role in the viral life cycle. It undergoes proteolytic processing that generates multiple functional proteins—these seem necessary for viral replication and assembly. As what may be considered a key viral component, researchers often examine this protein to better understand viral pathogenesis and host-virus interactions. Many also investigate it when developing potential antiviral strategies, hoping to gain insights into the molecular mechanisms behind infection and immunity.

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-Host Interaction Studies

This recombinant TuMV polyprotein fragment (aa 2360-2876) works well in pull-down assays designed to identify host plant proteins that interact with this particular viral protein region. The N-terminal His-tag allows researchers to immobilize the protein on nickel-affinity columns, then pass plant cell lysates through to capture any interacting proteins. Having both tags means scientists can confirm protein integrity and detect it in later Western blot analyses. This method might help reveal the molecular mechanisms behind TuMV infection and how host-pathogen interactions actually work.

2. Antibody Development and Characterization

The purified recombinant protein makes an excellent immunogen for creating polyclonal or monoclonal antibodies that target this specific TuMV polyprotein

region. High purity levels (>85%) mean there's minimal contamination that could potentially cause cross-reactive antibodies. Scientists can use the Myc-tag for initial antibody screening and validation through ELISA-based assays. These antibodies would likely become valuable research tools for detecting TuMV infection in plant samples and studying where viral proteins localize.

3. Protein Structure-Function Analysis

The defined protein fragment spanning amino acids 2360-2876 can undergo various biochemical characterization studies. These might include circular dichroism spectroscopy, dynamic light scattering, and limited proteolysis experiments. While the His-tag makes protein purification easier for structural studies, the Myc-tag allows monitoring of protein stability and folding states. Such analyses could provide insights into the secondary structure and stability of this particular polyprotein domain. Comparing results with other TuMV strains may reveal important structure-function relationships within this protein region.

4. Enzyme-Linked Immunosorbent Assays (ELISA) Development

The dual-tagged recombinant protein can function as a capture antigen in sandwich ELISA formats for research purposes. The His-tag permits oriented immobilization on nickel-coated plates. Meanwhile, the Myc-tag serves as an internal control for protein coating efficiency. Researchers can use this system to develop standardized assays for quantifying TuMV-specific antibodies in experimental samples. The protein's high purity should ensure reproducible assay performance and reduce background interference.

5. Viral Polyprotein Processing Studies

This particular polyprotein fragment can serve as a substrate in in vitro protease assays when studying TuMV polyprotein processing mechanisms. The defined amino acid boundaries (2360-2876) make it quite suitable for investigating cleavage sites and protease specificity within this region. Both tags allow easy detection and quantification of cleavage products through Western blotting or mass spectrometry. Studies like these may provide fundamental insights into viral replication strategies and help identify potential targets for antiviral research.

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.