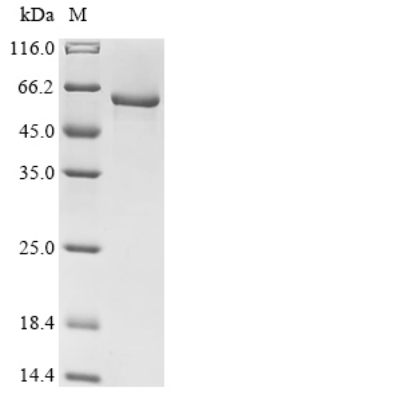
Recombinant Arabidopsis thaliana At1g09870/F21M12_26 (At1g09870)

Product Code	CSB-EP3069DOA
Abbreviation	Recombinant Mouse-ear cress Multiple inositol polyphosphate phosphatase 1 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.	Q941B2
Storage Buffer	Tris-based buffer,50% glycerol
Product Type	Recombinant Proteins
Immunogen Species	Arabidopsis thaliana (Mouse-ear cress)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	DQGFDVRHHLSTVTRYSTSKDVTQNLIEGSNVPSECTPIHLNLVARHGTRSPT KKRLRELESLAGRFKELVRDAEARKLPSDKIPGWLGQWKSPWEGKVKGGELI RQGEDELYQLGIRVRERFPSLFEEDYHPDVYTIRATQIPRASASAVAFGMGLFS EKGNLGPGRNRAFAVTSENRASDTKLRFFECCQNYKSYRKAKEPAVDKLKEP VLNKITASVAKRYDLKFTKQDISSLWFLCKQEASLLNVTNQSCELFTPSEVALLE WTDDLEVFLLKGYGNSLNYKMGVPLLEDVLHSMEEAIKAREEKLPPGSYEKAR LRFAHAETIVPFSCLLGLFLDGSEFEKIQKEKPLELPPQPPKTRDFRGSTMAPF GGNNILVLYSCPAESSPKYFVQVLHNEHPIAVPGCDGKDFCPLEDFKAKVVTP HLKHAFDNLCNADLNDLKQKPASSKLSILSSWLFGSSHDTEL
Research Area	Others
Source	E.coli
Target Names	At1g09870
Expression Region	20-487aa
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	58.8 kDa
Protein Length	Full Length of Mature Protein
Image	



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

Description

Recombinant Arabidopsis thaliana At1g09870 is a full-length mature protein expressed in E. coli, covering the amino acid region 20-487. It includes an N-terminal 10xHis-tag for streamlined purification and detection. SDS-PAGE analysis indicates the protein demonstrates a purity greater than 90%, which appears to ensure reliable performance for research applications. This product is designed for research use only and is not intended for diagnostic or therapeutic purposes.

At1g09870 is a protein from Arabidopsis thaliana, commonly used as a model organism in plant biology. This protein seems to be involved in various cellular processes and pathways that may be essential for plant development and stress responses. Studying At1g09870 could provide insights into plant biology and contribute to a broader understanding of fundamental biological processes in eukaryotic organisms.

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 Using His-Tag Pull-Down Assays

The N-terminal 10xHis-tag allows for immobilization of this Arabidopsis protein on nickel-based affinity matrices during pull-down experiments. Plant protein extracts or purified candidate proteins can be incubated with the immobilized At1g09870 to identify potential binding partners. With its high purity (>90%), the system likely minimizes background interactions from contaminants. This approach might help clarify the protein's role in plant cellular processes by mapping its interaction network.

2. Antibody Development and Validation

The purified recombinant protein appears to serve as an effective antigen for generating polyclonal or monoclonal antibodies specific to At1g09870. The >90% purity should provide adequate quality for immunization protocols in

laboratory animals. Generated antibodies can be validated using the same recombinant protein in ELISA, Western blot, or immunoprecipitation assays. These antibodies would likely prove valuable as research tools for studying At1g09870 expression patterns and subcellular localization in Arabidopsis tissues.

3. Biochemical Characterization and Enzymatic Screening

The purified protein can be subjected to various biochemical assays to determine potential enzymatic activities or cofactor requirements. Initial screening might include testing for common enzymatic activities such as kinase, phosphatase, or hydrolase functions using colorimetric or fluorometric substrates. The protein's stability under different pH, temperature, and salt conditions can be systematically evaluated. These studies would provide fundamental biochemical properties necessary for understanding the protein's cellular function, though results may vary depending on the specific assay conditions.

4. His-Tag Based Protein Complex Purification

The 10xHis-tag allows for single-step purification of protein complexes when At1g09870 is incubated with plant cell lysates or specific protein mixtures. After binding to nickel affinity columns, associated proteins can be co-purified and identified through mass spectrometry analysis. This approach may enable discovery of native protein complexes containing At1g09870 and could provide insights into its functional associations within plant cells, though complex stability during purification remains a consideration.

Shelf Life

The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself.
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