# Recombinant Escherichia coli Acidic protein msyB (msyB)

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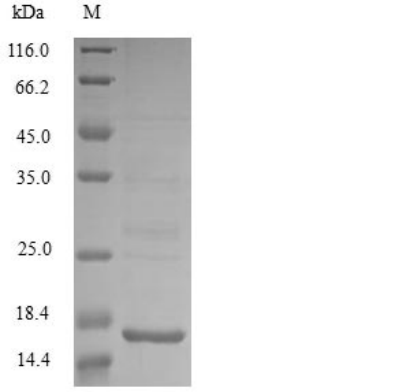
| **Product Code** | CSB-BP340725ENV |
| **Relevance** | Could participate in the normal pathway of protein export. |
| **Abbreviation** | Recombinant E.coli msyB protein |
| **Storage** | The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability 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.** | P25738 |
| **Product Type** | Recombinant Protein |
| **Immunogen Species** | Escherichia coli (strain K12) |
| **Purity** | Greater than 85% as determined by SDS-PAGE. |
| **Sequence** | MTMYATLEEAIDAAREEFLADNPGIDAEDANVQQFNAQKYVLQDGDIMWQVE FFADEGEEGECLPMLSGEAAQSVFDGDYDEIEIRQEWQEENTLHEWDEGEFQ LEPPLDTEEGRAAADEWDER |
| **Research Area** | others |
| **Source** | Baculovirus |
| **Target Names** | msyB |
| **Protein Names** | Recommended name: Acidic protein msyB |
| **Expression Region** | 1-124aa |
| **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** | 16.3 kDa |
| **Protein Length** | Full Length |
| **Image** |  (Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel. |

## Description

Recombinant Escherichia coli Acidic protein msyB is produced through a baculovirus expression system, which includes the complete protein sequence from amino acids 1 to 124. A C-terminal 6xHis-tag has been added to make purification and detection more straightforward. SDS-PAGE analysis suggests the product achieves purity levels above 85%, making it well-suited for research applications that demand high-quality recombinant proteins.

The msyB protein from Escherichia coli appears to participate in several cellular processes. This makes it a useful tool for investigating bacterial physiology and molecular mechanisms. Research indicates it may be particularly important for understanding how protein interactions work and how cells respond in prokaryotic systems. Scientists are also exploring its role in bacterial regulatory pathways and possible biotechnology uses.

### 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 C-terminal 6xHis-tag attached to this recombinant msyB protein allows researchers to run nickel-affinity chromatography-based pull-down experiments. This helps identify potential binding partners. Scientists can attach the protein to nickel-coated beads or columns, then mix it with E. coli cell lysates or purified protein libraries to catch any interacting proteins. This method seems particularly useful for studying the molecular networks that msyB participates in within E. coli strain K12. The 85% purity level should be adequate for pull-down experiments, where researchers can distinguish the His-tagged target protein from other contaminants.

#### 2. Antibody Development and Validation

This recombinant msyB protein works well as an immunogen for creating polyclonal or monoclonal antibodies that specifically recognize the msyB protein. Since it covers the full-length expression region (1-124aa), it provides broad epitope coverage for antibody recognition. The purified protein also serves as a positive control in antibody validation experiments like Western blotting, ELISA, or immunoprecipitation assays. The C-terminal His-tag makes detection and measurement easier during antibody screening and characterization work.

#### 3. Biochemical Characterization and Stability Studies

Researchers can use the recombinant msyB protein for basic biochemical characterization. This includes determining molecular weight, isoelectric point, and thermal stability profiles. Differential scanning calorimetry and dynamic light scattering experiments may reveal important details about protein folding and

how it behaves under different buffer conditions. The baculovirus expression system generally produces properly folded proteins, which makes this protein a good candidate for studying its natural biochemical properties. These studies can establish baseline measurements for more detailed functional research.

**4. Comparative Proteomics and Mass Spectrometry Analysis**

This purified msyB protein acts as an authentic standard for mass spectrometry-based proteomics studies that examine E. coli protein expression patterns. Scientists can use it to fine-tune LC-MS/MS parameters and test peptide identification algorithms specifically designed for msyB. When comparing proteomics data from E. coli grown under different conditions or with genetic changes, this recombinant protein provides a reliable reference standard for accurate measurement and identification of natural msyB levels.

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| **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.<br>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. |