# Recombinant Escherichia coli Chaperone surA (surA)

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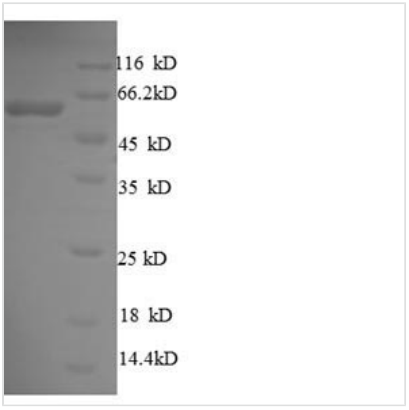
| **Product Code** | CSB-EP359693ENV |
| **Relevance** | Chaperone involved in the correct folding and assbly of outer mbrane proteins, such as OmpA, OmpF and LamB. Recognizes specific patterns of aromatic residues and the orientation of their side chains, which are found more frequently in integral outer mbrane proteins. May act in both early periplasmic and late outer mbrane-associated steps of protein maturation. Essential for the survival of E.coli in stationary phase. Required for pilus biogenesis. |
| **Abbreviation** | Recombinant E.coli surA 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.** | P0ABZ6 |
| **Alias** | Peptidyl-prolyl cis-trans isomerase SurA (EC:5.2.1.8) ;PPIase SurARotamase SurASurvival protein A |
| **Product Type** | Recombinant Protein |
| **Immunogen Species** | Escherichia coli (strain K12) |
| **Purity** | Greater than 90% as determined by SDS-PAGE. |
| **Sequence** | APQVVDKVAAVVNNGVVLESDVDGLMQSVKLNAAQARQQLPDDATLRHQIME RLIMDQIILQMGQKMGVKISDEQLDQAIANIAKQNNMTLDQMRSRLAYDGLNY NTYRNQIRKEMIISEVRNNEVRRRITILPQEVESLAQQVGNQNDASTELNLSHILI PLPENPTSDQVNEAESQARAIVDQARNGADFGKLAIAHSADQQALNGGQMG WGRIQELPGIFAQALSTAKKGDIVGPIRSGVGFHILKVNDLRGESKNISVTEVHA RHILLKPSPIMTDEQARVKLEQIAADIKSGKTTFAAAAKEFSQDPGSANQGGDL GWATPDIFDPAFRDALTRLNKGQMSAPVHSSFGWHLIELLDTRNVDKTDAAQ KDRAYRMLMNRKFSEEAASWMQEQRASAYVKILSN |
| **Research Area** | Others |
| **Source** | E.coli |
| **Target Names** | surA |
| **Expression Region** | 21-428aa |
| **Notes** | Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week. |
| **Tag Info** | N-terminal 6xHis-SUMO-tagged |
| **Mol. Weight** | 61.1kDa |
| **Protein Length** | Full Length of Mature Protein |

## Image




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

## Description

Amino acids 21-428 form the expressed segment for recombinant Escherichia coli (strain K12) surA. This surA protein is theoretically predicted to have a molecular weight of 61.1 kDa. This protein is generated in a e.coli-based system. The N-terminal 6xHis-SUMO tag was smoothly integrated into the coding gene of surA, which enables a simple process of detecting and purifying the surA recombinant protein in the following steps.

The SurA protein in Escherichia coli is a periplasmic chaperone that plays a critical role in the proper folding and stabilization of outer membrane proteins (OMPs). The periplasmic space is a challenging environment for protein folding due to oxidative conditions and the absence of ATP-driven folding machinery. SurA assists in the correct folding of OMPs, preventing their aggregation and facilitating their subsequent integration into the outer membrane. It acts at various stages of OMP biogenesis, aiding in the maintenance of their structural integrity. Additionally, SurA is involved in the quality control of OMPs, targeting misfolded proteins for degradation. This chaperone is crucial for bacterial fitness, membrane integrity, and resistance to environmental stresses. Research on SurA is vital for understanding the intricate mechanisms underlying bacterial protein folding and outer membrane biogenesis, providing potential targets for the development of antibacterial agents and drugs combating bacterial infections.

## 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

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