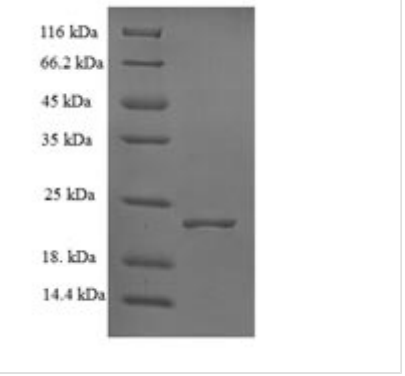
Recombinant Escherichia coli S-ribosylhomocysteine lyase (luxS)

Product Code	CSB-EP541717ENT
Relevance	Involved in the synthesis of autoinducer 2 (AI-2) which is secreted by bacteria and is used to communicate both the cell density and the metabolic potential of the environment. The regulation of gene expression in response to changes in cell density is called quorum sensing. Catalyzes the transformation of S-ribosylhomocysteine (RHC) to homocysteine (HC) and 4,5-dihydroxy-2,3-pentadione (DPD).
Abbreviation	Recombinant E.coli luxS 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.	P45578
Alias	AI-2 synthesis protein;Autoinducer-2 production protein LuxS
Product Type	Recombinant Protein
Immunogen Species	Escherichia coli (strain K12)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	PLLDSFTVDHTRMEAPAVRVAKTMNTPHGDAITVFDLRFCVPNKEVMPERGIHTLEHLFAGFMRNHLNGNGVEIIDISPMGCRTGFYMSLIGTPDEQRVADAWKAAMEDVLKVQDQNQIPELNVYQCGTYQMHSLQEAQDIARSILERDVRINSNEELALPKEKLQELHI
Research Area	Others
Source	E.coli
Target Names	luxS
Protein Names	AI-2 synthesis protein;Autoinducer-2 production protein LuxS
Expression Region	2-171aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 6xHis-tagged
Mol. Weight	23.3 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

The recombinant Escherichia coli (strain K12) luxS was expressed with the amino acid range of 2-171. The calculated molecular weight for this luxS protein is 23.3 kDa. This protein is generated in a e.coli-based system. Fusion of the N-terminal 6xHis tag into the luxS encoding gene fragment was conducted, allowing for easier detection and purification of the luxS protein in subsequent stages.

Escherichia coli S-Ribosylhomocysteine Lyase (luxS) is a pivotal enzyme involved in the activated methyl cycle and quorum sensing processes. Its primary function involves catalyzing the conversion of S-ribosylhomocysteine, a byproduct of the activated methyl cycle, to homocysteine and 4,5-dihydroxy-2,3-pentanedione. In molecular microbiology, luxS is extensively studied for its involvement in quorum sensing pathways, shedding light on bacterial behavior and potential applications in modulating microbial communication for various purposes. LuxS plays a central role in the LuxS/AI-2 quorum sensing system. It is integral in bacterial communication, regulating gene expression in response to cell density.

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.
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