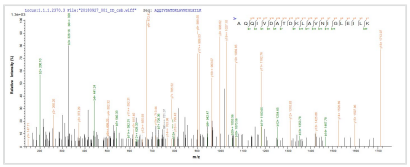
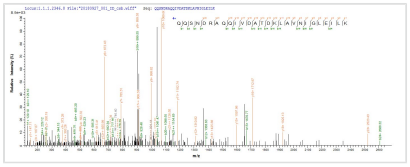
Recombinant Escherichia coli Transaldolase B (talB)

Product Code	CSB-EP359086ENV
Abbreviation	Recombinant E.coli talB 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.	P0A870
Product Type	Recombinant Protein
Immunogen Species	Escherichia coli (strain K12)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	TDKLTSLRQYTTVVADTGDIAAMKLYQPQDATTNPSLILNAAQIPEYRKLIDDAV AWAKQQSNDRAQQIVDATDKLAVNIGLEILKLVPGRISTEVDARLSYDTEASIAK AKRLIKLYNDAGISNDRILIKLASTWQGIRAAEQLEKEGINCNLTLLFSFAQARAC AEAGVFLISPFVGRILDWYKANTDKKEYAPAEDPGVVSVSEIYQYYKEHGYETV VMGASFRNIGEILELAGCDRLTIAPALLKELAESEGAIERKLSYTGEVKARPARIT ESEFLWQHNQDPMAVDKLAEGIRKFAIDQEKLEKMIGDLL
Research Area	Others
Source	E.coli
Target Names	talB
Protein Names	Recommended name: Transaldolase B EC= 2.2.1.2
Expression Region	2-317aa
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	42.5 kDa
Protein Length	Full Length of Mature Protein
Image	 Based on the SEQUEST from database of E.coli host and target protein, the LC-MS/MS Analysis result of CSB-EP359086ENV could indicate that this peptide derived from E.coli-expressed Escherichia coli (strain K12) talB.



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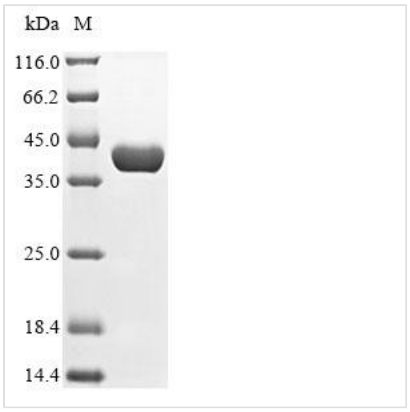

(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

Description

Amino acids 2-317 form the expressed segment for recombinant Escherichia coli (strain K12) talB. The theoretical molecular weight of the talB protein is 42.5 kDa. This talB recombinant protein is manufactured in e.coli. The N-terminal 10xHis tag and C-terminal Myc tag was smoothly integrated into the coding gene of talB, which enables a simple process of detecting and purifying the talB recombinant protein in the following steps.

Transaldolase B (TalB) in Escherichia coli is an enzyme involved in the non-oxidative phase of the pentose phosphate pathway (PPP), a metabolic pathway crucial for the production of ribose-5-phosphate and NADPH. TalB specifically catalyzes the reversible transfer of a three-carbon dihydroxyacetone moiety from the ketose donor fructose-6-phosphate to the aldose acceptor erythrose-4-phosphate. This reaction results in the formation of sedoheptulose-7-phosphate and glyceraldehyde-3-phosphate. The pentose phosphate pathway plays a vital role in balancing the cell's need for ribose-5-phosphate, a precursor for nucleotide biosynthesis, and generating reducing equivalents in the form of NADPH. TalB's involvement in this pathway positions it at the intersection of central carbon metabolism and nucleotide biosynthesis, making it crucial for cellular growth and homeostasis. Understanding the functions of TalB contributes to the broader knowledge of bacterial metabolism and has potential applications in metabolic engineering for the production of biofuels or other valuable compounds.

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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of lyophilized form is 12 months at -20°C/-80°C.