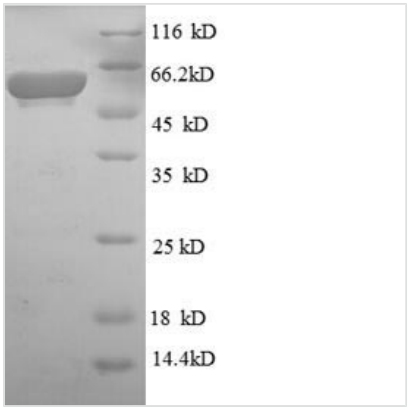
Recombinant Escherichia coli Aerobic glycerol-3-phosphate dehydrogenase (glpD)

Product Code	CSB-EP320174ENV
Relevance	Conversion of glycerol 3-phosphate to dihydroxyacetone. Uses molecular oxygen or nitrate as electron acceptor.
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.	P13035
Product Type	Recombinant Protein
Immunogen Species	Escherichia coli (strain K12)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	METKDLIVIGGGINGAGIAADAAGRGLSVLMLEAQDLACATSSASSKLIHGGLR YLEHYEFRLVSEALAEREVLLKMAPHIAFPMRFRLPHRPHLRPAWMIRIGLFMY DHLGKRTSLPGSTGLRFGANSVLKPEIKRGFEYSDCWVDDARLVLANAQMVV RKGGEVLTRTRATSARRENGLWIVEAEDIDTGKKYSWQARGLVNATGPWVKQ FFDDGMHLPSPYGIRLIKGSHIVVPRVHTQKQAYILQNEDKRIVFVIPWMDEFSII GTTDVEYKGDPKAVKIEESEINYLLNVYNTHFKKQLSRDDIVWTYSGVRPLCDD ESDSPQAITRDYTLDIHDENGKAPLLSVFGGKLTTYRKLAEHALEKLTPYYQGI GPAWTKESVLPGGAIEGDRDDYAARLRRRYPFLTESLARHYARTYGSNSELLL GNAGTVSDLGEDFGHEFYEAELKYLVDHEWVRRADDALWRRTKQGMWLNA DQQSRVSQWLVEYTQQRLSLAS
Lead Time	3-7 business days
Research Area	Others
Source	E.coli
Gene Names	glpD
Expression Region	1-501aa
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	60.8kDa
Protein Description	Full Length
Image	



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

Description

Amino acids 1-501 constitute the expression domain of recombinant Escherichia coli (strain K12) glpD. This glpD protein is theoretically predicted to have a molecular weight of 60.8 kDa. This protein is generated in a e.coli-based system. The N-terminal 6xHis tag was smoothly integrated into the coding gene of glpD, which enables a simple process of detecting and purifying the glpD recombinant protein in the following steps.

The Escherichia coli aerobic glycerol-3-phosphate dehydrogenase (GlpD) is an enzyme that plays a crucial role in glycerol metabolism. Specifically, GlpD catalyzes the conversion of glycerol-3-phosphate to dihydroxyacetone phosphate while transferring electrons to molecular oxygen. This process is part of the aerobic respiration pathway in E. coli, contributing to the generation of energy and metabolic intermediates. Research on GlpD in E. coli is significant for understanding bacterial energy metabolism and adaptation to different environmental conditions. The enzyme's involvement in glycerol utilization is particularly relevant for bacteria that encounter varying carbon sources, such as those transitioning between anaerobic and aerobic conditions. Investigating the structure and function of GlpD can provide insights into the regulation of glycerol metabolism and its importance in bacterial physiology.

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.