

Recombinant E.coli Glycerol kinase Protein (His Tag)

Catalog No. PKSQ500004

Note: Centrifuge before opening to ensure complete recovery of vial contents.

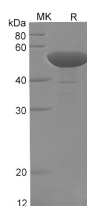
Description

Synonyms	GK, glpK
Species	E.coli
Expression Host	E.coli
Sequence	Thr2-Glu502
Accession	P0A6F3
Calculated Molecular Weight	56.1 kDa
Observed molecular weight	55-58 kDa
Tag	N-His & C-His
Bioactivity	Measured by its ability to transfer phosphate from ATP to glycerol. The specific activity is $\geq 200\text{U/mg}$ protein, as measured under the described conditions.

Properties

Purity	> 90 % as determined by reducing SDS-PAGE.
Endotoxin	Please contact us for more information.
Storage	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.
Shipping	This product is provided as lyophilized powder which is shipped with ice packs.
Formulation	Lyophilized from sterile PBS, pH 7.4. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Please refer to the specific buffer information in the printed manual.
Reconstitution	Please refer to the printed manual for detailed information.

Data



> 90 % as determined by reducing SDS-PAGE.

Background

Glycerol kinase from E. coli (glpK) catalyzes the ATP-dependent phosphorylation of glycerol to produce sn-

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glycerol-3-phosphate (G3P), the first and rate-limiting step in the utilization of glycerol. In the presence of glycerol, glpK is stimulated by interaction with the membrane-bound glycerol facilitator. In the presence of glucose, glpK activity is allosterically inhibited by fructose-1,6-bisphosphate (FBP) of the glycolytic pathway. Under physiological conditions, the enzyme is in an equilibrium between the active dimer and the inactive tetramer. FBP binds to and stabilizes the inactive form, therefore shifting the usage of glycerol metabolic pathway to glycolytic pathway. GlpK is a member of a superfamily of ATPases that includes actin, hexokinase and the heat shock protein hsc70. Although these proteins are dissimilar in amino acid sequence and function, they share similar tertiary folds and likely the same catalytic mechanism. The enzyme activity was measured using a phosphatase-coupled kinase assay.