

# Recombinant e.coli gldA protein

Catalog Number: ATGP3130

## PRODUCT INFORMATION

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### Expression system

E.coli

### Domain

1-367aa

### UniProt No.

P0A9S5

### NCBI Accession No.

NP\_418380

### Alternative Names

Glycerol dehydrogenase, ECK3937, JW5556

## PRODUCT SPECIFICATION

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### Molecular Weight

41.1 kDa (390aa) confirmed by MALDI-TOF

### Concentration

1mg/ml (determined by Bradford assay)

### Formulation

Liquid in. Phosphate-Buffered Saline (pH 7.4) 10% glycerol

### Purity

> 95% by SDS-PAGE

### Biological Activity

Specific activity: > 14 Units/ml One unit will oxidize 1.0 umole of glycerol to dihydroxyacetone per minute at pH 8.0 at 25C

### Tag

His-Tag

### Application

Enzyme Activity, SDS-PAGE

### Storage Condition

Can be stored at +2C to +8C for 1 week. For long term storage, aliquot and store at -20C to -80C. Avoid repeated freezing and thawing cycles.

## BACKGROUND

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### Description

gldA catalyzes the NAD-dependent oxidation of glycerol to dihydroxyacetone (glycerone). This protein allows microorganisms to utilize glycerol as a source of carbon under anaerobic conditions. In E. coli, an important role of GldA is also likely to regulate the intracellular level of dihydroxyacetone by catalyzing the reverse reaction, i.

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e. the conversion of dihydroxyacetone into glycerol. gldA possesses a broad substrate specificity, since it is also able to oxidize 1, 2-propanediol and to reduce glycolaldehyde, methylglyoxal and hydroxyacetone into ethylene glycol, lactaldehyde and 1, 2-propanediol, respectively. Recombinant E. coli gldA protein, fused to His-tag at N-terminus, was expressed in E. coli and purified by using conventional chromatography techniques.

### Amino acid Sequence

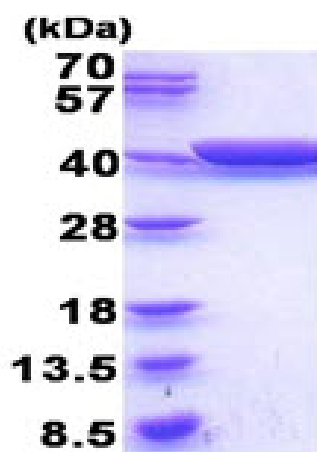
MGSSHHHHHH SSGLVPRGSH MGSMDRIIQS PGKYIQGADV INRLGEYLKP LAERWLVVGD KFVLGFAQST VEKSFKDAGL  
VVEIAPFGGE CSQNEIDRLR GIAETAQCGA ILGIGGGKTL DTAKALAHFM GVPVAIAPT ASTDAPCSAL SVIYTDEGEF  
DRYLLLPNNP NMVIVDTKIV AGAPARLLAA GIGDALATWF EARACSRSGA TTMAGGKCTQ AALALAEALCY NTLLEEGEKA  
MLAAEQHVVT PALERVIEAN TYLSGVGFES GGLAAAHAVH NGLTAIPDAH HYYHGKQVAF GTLTQLVLEN APVEEIIETVA  
ALSHAVGLPI TLAQLDIKED VPAKMRIVAE AACAEGETIH NMPGGATPDQ VYAALLVADQ YGQRFLQEW

### General References

Subedi K.P., et al. (2008) FEMS Microbiol. Lett. 279:180-187  
Gonzalez R., et al. (2008) Metab. Eng. 10:234-245

## DATA

### SDS-PAGE



3ug by SDS-PAGE under reducing condition and visualized by coomassie blue stain.

15% SDS-PAGE (3ug)