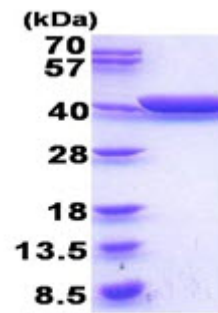


**AR51950PU-N****gldA (1-367, His-tag) - Purified**

<b>Alternate names:</b>	ECK3937, Glycerol dehydrogenase, JW5556
<b>Quantity:</b>	0.1 mg
<b>Concentration:</b>	1.0 mg/ml (determined by bradford assay)
<b>Background:</b>	<p>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.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.</p>
<b>Uniprot ID:</b>	<a href="#">POA9S5</a>
<b>NCBI:</b>	<a href="#">NP_418380</a>
<b>GeneID:</b>	<a href="#">948440</a>
<b>Source:</b>	E. coli
<b>Format:</b>	<b>State:</b> Liquid purified protein <b>Purity:</b> >95% by SDS - PAGE <b>Buffer System:</b> Phosphate buffered saline (pH7.4), 10% glycerol.
<b>Description:</b>	<p>Recombinant E. coli gldA protein, fused to His-tag at N-terminus, was expressed in E.coli and purified by using conventional chromatography techniques.</p> <p><b>AA Sequence:</b> MGSSHHHHHH SSGLVPRGSH MGSMDRIIQS PGKYIQGADV INRLGEYLPK LAERWLTVGD KFVLGFAQST VEKSFKDAGL VVEIAPFGGE CSQNEIDRLR GIAETAQCGA ILGIGGGKTL DTAKALAHFM GVPVAIAPTI ASTDAPCSAL SVIYTDEGEF DRYLLLPNNP NMVIVDTKIV AGAPARLLAA GIGDALATWF EARACSRSGA TTMAGGKCTQ AALALAEFCY NTLLEEGERKA MLAAEQHVVT PALERVIEAN TYLSGVGFES GGLAAAHAVH NGLTAIPDAH HYYHGEKVAF GTLTQLVLEN APVEEIIETVA ALSHAVGLPI TLAQLDIKED VPAKMRIVAE AACAEGETIH NMPGGATPDQ VYAALLVADQ YGQRFLEWE</p> <p><b>Specific Activity:</b> &gt; 14 Units/ml One unit will oxidize 1.0 umole of glycerol to dihydroxyacetone per minute at pH 8.0 at 25C <b>Molecular weight:</b> 41.1 kDa (390aa), confirmed by MALDI-TOF</p>
<b>Storage:</b>	Store undiluted at 2-8°C for one week or (in aliquots) at -20°C to -80°C for longer. Avoid repeated freezing and thawing. Shelf life: one year from despatch.
<b>General Readings:</b>	Subedi K.P., et al. (2008) FEMS Microbiol. Lett. 279:180-187 Gonzalez R., et al. (2008) Metab. Eng. 10:234-245
<b>Protocols:</b>	1. Prepare a 200ul reaction mix into a suitable container: The final concentrations are 93mM Glycine, 93mM Potassium chloride, 2375mM Glycerol, 3mM b-NAD.

2. Equilibrate to 25C and monitor at A340nm until the value is constant using a spectrophotometer.
3. Add 20ul of recombinant gldA protein with various concentrations (0.2ug, 0.1ug, 0.05ug) in 180ul reaction buffer.
4. Mix by inversion and record the decrease at A340nm for 10 minutes.

**Pictures:**

15% SDS-PAGE (3ug)