
Product Data Sheet

Product Name: GLDA E.coli, Active

Cat. No.: GP21678

Batch No.: 1

Product Data

Purity	>98%	Source	Escherichia Coli.
Physical Appearance	solid	Shipping Condition	Shipped with Ice Packs.
Synonyms	ECK3937;JW5556; Glycerol dehydrogenase; GDH; GLDH; b3945.		
Amino Acid Sequence	MGSSHHHHHH SGLVPRGSH MGSMDRIIQS PGKYIQGADV INRLGEYLKP LAERWLVVGD KFVLGFAQSTVEKSFKDAGL VVEIAPFGGE CSQNEIDRLR GIAETAQCGA ILGIGGGKTL DTAKALAHFM GVPVAIAPTIASTDAPCSAL SVIYTDEGEF DRYLLLNNP NMVIVDTKIV AGAPARLLAA GIGDALATWF EARACSRSGATTMAGGKCTQ AALALAEFCY NTLLEEGERA MLAAEQHVVT PALERVIEAN TYLSGVGFES GGLAAAHAVHNGLTAIPTAH HYYHGEKQAF GTLTQLVLEN APVEEIVTVA ALSHAVGLPI TLAQLDIKED VPAKMRIVAEAAEGETIH NMPGGATPDQ VYAALLVADQ YGQRFLQEW.		
Formulation	GLDA protein solution (1mg/ml) containing Phosphatebuffered saline (pH7.4) and 10% glycerol.		

Introduction

Glycerol dehydrogenase (GldA) catalyzes the NAD-dependent oxidation of glycerol to dihydroxyacetone (glycerone). The GldA protein allows microorganisms to use glycerol as a source of carbon under anaerobic conditions. Furthermore, in E.coli GldA has an imperative role by regulating the intracellular level of dihydroxyacetone by catalyzing the reverse reaction, i.e. the conversion of dihydroxyacetone into glycerol. GldA possesses an extensive substrate specificity, due to its ability to oxidize 1,2-propanediol and to reduce glycolaldehyde, methylglyoxal and hydroxyacetone into ethylene glycol, lactaldehyde and 1,2-propanediol, respectively.

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.

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

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Stability

Store at 4°C if entire vial will be used within 2-4 weeks. Store, frozen at -20°C for longer periods of time. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Avoid multiple freeze-thaw cycles.

Background

GLDA E.coli Recombinant produced in E.Coli is a single, non-glycosylated polypeptide chain containing 390 amino acids (1-367 a.a) and having a molecular mass of 41.1kDa. GLDA is fused to a 23 amino acid His-tag at N-terminus & purified by proprietary chromatographic techniques.

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