Recombinant human Dihydrolipoamide Dehydrogenase/DLD protein

Catalog Number: ATGP0505

PRODUCT INFORMATION

Expression system
E.coli

Domain
36-509aa

UniProt No.
P09622

NCBI Accession No.
NP_000099

Alternative Names
Dihydrolipoyl dehydrogenase mitochondrial, DLDH, E3, GCSL, LAD, PHE3, Dihydrolipoyl dehydrogenase, mitochondrial Diaphorase, Dihydrolipoamide dehydrogenase, Dihydrolipoyl dehydrogenase, Dihydrolipoyl dehydrogenase mitochondrial, DLD, E3 component of pyruvate dehydrogenase, E3 component of pyruvate dehydrogenase complex 2 oxo glutarate complex branched chain keto acid dehydrogenase complex, Glycine cleavage system L protein, Glycine cleavage system protein L, Lipoamide reductase, Lipoyl dehydrogenase, PHE 3,

PRODUCT SPECIFICATION

Molecular Weight
54.4 kDa (511aa)

Concentration
1mg/ml (determined by Bradford assay)

Formulation
Liquid in. 20mM Tris-HCl buffer (pH 8.0) containing 1mM DTT, 0.1M NaCl, 10% glycerol

Purity
> 95% by SDS-PAGE

Biological Activity
Specific activity is > 200unit/mg, one unit will reduce 1.0 umole of DL-lipoamide to DL-dihydrolipoamide per minute at pH 6.5 at 25C.

Tag
His-Tag

Application
SDS-PAGE, Enzyme Activity

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.

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BACKGROUND

Description

DLD (Dihydrolipoamide dehydrogenase), also known as GCSL (glycine cleavage system L protein), is a component of the glycine cleavage system as well as of the alpha ketoacid dehydrogenase complexes. DLD is a flavin-dependent oxidoreductase and functions as a component of the alpha-keto acid dehydrogenase, the pyruvate dehydrogenase, the alpha-ketoglutarate dehydrogenase, the branched-chain alpha-keto acid dehydrogenase and as the L protein in the mitochondrial glycine cleavage system. Mutations in DLD protein can result in MSuD (maple syrup urine disease) and congenital infantile lactic acidosis. Recombinant human DLD protein, fused to His-tag at N-terminus, was expressed in E. coli and purified by using conventional chromatography techniques.

Amino acid Sequence

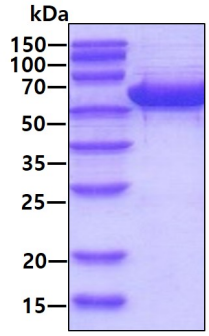
<MRGSHHHHHH GMASMTGGQQ MGRDLYDDDD KDRWGS>MADQ PIDADVTVIG SGPGGYVAAI KAAQLGFKTV CIEKNETLGG TCLNVGCIPS KALLNNSHYY HMAHGKDFAS RGIEMSEVRL NLDKMMEQKS TAVKALTGGI AHLFKQNKVV HVNGYGKITG KNQVTATKAD GGTQVIDTKN ILIATGSEVT PFPGITIDED TIVSSTGALS LKKVPEKMVV IGAGVIGVEL GSVWQRLGAD VTAVEFLGHV GGVGIDMEIS KNFQRILQKQ GFKFKLNTKV TGATKKSDGK IDVSIEAASG GKAEVITCDV LLVCIGRRPF TKNLGLEELG IELDPRGRIP VNTRFQTKIP NIYAIGDVVA GPMLAHKAED EGIICVEGMA GGAVHIDYNC VPSVIYTHPE VAWVGKSEEQ LKEEGIEYKV GKFPFAANSR AKTNADTDGM VKILGQKSTD RVLGAHILGP GAGEMVNEAA LALEYGASCE DIARVCHAHP TLSEAFREAN LAASFGKSIN F

General References

Giannopoulou E., et al. (2009) Anticancer Res. 29(12):5077-82.
Daee DL., et al. (2009) Proc Natl Acad Sci u S A. 107(1):157-62.

DATA

SDS-PAGE



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