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KD-Validated Anti-Dihydrolipoamide dehydrogenase Rabbit Monoclonal Antibody

Rabbit monoclonal antibody
Catalog # AGI1232

Product Information

Application	WB, FC
Primary Accession	P09622
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Isotype	Rabbit IgG
Clone Names	23GB3825
Calculated MW	54177
Gene Name	DLD
Aliases	DLD; Dihydrolipoamide Dehydrogenase; OGDC-E3; DLDH; GCSL; LAD; E3; E3 Component Of Pyruvate Dehydrogenase Complex, 2-Oxo-Glutarate Complex, Branched Chain Keto Acid Dehydrogenase Complex; Dihydrolipoyl Dehydrogenase, Mitochondrial; Glycine Cleavage System L Protein; EC 1.8.1.4; PHE3; Dihydrolipoamide Dehydrogenase (E3 Component Of Pyruvate Dehydrogenase Complex, 2-Oxo-Glutarate Complex, Branched Chain Keto Acid Dehydrogenase Complex); Epididymis Secretory Sperm Binding Protein; Glycine Cleavage System Protein L; Lipoamide Dehydrogenase; Lipoyl Dehydrogenase; Lipoamide Reductase; Diaphorase; EC 1.8.1 48; DLDD
Immunogen	A synthesized peptide derived from human DLDH

Additional Information

Gene ID	1738
Other Names	Dihydrolipoyl dehydrogenase, mitochondrial, 1.8.1.4, Dihydrolipoamide dehydrogenase, Glycine cleavage system L protein, DLD, GCSL, LAD, PHE3

Protein Information

Name	DLD (HGNC:2898)
Synonyms	GCSL, LAD, PHE3
Function	Lipoamide dehydrogenase is a component of the glycine cleavage system as well as an E3 component of three alpha-ketoacid dehydrogenase complexes (pyruvate-, alpha-ketoglutarate-, and branched- chain amino acid-dehydrogenase complex) (PubMed:15712224, PubMed:16442803, PubMed:16770810, PubMed:17404228, PubMed:20160912, PubMed:20385101). The 2-oxoglutarate dehydrogenase complex is mainly active in the mitochondrion (PubMed:29211711). A fraction of the 2-oxoglutarate dehydrogenase complex also localizes in the nucleus and is

	required for lysine succinylation of histones: associates with KAT2A on chromatin and provides succinyl-CoA to histone succinyltransferase KAT2A (PubMed:29211711). In monomeric form may have additional moonlighting function as serine protease (PubMed:17404228). Involved in the hyperactivation of spermatazoa during capacitation and in the spermatazoal acrosome reaction (By similarity). The pyruvate dehydrogenase (PDH) complex catalyzes the overall conversion of pyruvate to acetyl-CoA and CO(2), and thereby links cytoplasmic glycolysis and the mitochondrial tricarboxylic acid (TCA) cycle (Probable). It contains multiple copies of three enzymatic components: pyruvate dehydrogenase (E1), dihydrolipoamide acetyltransferase (E2) and dihydrolipoamide dehydrogenase (E3) (Probable). The E3 subunit catalyzes reoxidation of the dihydrolipoyl moiety on lipoyl-bearing domains (LBDs) of E2 with NAD+ as the ultimate electron acceptor (PubMed:16442803, PubMed:16770810, PubMed:20160912, PubMed:20385101).
Cellular Location	Mitochondrion matrix. Nucleus. Cell projection, cilium, flagellum {ECO:0000250|UniProtKB:Q811C4}. Cytoplasmic vesicle, secretory vesicle, acrosome. Note=Mainly localizes in the mitochondrion. A small fraction localizes to the nucleus, where the 2- oxoglutarate dehydrogenase complex is required for histone succinylation.

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