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Anti-DLD Antibody

Catalog # ABO10782

Product Information

Application	WB, IHC-P, IHC-F, ICC
Primary Accession	P09622
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Dihydrolipoyl dehydrogenase, mitochondrial(DLD) detection. Tested with WB, IHC-P; IHC-F; ICC in Human;Mouse;Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

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
Calculated MW	54177
Application Details	Immunohistochemistry(Paraffin-embedded Section), 0.5-1 □g/ml, Human, Rat, Mouse, By Heat Immunocytochemistry , 0.5-1 □g/ml, Human, - Immunohistochemistry(Frozen Section), 0.5-1 □g/ml, Rat, Mouse Western blot, 0.1-0.5 □g/ml, Human, Rat, Mouse
Subcellular Localization	Mitochondrion matrix.
Source	Eukaryota
Protein Name	Dihydrolipoyl dehydrogenase, mitochondrial
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg Thimerosal, 0.05mg NaN3.
Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human DLD(492-509aa EAFREANLAASFGKSINF), different from the related mouse and rat sequences by one amino acid.
Purification	Immunogen affinity purified.

Cross Reactivity	No cross reactivity with other proteins
Storage	At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.
Sequence Similarities	Belongs to the class-I pyridine nucleotide-disulfide oxidoreductase family.

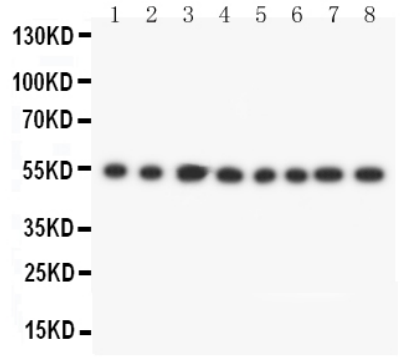
Protein Information

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.

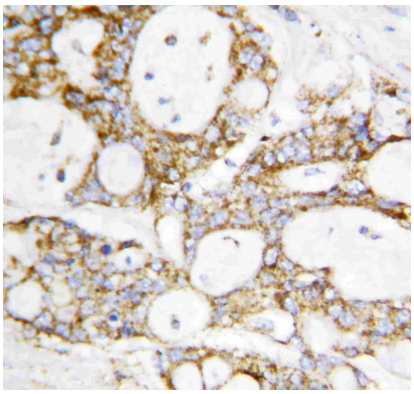
Background

DLD, Dihydrolipoamide dehydrogenase, is a component of the pyruvate dehydrogenase complex, the alpha-ketoglutarate dehydrogenase complex, and the branched-chain alpha-keto acid dehydrogenase complex(BCKD). DLD is a flavoprotein enzyme that degrades lipoamide, and produces dihydrolipoamide. The DLD gene contains 14 exons. The gene is localized to 7q31-q32. This gene encodes the L protein of the mitochondrial glycine cleavage system. The L protein, also named dihydrolipoamide dehydrogenase, is also a component of the pyruvate dehydrogenase complex, the alpha-ketoglutarate dehydrogenase complex, and the branched-chain alpha-keto acide dehydrogenase complex.

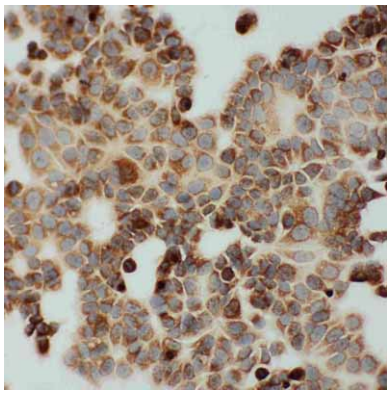
Images



Anti-DLD antibody, ABO10782, Western blottingLane 1: Rat Liver Tissue LysateLane 2: Rat Brain Tissue LysateLane 3: Rat Ovary Tissue LysateLane 4: Rat Testis Tissue LysateLane 5: SMMC Cell LysateLane 6: HELA Cell LysateLane 7: SMMC Cell LysateLane 8: JURKAT Cell Lysate



Anti-DLD antibody, ABO10782, IHC(P)IHC(P): Human Mammary Cancer Tissue



Anti-Lipoamide Dehydrogenase antibody, ABO10782, ICCICC: MCF-7 Cell

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