

Anti-Lipoamide Dehydrogenase Antibody [PSH0-83] - BSA and Azide free

HA750663



Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse
Applications:	WB, IHC-P, IF-Cell
Molecular Wt:	Predicted band size: 54 kDa
Clone number:	PSH0-83

Description: Dihydrolipoamide dehydrogenase (DLD), also known as dihydrolipoyl dehydrogenase, mitochondrial, is an enzyme that in humans is encoded by the DLD gene. DLD is a flavoprotein enzyme that oxidizes dihydrolipoamide to lipoamide. Dihydrolipoamide dehydrogenase (DLD) is a mitochondrial enzyme that plays a vital role in energy metabolism in eukaryotes. This enzyme is required for the complete reaction of at least five different multi-enzyme complexes. Additionally, DLD is a flavoenzyme oxidoreductase that contains a reactive disulfide bridge and a FAD cofactor that are directly involved in catalysis. The enzyme associates into tightly bound homodimers required for its enzymatic activity. The DLD homodimer functions as the E3 component of the pyruvate, α -ketoglutarate, α -adipate and branched-chain amino acid-dehydrogenase complexes and the glycine cleavage system, all in the mitochondrial matrix. In these complexes, DLD converts dihydrolipoic acid and NAD⁺ into lipoic acid and NADH. DLD also has diaphorase activity, being able to catalyze the oxidation of NADH to NAD⁺ by using different electron acceptors such as O₂, labile ferric iron, nitric oxide, and ubiquinone. DLD is thought to have a pro-oxidant role by reducing oxygen to a superoxide or ferric to ferrous iron, which then catalyzes production of hydroxyl radicals. Diaphorase activity of DLD may have an antioxidant role through its ability to scavenge nitric oxide and to reduce ubiquinone to ubiquinol. The dihydrolipoamide dehydrogenase gene is known to have multiple splice variants.

Immunogen:	Recombinant protein within human Lipoamide Dehydrogenase 21-509 / 509.
Positive control:	Jurkat cell lysate, HeLa cell lysate, 293T cell lysate, MCF7 cell lysate, K-562 cell lysate, SK-Br-3 cell lysate, U-937 cell lysate, HepG2 cell lysate, NIH/3T3 cell lysate, mouse liver tissue lysate, human colon tissue, human colon carcinoma tissue, HeLa.
Subcellular location:	Mitochondrion matrix, Nucleus, Cell projection, cilium, flagellum, Cytoplasmic vesicle, secretory vesicle, acrosome.
Database links:	SwissProt: P09622 Human O08749 Mouse
Recommended Dilutions:	
WB	1:1,000
IHC-P	1:5,000
IF-Cell	1:200
Storage Buffer:	1*PBS (pH7.4).
Storage Instruction:	Store at +4°C after thawing. Aliquot store at -20°C. Avoid repeated freeze / thaw cycles.
Purity:	Protein A affinity purified.

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Orders:0086-571-88062880

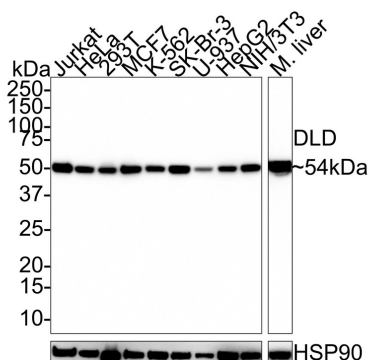
Technical:0086-571-89986345

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Images

Fig1: Western blot analysis of Lipoamide Dehydrogenase on different lysates with Rabbit anti-Lipoamide Dehydrogenase antibody (HA750663) at 1/1,000 dilution.



Lane 1: Jurkat cell lysate (20 µg/Lane)

Lane 2: HeLa cell lysate (20 µg/Lane)

Lane 3: 293T cell lysate (20 µg/Lane)

Lane 4: MCF7 cell lysate (20 µg/Lane)

Lane 5: K-562 cell lysate (20 µg/Lane)

Lane 6: SK-Br-3 cell lysate (20 µg/Lane)

Lane 7: U-937 cell lysate (20 µg/Lane)

Lane 8: HepG2 cell lysate (20 µg/Lane)

Lane 9: NIH/3T3 cell lysate (20 µg/Lane)

Lane 10: Mouse liver tissue lysate (40 µg/Lane)

Predicted band size: 54 kDa

Observed band size: 54 kDa

Exposure time: 1 minute;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDN/TBST for 1 hour at room temperature. The primary antibody (HA750663) at 1/1,000 dilution was used in 5% NFDN/TBST at room temperature for 2 hours. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1:100,000 dilution was used for 1 hour at room temperature.

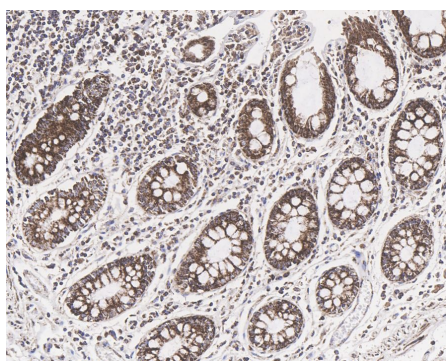


Fig2: Immunohistochemical analysis of paraffin-embedded human colon tissue with Rabbit anti-Lipoamide Dehydrogenase antibody (HA750663) at 1/5,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) (high pressure) for 2 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH₂O and PBS, and then probed with the primary antibody (HA750663) at 1/5,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

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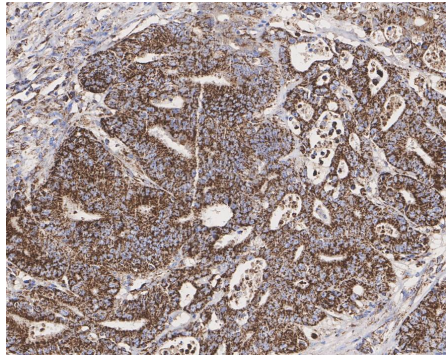


Fig3: Immunohistochemical analysis of paraffin-embedded human colon carcinoma tissue with Rabbit anti-Lipoamide Dehydrogenase antibody (HA750663) at 1/5,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) (high pressure) for 2 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH₂O and PBS, and then probed with the primary antibody (HA750663) at 1/5,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

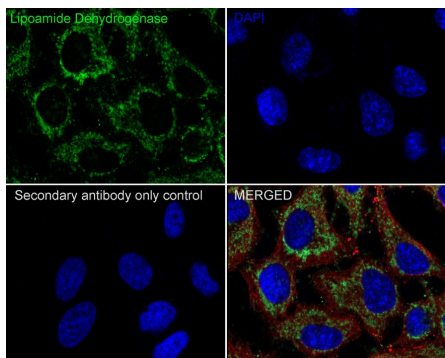


Fig4: Immunocytochemistry analysis of HeLa cells labeling Lipoamide Dehydrogenase with Rabbit anti-Lipoamide Dehydrogenase antibody (HA750663) at 1/200 dilution.

Cells were fixed in 100% precooled methanol for 5 minutes at room temperature, then blocked with 1% BSA in 10% negative goat serum for 1 hour at room temperature. Cells were then incubated with Rabbit anti-Lipoamide Dehydrogenase antibody (HA750663) at 1/200 dilution in 1% BSA in PBST overnight at 4 °C. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. PBS instead of the primary antibody was used as the secondary antibody only control. Nuclear DNA was labelled in blue with DAPI.

Note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

Background References

1. Ganetzky R et al. Primary Pyruvate Dehydrogenase Complex Deficiency Overview. 2021 Jun
2. Shin D et al. Dihydrolipoamide dehydrogenase regulates cystine deprivation-induced ferroptosis in head and neck cancer. Redox Biol. 2020 Feb

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