Anti-Lactate Dehydrogenase Antibody

ER00702

Product Type:	Rabbit polyclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, IHC-P, FC
Molecular Wt:	Predicted band size: 37 kDa

Description: Lactate dehydrogenase (LDH) is an enzyme present in a wide variety of organisms, including plants and animals. It catalyses the interconversion of pyruvate and lactate with concomitant interconversion of NADH and NAD+. In medicine, LDH is often used as a marker of tissue breakdown as LDH is abundant in red blood cells and can function as a marker for hemolysis. In mammals, three types of LDH subunits (35 kDa) are encoded by the genes Ldh-A, Ldh-B, and Ldh-C. Lactate dehydrogenase B (LDH-B, heart subunit, LDH-H) is involved in the conversion of L-lactate and NAD to pryruvate and NADH and it is predominantly localized in the heart tissue. Similar to other LDH subunit, LDH-B is considered to be an important marker for germ cell tumor.

Immunogen: Synthetic peptide within Human LDHA aa1-50 / 332.

Positive control: A431 cell lysate, MCF7 cell lysate, NIH/3T3 cell lysate, RAW264.7 cell lysate, C6 cell lysate, PC-12 cell lysate, Wild-type Hela whole cell lysate, rat liver tissue, rat skeletal muscle tissue, human liver tissue, human breast carcinoma tissue, mouse liver tissue.

Subcellular location: Cytoplasm.

Database links: SwissProt: P00338 Human | P06151 Mouse | P04642 Rat

Recommended Dilutions:

WB	1:5,000
IHC-P	1:200
FC	1:100-1:200

Storage Buffer: 1*PBS (pH7.4), 0.2% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.

Storage Instruction: Store at +4℃ after thawing. Aliquot store at -20℃ or -80℃. Avoid repeated freeze / thaw cycles.

Purity: Immunogen affinity purified.

Images

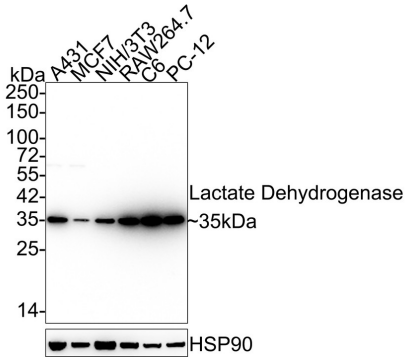

Fig1: Western blot analysis of Lactate Dehydrogenase on different lysates with Rabbit anti-Lactate Dehydrogenase antibody (ER00702) at 1/5,000 dilution.

Lane 1: A431 cell lysate
Lane 2: MCF7 cell lysate
Lane 3: NIH/3T3 cell lysate
Lane 4: RAW264.7 cell lysate
Lane 5: C6 cell lysate
Lane 6: PC-12 cell lysate

Lysates/proteins at 15 µg/Lane.

Predicted band size: 37 kDa
Observed band size: 35 kDa

Exposure time: 20 seconds;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (ER00702) at 1/5,000 dilution was used in 5% NFDM/TBST at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

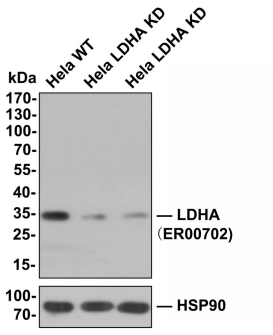

Fig2: All lanes: Western blot analysis of LDHA with anti-LDHA antibody (ER00702) at 1:500 dilution.
Lane 1: Wild-type Hela whole cell lysate (10 µg).
Lane 2/3: LDHA knockdown Hela whole cell lysate (10 µg).

ER00702 was shown to specifically react with LDHA in wild-type Hela cells. Weakened bands were observed when LDHA knockdown samples were tested. Wild-type and LDHA knockdown samples were subjected to SDS-PAGE. Proteins were transferred to a PVDF membrane and blocked with 5% NFDM in TBST for 1 hour at room temperature. The primary antibody (ER00702, 1:500) was used in 5% BSA at room temperature for 2 hours. Goat Anti-Rabbit IgG-HRP Secondary Antibody (HA1001) at 1:300,000 dilution was used for 1 hour at room temperature.

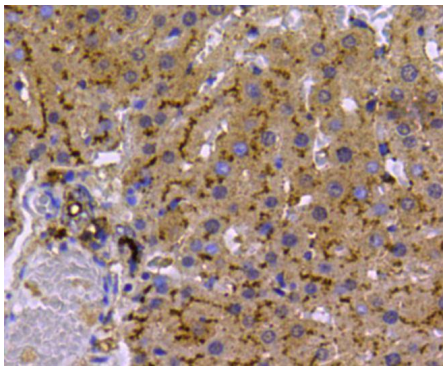

Fig3: Immunohistochemical analysis of paraffin-embedded rat liver tissue using anti-Lactate Dehydrogenase antibody. The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes.The tissues were blocked in 1% BSA for 30 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (ER00702, 1/50) for 30 minutes 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.

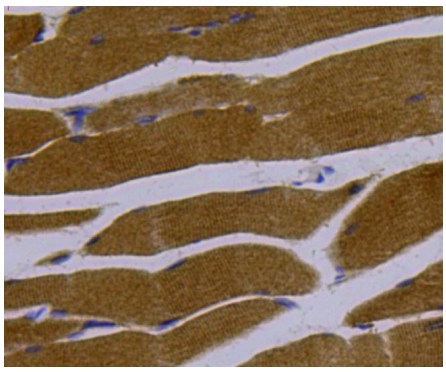

Fig4: Immunohistochemical analysis of paraffin-embedded rat skeletal muscle tissue using anti-Lactate Dehydrogenase antibody. The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes.The tissues were blocked in 1% BSA for 30 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (ER00702, 1/50) for 30 minutes 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.

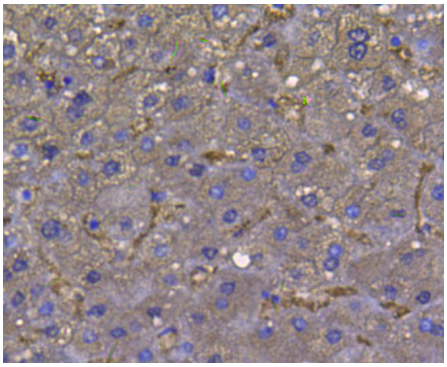

Fig5: Immunohistochemical analysis of paraffin-embedded human liver tissue using anti-Lactate Dehydrogenase antibody. The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes.The tissues were blocked in 1% BSA for 30 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (ER00702, 1/50) for 30 minutes 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.

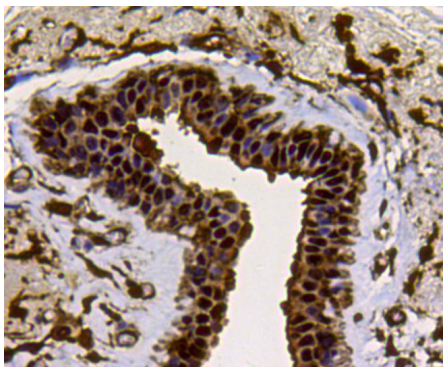

Fig6: Immunohistochemical analysis of paraffin-embedded human breast carcinoma tissue using anti-Lactate Dehydrogenase antibody. The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes.The tissues were blocked in 1% BSA for 30 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (ER00702, 1/50) for 30 minutes 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.

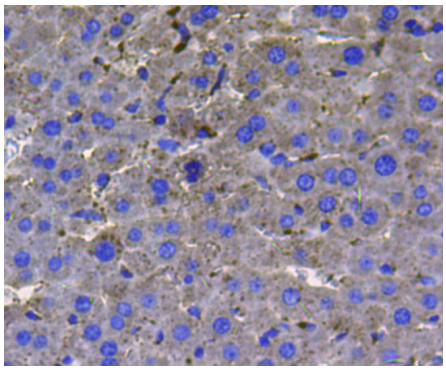

Fig7: Immunohistochemical analysis of paraffin-embedded mouse liver tissue using anti-Lactate Dehydrogenase antibody. The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes.The tissues were blocked in 1% BSA for 30 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (ER00702, 1/50) for 30 minutes 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.

Background References

1. Miskimins WK et al. Synergistic anti-cancer effect of phenformin and oxamate. PLoS One 9:e85576 (2014)
2. Peng X et al. Autophagy promotes paclitaxel resistance of cervical cancer cells: involvement of Warburg effect activated hypoxia-induced factor 1-a-mediated signaling. Cell Death Dis 5:e1367 (2014)