SANTA CRUZ BIOTECHNOLOGY, INC.

LDH-B (431.1): sc-100775

The Power to Question

BACKGROUND

The lactate dehydrogenase family (LDH) catalyzes the final step of anaerobic glycolysis, the conversion of L-lactate and NAD to pyruvate and NADH. The LDH family consists of three members, LDH-A, LDH-B and LDH-C, all of which form tetramers consisting four subunits. However, each family member displays a specific tissue distribution pattern with LDH-A and LDH-B predominant in several tissues, specifically LDH-A in muscle and LDH-B in heart, while LDH-C expression is confined to the testis and sperm. LDHs function as powerful markers for germ cell tumors. The genes encoding human LDH-A and LDH-C map to chromosome 11, while the human LDH-B gene maps to chromosome 12p12.1. Deficiency in the LDH-A gene is linked to exertional myoglobinuria.

CHROMOSOMAL LOCATION

Genetic locus: LDHB (human) mapping to 12p12.1; Ldhb (mouse) mapping to 6 G2.

SOURCE

LDH-B (431.1) is a mouse monoclonal antibody raised against recombinant LDH-B of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

LDH-B (431.1) is recommended for detection of LDH-B of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for LDH-B siRNA (h): sc-45899, LDH-B siRNA (m): sc-45902, LDH-B shRNA Plasmid (h): sc-45899-SH, LDH-B shRNA Plasmid (m): sc-45902-SH, LDH-B shRNA (h) Lentiviral Particles: sc-45899-V and LDH-B shRNA (m) Lentiviral Particles: sc-45902-V.

Molecular Weight of LDH-B: 35 kDa.

Positive Controls: rat heart extract: sc-2393, human heart extract: sc-363763 or A-10 cell lysate: sc-3806.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

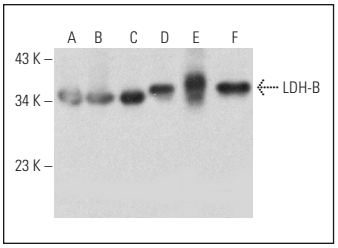
PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

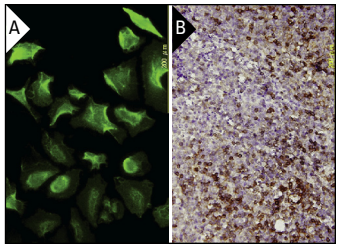
RESEARCH USE

For research use only, not for use in diagnostic procedures.

DATA



LDH-B (431.1): sc-100775. Western blot analysis of LDH-B expression in HeLa (**A**), IMR-32 (**B**) and A-10 (**C**) whole cell lysates and mouse heart (**D**), rat heart (**E**) and human heart (**F**) tissue extracts.



LDH-B (431.1): sc-100775. Immunofluorescence staining of paraformaldehyde-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin-fixed, paraffin-embedded human tonsil tissue showing cytoplasmic localization (**B**).

SELECT PRODUCT CITATIONS

1. Granja, S., et al. 2013. The monocarboxylate transporter inhibitor α-Cyano-4-hydroxycinnamic acid disrupts rat lung branching. Cell. Physiol. Biochem. 32: 1845-1856.
2. Bahr, B.L., et al. 2014. Different expression of placental pyruvate kinase in normal, preeclamptic and intrauterine growth restriction pregnancies. Placenta 35: 883-890.
3. Tseng, P.L., et al. 2018. The decrease of glycolytic enzyme hexokinase 1 accelerates tumor malignancy via deregulating energy metabolism but sensitizes cancer cells to 2-deoxyglucose inhibition. Oncotarget 9: 18949-18969.
4. Nonomiya, Y., et al. 2019. Novel pharmacological effects of poly (ADP-ribose) polymerase inhibitor rucaparib on the lactate dehydrogenase pathway. Biochem. Biophys. Res. Commun. 510: 501-507.
5. Afonso, J., et al. 2019. Clinical significance of metabolism-related biomarkers in non-Hodgkin lymphoma—MCT1 as potential target in diffuse large B cell lymphoma. Cell. Oncol. 42: 303-318.
6. Strickaert, A., et al. 2019. Reprogramming of energetic metabolism: increased expression and roles of pyruvate carboxylase in papillary thyroid cancer. Thyroid 29: 845-857.
7. Ippolito, L., et al. 2019. Cancer-associated fibroblasts promote prostate cancer malignancy via metabolic rewiring and mitochondrial transfer. Oncogene 38: 5339-5355.
8. Zhou, W., et al. 2019. TIGAR promotes neural stem cell differentiation through acetyl-CoA-mediated histone acetylation. Cell Death Dis. 10: 198.

See **LDH (H-10): sc-133123** for LDH antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.