

LDH-A (5): sc-130327

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 of 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 testes 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 12. Deficiency in the LDH-A gene is linked to exertional myoglobinuria.

REFERENCES

1. Edwards, Y.H., et al. 1987. Locus determining the human sperm-specific lactate dehydrogenase, LDH-C, is syntenic with LDH-A. *Dev. Genet.* 8: 219-232.
2. LeVan, K.M., et al. 1991. Properties of human testis-specific lactate dehydrogenase expressed from *Escherichia coli*. *Biochem. J.* 273: 587-592.
3. Kanno, T., et al. 1995. Lactate dehydrogenase M-subunit deficiencies: clinical features, metabolic background, and genetic heterogeneities. *Muscle Nerve Suppl.* 3: S54-S60.

CHROMOSOMAL LOCATION

Genetic locus: LDHA (human) mapping to 11p15.1.

SOURCE

LDH-A (5) is a mouse monoclonal antibody raised against recombinant LDH-A of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

LDH-A (5) is recommended for detection of LDH-A of 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for LDH-A siRNA (h): sc-43893, LDH-A shRNA Plasmid (h): sc-43893-SH and LDH-A shRNA (h) Lentiviral Particles: sc-43893-V.

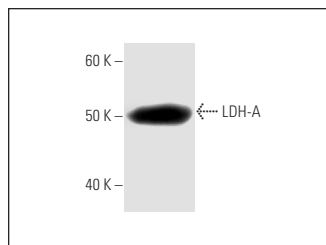
Molecular Weight of LDH-A: 35 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, MDA-MB-231 cell lysate: sc-2232 or Y79 cell lysate: sc-2240.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



LDH-A (5): sc-130327. Western blot analysis of human recombinant LDH-A.

SELECT PRODUCT CITATIONS


1. Guo, B., et al. 2016. Naringin suppresses the metabolism of A375 cells by inhibiting the phosphorylation of c-Src. *Tumour Biol.* 37: 3841-3850.
2. Amara, S., et al. 2016. Oleonic acid inhibits high salt-induced exaggeration of warburg-like metabolism in breast cancer cells. *Cell Biochem. Biophys.* 74: 427-434.
3. Fu, J., et al. 2016. Overcoming cetuximab resistance in Ewing's sarcoma by inhibiting lactate dehydrogenase-A. *Mol. Med. Rep.* 14: 995-1001.
4. Pacheco-Velázquez, S.C., et al. 2018. Energy metabolism drugs block triple negative breast metastatic cancer cell phenotype. *Mol. Pharm.* 15: 2151-2164.
5. Miro, C., et al. 2021. Thyroid hormone enhances angiogenesis and the warburg effect in squamous cell carcinomas. *Cancers* 13: 2743.
6. Pacheco-Velázquez, S.C., et al. 2022. 17-β Estradiol up-regulates energy metabolic pathways, cellular proliferation and tumor invasiveness in ER+ breast cancer spheroids. *Front. Oncol.* 12: 1018137.

RESEARCH USE

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

PROTOCOLS

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



See **LDH-A (E-9): sc-137243** for LDH-A antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.