SANTA CRUZ BIOTECHNOLOGY, INC.

LDH-C (F-1): sc-377305

SANTA CRUZ BIOTECHNOLOGY

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 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, LDHC, is syntenic with LDHA. 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.
4. Kopperschlager, G., et al. 1996. Methods for the separation of lactate dehydrogenases and clinical significance of the enzyme. J. Chromatogr. B Biomed. Appl. 684: 25-49.

CHROMOSOMAL LOCATION

Genetic locus: Ldhc (mouse) mapping to 7 B4.

SOURCE

LDH-C (F-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 103-141 within an internal region of LDH-C of rat origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

LDH-C (F-1) is available conjugated to agarose (sc-377305 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-377305 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377305 PE), fluorescein (sc-377305 FITC), Alexa Fluor® 488 (sc-377305 AF488), Alexa Fluor® 546 (sc-377305 AF546), Alexa Fluor® 594 (sc-377305 AF594) or Alexa Fluor® 647 (sc-377305 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377305 AF680) or Alexa Fluor® 790 (sc-377305 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-377305 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

LDH-C (F-1) is recommended for detection of LDH-C of mouse and rat origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for LDH-C siRNA (m): sc-45904, LDH-C shRNA Plasmid (m): sc-45904-SH and LDH-C shRNA (m) Lentiviral Particles: sc-45904-V.

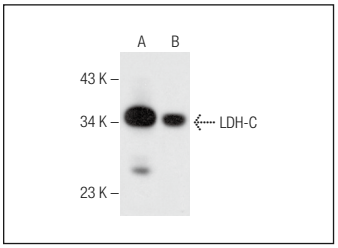
Molecular Weight of LDH-C: 35 kDa.

Positive Controls: rat testis extract: sc-2400 or mouse testis extract: sc-2405.

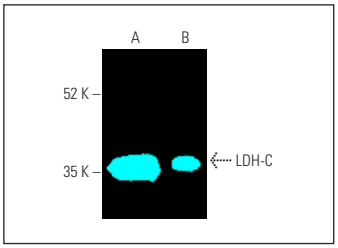
RECOMMENDED SUPPORT REAGENTS

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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



LDH-C (F-1): sc-377305. Western blot analysis of LDH-C expression in mouse testis (**A**) and rat testis (**B**) tissue extracts.



LDH-C (F-1): sc-377305. Fluorescent western blot analysis of LDH-C expression in mouse testis (**A**) and rat testis (**B**) tissue extracts. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 647: sc-516179.

SELECT PRODUCT CITATIONS

1. Torma, F., et al. 2014. Exercise increases markers of spermatogenesis in rats selectively bred for low running capacity. PLoS ONE 9: e114075.

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.

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