

# LDH-D (F-4): sc-373989

## BACKGROUND

The lactate dehydrogenase family (LDH) consists of three members, designated LDH-A, LDH-B and LDH-C, all of which work in concert to catalyze the final step of anaerobic glycolysis, namely the conversion of L-lactate and NAD<sup>+</sup> to pyruvate and NADH. Each family member displays a specific tissue distribution pattern, with LDH-A present in muscle and LDH-B present in heart, while LDH-C expression is confined to testis and sperm. A fourth possible member, termed LDH-D (lactate dehydrogenase D), probable D-lactate dehydrogenase or DLD, is a 507 amino acid mitochondrial protein belonging to the D-isomer specific 2-hydroxyacid dehydrogenase family. Existing as two alternatively spliced isoforms, LDH-D is moderately expressed in liver and heart with lower levels found in kidney and skeletal muscle.

## 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.
5. Niwakawa, M., et al. 2001. The role of tumor markers in the treatment of germ cell tumor. *Gan To Kagaku Ryoho* 28: 1159-1165.
6. Flick, M.J., et al. 2002. Identification of putative mammalian D-lactate dehydrogenase enzymes. *Biochem. Biophys. Res. Commun.* 295: 910-916.
7. Online Mendelian Inheritance in Man, OMIM™. 2009. Johns Hopkins University, Baltimore, MD. MIM Number: 607490. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

## CHROMOSOMAL LOCATION

Genetic locus: LDHD (human) mapping to 16q23.1; Ldhd (mouse) mapping to 8 E1.

## SOURCE

LDH-D (F-4) is a mouse monoclonal antibody raised against amino acids 1-195 mapping at the N-terminus of LDH-D of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> 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-D (F-4) is recommended for detection of LDH-D of mouse, rat and human 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-D siRNA (h): sc-93282, LDH-D siRNA (m): sc-146691, LDH-D shRNA Plasmid (h): sc-93282-SH, LDH-D shRNA Plasmid (m): sc-146691-SH, LDH-D shRNA (h) Lentiviral Particles: sc-93282-V and LDH-D shRNA (m) Lentiviral Particles: sc-146691-V.

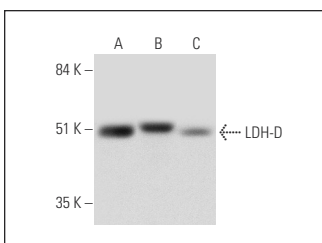
Molecular Weight of LDH-D: 55 kDa.

Positive Controls: LDH-D (m2): 293T Lysate: sc-121318, human heart extract: sc-363763 or mouse heart extract: sc-2254.

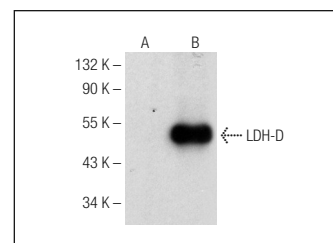
## RECOMMENDED SUPPORT REAGENTS

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, TBS Blotto A Blocking Reagent: sc-2333 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-D (F-4): sc-373989. Western blot analysis of LDH-D expression in human heart (A), mouse heart (B) and human skeletal muscle (C) tissue extracts.



LDH-D (F-4): sc-373989. Western blot analysis of LDH-D expression in non-transfected: sc-117752 (A) and mouse LDH-D transfected: sc-121318 (B) 293T whole cell lysates.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.