#3558 Store at -20°C

LDHA/LDHC (C28H7) Rabbit mAb

☑ 100 µl
(10 western blots)

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New 06/09

Entrez-Gene ID # 3939, 3948
Swiss-Prot Acc. # P00338, P07864

Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W, IHC-P Endogenous	H, M, R, Mk	37 kDa	Rabbit IgG**

Background: Lactate dehydrogenase (LDH) catalyzes the interconversion of pyruvate and NADH to lactate and NAD^+. When the oxygen supply is too low for mitochondrial ATP production, this reaction recycles NADH generated in glycolysis to NAD^+, which reenters glycolysis. The major form of LDH found in muscle cells is the A (LDHA) isozyme. The LDHA promoter contains HIF-1-α binding sites (1). LDHA expression is induced under hypoxic conditions (2). During intensive and prolonged muscle exercise, lactate accumulates in muscle cells when the supply of oxygen does not meet demand. When oxygen levels return to normal, LDH converts lactate to pyruvate to generate ATP in the mitochondrial electron transport chain.

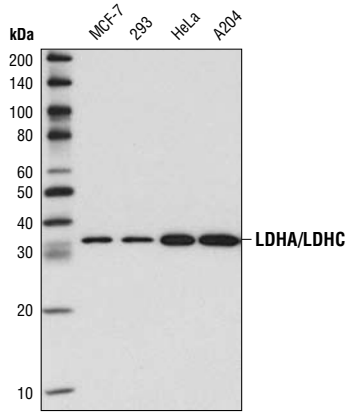
While LDHA is found primarily in muscle and kidney, LDHC is a testis-specific isoform (3). Both proteins are associated with human disease. Mutations in the corresponding LDHA gene are associated with LDHA deficiency, which is characterized by muscle stiffness following exercise and uterine stiffness during pregnancy (4). Abnormal LDHC expression is associated with several forms of cancer (5).

Specificity/Sensitivity: LDHA/LDHC (C28H7) Rabbit mAb detects endogenous levels of total LDHA and LDHC proteins.

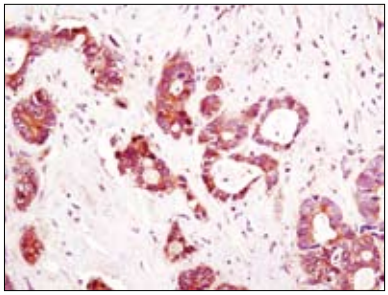
Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic peptide (KLH-coupled) corresponding to the sequence of human LDHA.

Background References:

(1) Semenza, G.L. et al. (1996) *J Biol Chem* 271, 32529–37.
(2) Semenza, G.L. (2007) *Biochem J* 405, 1–9.
(3) Takano, T. and Li, S.S. (1989) *Biochem Biophys Res Commun* 159, 579–83.
(4) Miyajima, H. et al. (1993) *Neurology* 43, 1414–9.
(5) Koslowski, M. et al. (2002) *Cancer Res* 62, 6750–5.



Western blot analysis of extracts from various cell types using LDHA/LDHC (C28H7) Rabbit mAb.



Immunohistochemical analysis of paraffin-embedded human colon carcinoma using LDHA/LDHC (C28H7) Rabbit mAb.

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. *Do not aliquot the antibody.*

***Species cross-reactivity is determined by western blot.**

****Anti-rabbit secondary antibodies must be used to detect this antibody.**

Recommended Antibody Dilutions:

Western blotting	1:1000
Immunohistochemistry (Paraffin)	1:200

IHC protocol: Unmasking buffer/Antibody diluent Citrate/ SignalStain® Antibody Diluent #8112

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

IMPORTANT: For Western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

Applications Key: **W**—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **E-P**—ELISA-Peptide
Species Cross-Reactivity Key: **H**—human **M**—mouse **R**—rat **Hm**—hamster **Mk**—monkey **Mi**—mink **C**—chicken **Dm**—D. melanogaster **X**—Xenopus **Z**—zebrafish **B**—bovine **Dg**—dog **Pg**—pig **Sc**—S. cerevisiae **All**—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.