abcam

ab112996

# Anti-Lactate Dehydrogenase LDHA + LDHB antibody [10E6AA9]

## Key facts

| | |
|---|---|
| **Isotype** | IgG1 |
| **Host species** | Mouse |
| **Storage buffer** | pH: 7.5 Preservative: 0.02% Sodium azide Constituents: 99.98% HEPES buffered saline |
| **Form** | Liquid |
| **Clonality** | Monoclonal |
| **Clone number** | 10E6AA9 |
| **Purification technique** | Proprietary technique |
| **Specificity** | Shotgun immunization of human HeLa cell lysates into mice. Targets were determined by mass spectrometry and validated by WB, ICC, ELISA pair and other techniques. |
| **Light chain type** | kappa |
| **Concentration** | 1 mg/mL The concentration of this product may be batch-dependent<br>Batch concentration finder → |
| **Purification notes** | ab112996 was produced in vitro using hybridomas grown in serum-free medium, and then purified by biochemical fractionation. Monoclonal purity was near homogeneity as judged by SDS-PAGE (>95%). |

## Reactivity data

### IP

**Tested**

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | - |
| **Notes** | - |

## Flow Cyt

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1-2 µg/mL |
| **Notes** | Triton permeabilization required.<br>ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody. |

## ICC/IF

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 2 µg/mL |
| **Notes** | - |

## Target data

See full target information LDHB

| | |
|---|---|
| **Function** | Interconverts simultaneously and stereospecifically pyruvate and lactate with concomitant interconversion of NADH and NAD(+). |

## Storage

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|---|---|
| **Shipped at conditions** | Blue Ice |
| **Appropriate short-term storage conditions** | +4°C |
| **Appropriate long-term storage conditions** | +4°C |
| **Storage information** | Do Not Freeze |

## Notes

**Want a custom formulation?**
This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact orders@abcam.com

## Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

| | |
|---|---|
| **Activity summary** | Lactate dehydrogenase (LDH) consists largely of two subunits LDHA and LDHB also known as LDH-A and LDH-B. These subunits form tetramers in various combinations with the common forms being LDH-5 (A4) and LDH-1 (B4). LDHA consists of 332 amino acids and has a molecular mass of about 36 kiloDaltons while LDHB is of similar size. LDHA and LDHB are widely expressed in tissues with LDHA prevalent in muscle tissues and LDHB in heart tissues. Their primary function is to catalyze the interconversion of pyruvate to L-lactate and vice-versa critical in anaerobic glycolysis. |
| **Biological function summary** | These LDH subunits play an important role in energy production under low oxygen conditions by allowing glycolysis to continue. The LDHA and LDHB subunits associate to form the active enzyme complex which can exist in different isoforms based on tissue-specific expression. This enzyme enables cells in oxygen-deprived conditions such as in muscles during extensive exercise or in tumors to regenerate NAD+ from NADH supporting anaerobic metabolic pathways. |
| **Pathways** | LDHA and LDHB are key players in the glycolytic pathway and gluconeogenesis. They regulate the conversion between pyruvate and lactate impacting the Cori cycle where lactate is transported to the liver for glucose production. This step links them to other metabolic pathways and proteins like the pyruvate kinase enzyme and the tricarboxylic acid cycle intermediates facilitating energy production. |
| **Associated diseases and disorders** | Altered LDHA and LDHB expression links to conditions such as cancer and ischemic tissue damage. Many tumors exhibit increased LDHA expression supporting rapid energy production via anaerobic glycolysis. In cardiac disorders high LDHB levels can indicate heart damage such as a myocardial infarction. Both LDHA and LDHB are therefore important markers and potential therapeutic targets in these disease contexts interacting closely with proteins like hexokinase and glucose transporters. |

## Product promise

**Tested**

We have tested this species and application combination and it works. It is covered by our product promise.

**Expected**

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

**Predicted**

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

**Not recommended**

We do not recommend this combination. It is not covered by our product promise.

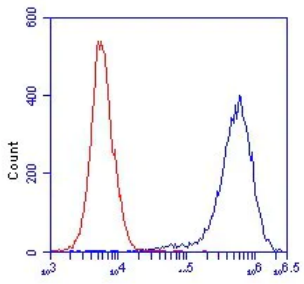
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Terms & Conditions.

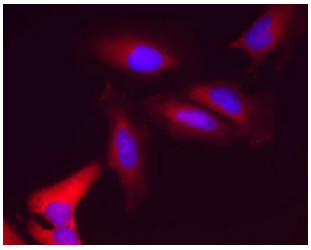
## 3 product images




### Flow Cytometry - Anti-Lactate Dehydrogenase LDHA + LDHB antibody [10E6AA9] (ab112996)

Lactate Dehydrogenase LDHA + LDHB Flow Cytometry staining using mouse Anti-Lactate Dehydrogenase LDHA + LDHB antibody

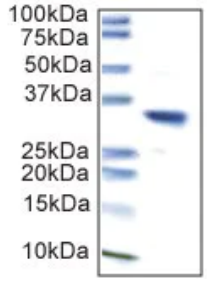
ab112996 at 1ug/ml staining Lactate Dehydrogenase B/LDH-B in Triton X-100 permeabilized HeLa cells by flow cytometry (blue). Isotype control antibody (red).



### Immunocytochemistry/ Immunofluorescence - Anti-Lactate Dehydrogenase LDHA + LDHB antibody [10E6AA9] (ab112996)

Lactate Dehydrogenase LDHA + LDHB Immunocytochemistry/ Immunofluorescence staining using mouse Anti-Lactate Dehydrogenase LDHA + LDHB antibody

ab112996 at 2ug/ml staining Lactate Dehydrogenase B/LDH-B in HeLa cells by Immunocytochemistry (4% paraformaldehyde fixed and 0.1% Triton X-100 permeabilized) followed by Alexa Fluor® 594 goat anti-mouse IgG (H+L) used at a 1/1000 dilution for 1 hour (red). The target protein locates mainly to the cytoplasm.




### Immunoprecipitation - Anti-Lactate Dehydrogenase LDHA + LDHB antibody [10E6AA9] (ab112996)

The 36.6 kDa LDHB protein along with 36.7kDa LDHA protein were immunoprecipitated from Hela cell lysate with ab112996. The identities of the proteins were confirmed by mass spectrometry. This gel was stained with colloidal Coomassie blue G.
All lanes:
Immunoprecipitation - Anti-Lactate Dehydrogenase LDHA + LDHB antibody [10E6AA9] (ab112996)

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