abcam

ab210445

PE Anti-Lactate Dehydrogenase antibody [EP1563Y]

Recombinant | RabMAb | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	PE
Excitation/Emission	Ex: 480;565nm, Em: 578nm
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EP1563Y
Purification technique	Affinity purification
Specificity	ab210445 can recognize LDH-A, B, and C.
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/1000 - 1/62500
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information LDHA

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

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C

Appropriate long-term storage conditions	+4°C
Aliquoting information	Upon delivery aliquot
Storage information	Do Not Freeze, Store in the dark

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

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

Activity summary	Lactate dehydrogenase (LDH) is an enzyme that catalyzes the interconversion of pyruvate and lactate along with the conversion of NADH to NAD+. LDH is known by other names such as lactic acid dehydrogenase and LDH-5. The enzyme has a molecular weight of approximately 36 kDa. LDH exists in almost all tissues having multiple isoforms that are expressed differently depending on the tissue type. It shows high expression in muscle tissue liver and heart indicating its extensive role in energy metabolism.
Biological function summary	Lactate dehydrogenase plays a critical role in anaerobic glycolysis. The enzyme helps in regenerating NAD+ from NADH allowing glycolysis to continue in the absence of oxygen. LDH is not a part of any larger protein complex working independently to fulfill its function in the glycolytic pathway. It serves in rapid energy production especially under hypoxic or exertional conditions where oxygen supply is limited.
Pathways	LDH is significantly involved in the glycolysis and gluconeogenesis pathways. Within glycolysis LDH helps facilitate the conversion of pyruvate to lactate during anaerobic conditions a step important for ATP production when oxygen is scarce. The enzyme is tied closely to phosphofructokinase-1 (PFK-1) in glycolysis given that both enzymes are central to maintaining the glycolytic flow. In gluconeogenesis though functionally reversed from its role in glycolysis LDH helps to manage lactate removal an important step for glucose synthesis from non-carbohydrate sources.

Associated diseases and disorders	Lactate dehydrogenase levels often act as a biomarker for tissue damage or certain cancers as its release into the bloodstream signals cellular injury or death. Elevated LDH levels are associated with conditions like myocardial infarction and certain forms of anemia. In cancer such as lymphoma or leukemia LDH correlates with the progression of the disease and acts as a prognostic marker. LDH's connection to these conditions often leads to insights into disease severity and progression due to its association with proteins like p53 and HIF-1 which play roles in cellular metabolism and hypoxia response.

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

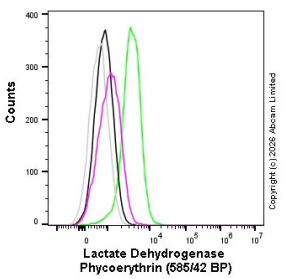
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

2 product images



Flow Cytometry (Intracellular) - PE Anti-Lactate Dehydrogenase antibody [EP1563Y] (ab210445)

Lactate Dehydrogenase Flow Cytometry (Intracellular) staining of wild-type HAP1 cell line using rabbit Anti-Lactate Dehydrogenase antibody

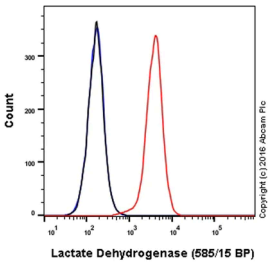
Flow cytometry overlay histogram showing wild-type HAP1 (green line) and LDHB knockout HAP1 stained with ab210445 (magenta line). The cells were fixed with 80% methanol (5 min) and then permeabilised with 0.1% PBS-Triton X-100 for 15 min. The cells were then incubated in 1x PBS

containing 10% normal goat serum to block non-specific protein-protein interaction followed by the antibody (ab210445) (1x 10^6 in 100µl at 0.008 µg/ml (1/62500)) for 30min at 22°C.

Isotype control antibody was Rabbit IgG (monoclonal) Phycoerythrin Isotype Control (ab209478) (black line) in HAP1 WT cells (black line) and HAP1-LDHB KO cells (grey line), used at the same concentration and conditions as the primary antibody.

Acquisition of >5000 events were collected using a 50 mW Yellow/Green laser (561nm) and 585/42 bandpass filter.

This data was acquired using a Beckman Coulter CytoFlexLX flow cytometer.



Flow Cytometry (Intracellular) - PE Anti-Lactate Dehydrogenase antibody [EP1563Y] (ab210445)

Lactate Dehydrogenase Flow Cytometry (Intracellular) staining using rabbit Anti-Lactate Dehydrogenase antibody

Overlay histogram showing HeLa cells stained with ab210445 (red line). The cells were fixed with 4% formaldehyde (10 min) and then permeabilized with 90% methanol at -20°C for 15 min. The cells were then incubated in 1x PBS / 10% normal goat serum to block non-specific protein-protein interactions followed by the antibody (ab210445, 1/1000 dilution) for 30 min at 22°C.
Isotype control antibody (black line) was rabbit IgG (monoclonal) Phycoerythrin (ab209478) used at the same concentration and conditions as the primary antibody. Unlabelled sample (blue line) was also used as a control.

Acquisition of >5,000 events were collected using a 50mW Yellow/Green laser (561nm) and 586/15 bandpass filter.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.