abcam

ab250728

Anti-Aldehyde dehydrogenase 10 antibody [EPR15425(B)] - BSA and Azide free

Recombinant | RabMAb | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR15425(B)
Purification technique	Affinity purification Protein A

Reactivity data

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse
Dilution info	-
Notes	-

Target data

See full target information ALDH3A2

Function	Catalyzes the oxidation of medium and long chain aliphatic aldehydes to fatty acids. Active on a variety of saturated and unsaturated aliphatic aldehydes between 6 and 24 carbons in length (PubMed:18035827, PubMed:18182499, PubMed:22633490, PubMed:25047030, PubMed:9133646, PubMed:9662422). Responsible for conversion of the sphingosine 1-phosphate (S1P) degradation product hexadecenal to hexadecenoic acid (PubMed:22633490).

Storage

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

ab250728 is the carrier-free version of ab184171.

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.

Conjugation ready

Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility

This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

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

Activity summary	Aldehyde dehydrogenase 10 (ALDH10) functions mechanically as an enzyme that catalyzes the NAD(P)+-dependent oxidation of aldehydes to carboxylic acids. It belongs to a larger family of aldehyde dehydrogenases. Frequently used alternate names include ALDH3A2 ensuring clarification across research contexts. The mass of ALDH10 can vary slightly depending on specific isoforms and protein modifications but typically his family is around 50-55 kDa. Expression of ALDH10 mainly occurs in the liver and also in tissues including kidney and lung reflecting its roles in aldehyde metabolism across different tissues.
Biological function summary	Aldehyde dehydrogenase 10 participates in the detoxification of aldehydes which are generated during metabolic processes. It plays an important role in protecting cells from oxidative stress by converting reactive aldehydes to less toxic carboxylic acids. ALDH10 does not seem to form part of a larger complex but acts independently to perform its function. Its enzymatic activity impacts cellular redox balance important for maintaining cellular health and function.
Pathways	Aldehyde dehydrogenase 10 plays a significant role in the metabolic pathway processes involving amino acid and fatty acid metabolism. It is important in metabolizing aldehydes generated through lipid peroxidation and amino acid degradation pathways contributing to maintaining metabolic homeostasis. ALDH10 connects functionally with other aldehyde dehydrogenase family members like ALDH2 and ALDH3A2 which collaborate in handling various aldehyde substrates critical to these pathways.
Associated diseases and disorders	Aldehyde dehydrogenase 10 holds relevance to conditions like Sjögren-Larsson syndrome and non-alcoholic fatty liver disease. ALDH3A2 a closely related protein links directly with Sjögren-Larsson syndrome due to its known genetic mutations causing reduced enzymatic function. The role of ALDH10 in modulating liver metabolism links it to non-alcoholic fatty liver disease as altered detoxification capability can lead to disease progression. Understanding these relationships helps in targeting therapies that might mitigate disease impacts by enhancing detoxification pathways.

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.

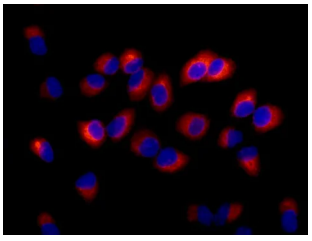
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

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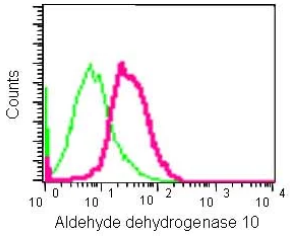
5 product images



Immunocytochemistry/ Immunofluorescence - Anti-Aldehyde dehydrogenase 10 antibody [EPR15425(B)] - BSA and Azide free (ab250728)

Aldehyde dehydrogenase 10 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Aldehyde dehydrogenase 10 antibody

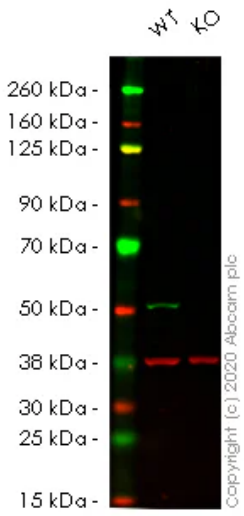
This data was developed using ab184171, the same antibody clone in a different buffer formulation.
Immunofluorescence analysis of 4% paraformaldehyde fixed A549 cells labeling Aldehyde dehydrogenase 10 using ab184171 at 1/250 dilution (red). A Goat anti rabbit IgG (Alexa Fluor555) at 1/200 dilution was used as secondary antibody. Counterstain: DAPI (blue).



Flow Cytometry (Intracellular) - Anti-Aldehyde dehydrogenase 10 antibody [EPR15425(B)] - BSA and Azide free (ab250728)

Aldehyde dehydrogenase 10 Flow Cytometry (Intracellular) staining using rabbit Anti-Aldehyde dehydrogenase 10 antibody

This data was developed using ab184171, the same antibody clone in a different buffer formulation.
Intracellular flow cytometric analysis of 2% paraformaldehyde fixed HepG2 cells labeling Aldehyde dehydrogenase 10 using ab184171 at 1/170 dilution (red). A Goat anti rabbit IgG (FITC) at 1/150 dilution was used as secondary antibody. Isotype control: Rabbit monoclonal IgG (green).



Western blot - Anti-Aldehyde dehydrogenase 10 antibody [EPR15425(B)] - BSA and Azide free (ab250728)

Aldehyde dehydrogenase 10 Western blot staining using rabbit Anti-Aldehyde dehydrogenase 10 antibody

This data was developed using the same antibody clone in a different buffer formulation (ab184171).
Lanes 1 - 2: Merged signal (red and green). Green - ab184171 observed at 50 kDa. Red - loading control ab8245 (Mouse anti-GAPDH antibody [6C5]) observed at 37 kDa.

ab184171 was shown to react with ALDH3A2 in wild-type HeLa cells in Western blot with loss of signal observed in ALDH3A2 knockout cell line ab265427 (ALDH3A2 knockout cell lysate ab257829). Wild-type and ALDH3A2 knockout HeLa cell lysates were subjected to SDS-PAGE. Membranes were blocked in 3 % milk in TBS-T (0.1 % Tween®) before incubation with ab184171 and ab8245 (Mouse anti-GAPDH antibody [6C5]) overnight at 4 °C at a 1 in 1000 dilution and a 1 in 20000 dilution respectively. Blots were incubated with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed (ab216776) secondary antibodies at 1 in 20000 dilution for 1 h at room temperature before imaging.

All lanes:
Western blot - Anti-Aldehyde dehydrogenase 10 antibody [EPR15425(B)] (ab184171) at 1/1000 dilution

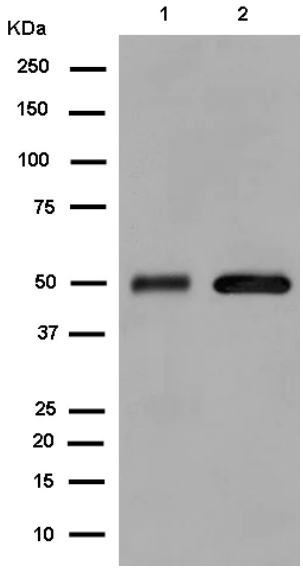
Lane 1:
Wild-type HeLa cell lysate at 20 µg

Lane 2:
Western blot - Human ALDH3A2 (Aldehyde dehydrogenase 10) knockout HeLa cell lysate (ab257829) at 20 µg

Performed under reducing conditions.

Predicted band size: 55 kDa

Observed band size: 50 kDa



Western blot - Anti-Aldehyde dehydrogenase 10 antibody [EPR15425(B)] - BSA and Azide free (ab250728)

Aldehyde dehydrogenase 10 Western blot staining using rabbit Anti-Aldehyde dehydrogenase 10 antibody

This data was developed using ab184171, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-Aldehyde dehydrogenase 10 antibody [EPR15425(B)] (ab184171) at 1/2000 dilution

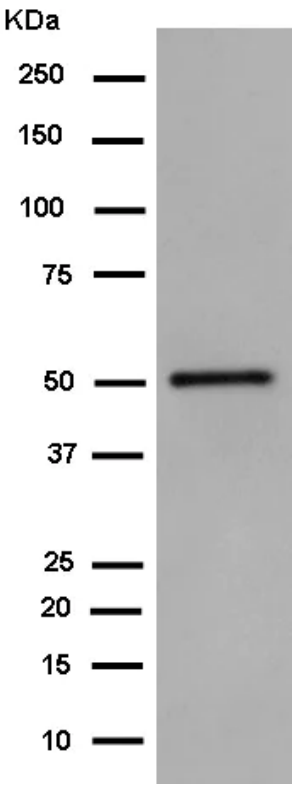
Lane 1:
A549 cell lysate at 20 µg

Lane 2:
293T cell lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Predicted band size: 55 kDa



Western blot - Anti-Aldehyde dehydrogenase 10 antibody [EPR15425(B)] - BSA and Azide free (ab250728)

This data was developed using ab184171, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-Aldehyde dehydrogenase 10 antibody [EPR15425(B)] (ab184171) at 1/10000 dilution

All lanes:
U87-MG cell lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Predicted band size: 55 kDa

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