abcam

ab223527

Anti-Aldolase B + Aldolase C antibody [EPR3138Y] - BSA and Azide free

Recombinant | RabMAb

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	EPR3138Y
Purification technique	Affinity purification Protein A
Concentration	1.039 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Mouse, Rat, Human
Dilution info	-

Notes	-

WB

Tested

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

Flow Cyt

Expected

Species	Human
Dilution info	-
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Species	Mouse
Dilution info	-
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Species	Rat
Dilution info	-
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Target data

See full target information ALDOB

Function	Catalyzes the aldol cleavage of fructose 1,6-biphosphate to form two triosephosphates dihydroxyacetone phosphate and D-glyceraldehyde 3-phosphate in glycolysis as well as the reverse stereospecific aldol addition reaction in gluconeogenesis. In fructolysis, metabolizes fructose 1-phosphate derived from the phosphorylation of dietary fructose by fructokinase into dihydroxyacetone phosphate and D-glyceraldehyde (PubMed:10970798, PubMed:12205126, PubMed:20848650). Acts as an adapter independently of its enzymatic activity, exerts a tumor suppressor role by stabilizing the ternary complex with G6PD and

TP53 to inhibit G6PD activity and keep oxidative pentose phosphate metabolism in check (PubMed:35122041).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

ab223527 is the carrier-free version of ab75751.

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	Aldolase B also known as fructose-bisphosphate aldolase B and Aldolase C or fructose-bisphosphate aldolase C are key enzymes in glycolysis and gluconeogenesis pathways. These enzymes are part of the aldolase family and share high sequence homology. Aldolase B has a molecular mass of approximately 36-40 kDa and is primarily expressed in the liver whereas Aldolase C is majorly found in the brain particularly within neurons. They function to catalyze the cleavage of fructose-16-bisphosphate into glyceraldehyde-3-phosphate and dihydroxyacetone phosphate critical steps in energy metabolism.
Biological function summary	Aldolase B and C perform major roles in cellular energy production and metabolism. Aldolase B facilitates the conversion of fructose into glycolytic intermediates aiding glycogen synthesis and gluconeogenesis in the liver. Aldolase C contributes to glucose metabolism in the brain supporting neural activities and functions. While they do not form stable complexes these enzymes occasionally interact transiently with other metabolic proteins to fulfill cellular functions.
Pathways	Aldolase B and C integrate into glycolysis and gluconeogenesis fundamental biological pathways for energy conversion. Aldolase B enables fructose utilization by linking with enzymes like fructokinase and glucose-6-phosphatase during gluconeogenesis. Aldolase C participates in the glycolytic pathway associated with enzymes such as hexokinase supporting glucose breakdown during brain metabolism. Both enzymes maintain energy homeostasis within their respective tissues contributing to overall metabolic balance.
Associated diseases and disorders	Aldolase B relates closely to hereditary fructose intolerance a genetic condition characterized by an inability to metabolize fructose properly in the liver. The deficiency or dysfunction of Aldolase B results in toxic accumulations impacting liver function. Aldolase C is associated with glioblastoma where its increased expression plays a role in tumor metabolism and growth. In the context of hereditary fructose intolerance Aldolase B is linked to fructokinase due to their sequential mechanisms in fructose metabolism while Aldolase C's association in glioblastoma connects with altered metabolic pathways within cancerous cells.

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.

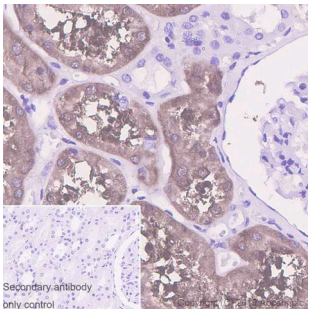
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

---

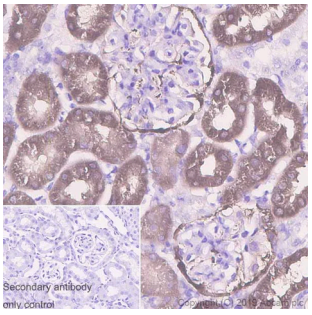
5 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Aldolase B + Aldolase C antibody [EPR3138Y] - BSA and Azide free (ab223527)

Aldolase B + Aldolase C Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Aldolase B + Aldolase C antibody

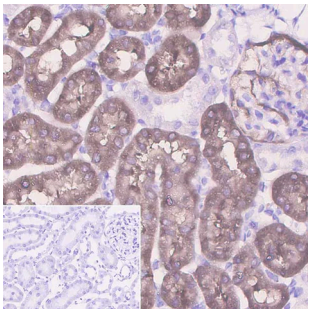
This data was developed using ab75751, the same antibody clone in a different buffer formulation. Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human kidney tissue sections labeling Aldolase B with Purified ab223527 at 1:100 dilution (1.47 µg/ml). Perform heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0). ImmunoHistoProbe one step HRP Polymer (ready to use) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Aldolase B + Aldolase C antibody [EPR3138Y] - BSA and Azide free (ab223527)

Aldolase B + Aldolase C Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Aldolase B + Aldolase C antibody

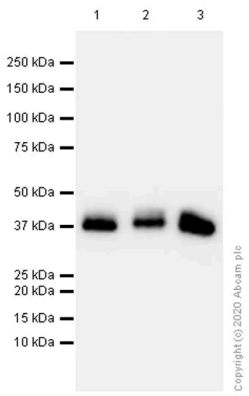
This data was developed using ab75751, the same antibody clone in a different buffer formulation. Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of mouse kidney tissue sections labeling Aldolase B with Purified ab223527 at 1:100 dilution (1.47 µg/ml). Perform heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0). ImmunoHistoProbe one step HRP Polymer (ready to use) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Aldolase B + Aldolase C antibody [EPR3138Y] - BSA and Azide free (ab223527)

This data was developed using ab75751, the same antibody clone in a different buffer formulation. Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of rat kidney tissue sections labeling Aldolase B with Purified ab223527 at 1:100 dilution (1.47 µg/ml). Perform

heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0). ImmunoHistoProbe one step HRP Polymer (ready to use) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.



Western blot - Anti-Aldolase B + Aldolase C antibody [EPR3138Y] - BSA and Azide free (ab223527)

This data was developed using ab75751, the same antibody clone in a different buffer formulation.
Blocking Buffer and concentration: 5% NFDM/TBST

All lanes:
Western blot - Anti-Aldolase B + Aldolase C antibody [EPR3138Y] (ab75751) at 1/1000 dilution

Lane 1:
Human kidney lysate at 20 µg

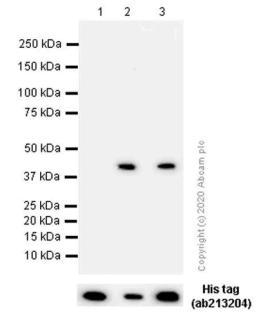
Lane 2:
Mouse kidney lysate at 20 µg

Lane 3:
Rat kidney lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG (HRP) with minimal cross-reactivity with human IgG at 1/2000 dilution

Observed band size: 39 kDa



Western blot - Anti-Aldolase B + Aldolase C antibody [EPR3138Y] - BSA and Azide free (ab223527)

This data was developed using ab75751, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-Aldolase B + Aldolase C antibody [EPR3138Y] (ab75751) at 1/200 dilution

Lane 1:
His-tagged human Aldolase A full-length recombinant protein at 0.01 µg

Lane 2:
His-tagged human Aldolase B full-length recombinant protein at 0.01 µg

Lane 3:
His-tagged human Aldolase C full-length recombinant protein at 0.01 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Observed band size: 40 kDa

Exposure time: 40s

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