abcam

ab231682

Anti-Aldolase + Aldolase B + Aldolase C antibody [EPR9724(B)] - 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	EPR9724(B)
Purification technique	Affinity purification Protein A
Concentration	1.035 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Not recommended

Species	Mouse, Rat, Human, Pig
Dilution info	-

Notes	-

IHC-P

Not recommended

Species	Mouse, Rat, Human, Pig
Dilution info	-
Notes	-

WB

Tested

Species	Mouse, Rat, Pig, Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Expected

Species	Mouse, Rat, Pig
Dilution info	Use at an assay dependent concentration.
Notes	-

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 conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab231682 is the carrier-free version of ab169544.

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 which includes the isozymes Aldolase A Aldolase B and Aldolase C serves an important role by cleaving fructose 16-bisphosphate into glyceraldehyde 3-phosphate and dihydroxyacetone phosphate during glycolysis. This enzymatic activity is critical for cellular energy production. Aldolase A with a molecular weight of approximately 39 kDa is mainly expressed in muscle and red blood cells. Aldolase B is found in the liver and kidney while Aldolase C predominates in the brain and nervous tissue. These isozymes have similar catalytic functions but tissue-specific expression and regulation differ among them.
Biological function summary	The aldolase enzymes participate in glycolytic and gluconeogenic pathways performing critical roles in sugar metabolism. They do not usually form part of larger complexes but function alongside other metabolic enzymes in a coordinated manner. Aldolase A B and C adapt to the specific energy needs of the tissues where they are expressed contributing to cellular metabolism's adaptability. This specialization allows tissues to manage their energy production relative to their specific physiological requirements.
Pathways	Enzymes like aldolase play an important role in the glycolysis and fructose metabolism pathways. These pathways are essential for energy production and metabolic balance. During glycolysis aldolase works closely with other enzymes such as hexokinase and phosphofructokinase to efficiently convert glucose into pyruvate. In fructose metabolism in the liver Aldolase B helps in processing dietary fructose into intermediates that enter glycolysis therefore connecting fructose and glucose metabolism in liver cells.
Associated diseases and disorders	Disturbances in aldolase function associate with conditions like hereditary fructose intolerance and hemolytic anemia. Hereditary fructose intolerance results from mutations in the Aldolase B gene leading to an inability to metabolize fructose properly. Hemolytic anemia can link to overactive glycolysis often connected with increased Aldolase A activity. These conditions illustrate how improper expression or regulation of aldolase enzymes can cause metabolic imbalances leading to serious health implications.

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.

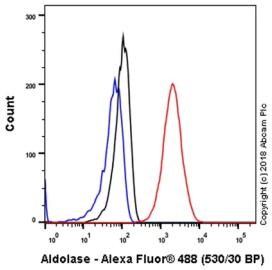
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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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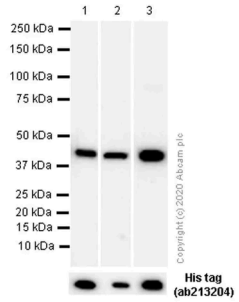
2 product images



Flow Cytometry (Intracellular) - Anti-Aldolase + Aldolase B + Aldolase C antibody [EPR9724(B)] - BSA and Azide free (ab231682)

Aldolase + Aldolase B + Aldolase C Flow Cytometry (Intracellular) staining using rabbit Anti-Aldolase + Aldolase B + Aldolase C antibody

Intracellular Flow Cytometry analysis of MCF7 (Human breast adenocarcinoma epithelial cell) cells labeling Aldolase with purified ab169544 at 1/20 dilution (10µg/ml) (red). Cells were fixed with 4% Paraformaldehyde. A Goat anti rabbit IgG (Alexa Fluor® 488) secondary antibody was used at 1/2000 dilution. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue).
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab169544).



Western blot - Anti-Aldolase + Aldolase B + Aldolase C antibody [EPR9724(B)] - BSA and Azide free (ab231682)

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab169544).
Lanes 1 - 3:
Western blot - Anti-Aldolase + Aldolase B + Aldolase C antibody [EPR9724(B)] (ab169544) at 1/1000 dilution

Lanes 1 - 3:
Western blot - HRP Anti-Aldolase + Aldolase B + Aldolase C antibody [EPR9724(B)] (ab200774) at 1/1000 dilution

Lanes 1 - 3:
Western blot - Alexa Fluor® 488 Anti-Aldolase + Aldolase B + Aldolase C antibody [EPR9724(B)] (ab200771) at 1/1000 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

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