abcam

ab169544

Anti-Aldolase + Aldolase B + Aldolase C antibody [EPR9724(B)]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR9724(B)
Purification technique	Affinity purification Protein A
Concentration	0.222 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Mouse
Dilution info	1/1000 - 1/10000
Notes	-

Species	Rat
Dilution info	1/1000 - 1/10000
Notes	-

Species	Pig
Dilution info	1/1000 - 1/10000
Notes	-

Species	Human
Dilution info	1/1000 - 1/10000
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/20
Notes	-

Expected

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

ICC/IF

Not recommended

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

IHC-P

Not recommended

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

Target data

See full target information ALDOA

Function	Catalyzes the reversible conversion of beta-D-fructose 1,6-bisphosphate (FBP) into two triose phosphate and plays a key role in glycolysis and gluconeogenesis (PubMed:14766013). In addition, may also function as scaffolding protein (By similarity).

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

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	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.

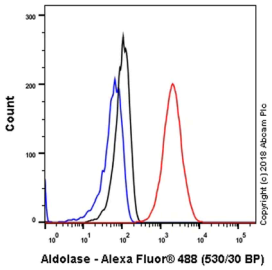
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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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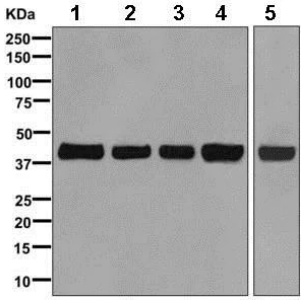
5 product images



Flow Cytometry (Intracellular) - Anti-Aldolase + Aldolase B + Aldolase C antibody [EPR9724(B)] (ab169544)

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).



Western blot - Anti-Aldolase + Aldolase B + Aldolase C antibody [EPR9724(B)] (ab169544)

All lanes:
Western blot - Anti-Aldolase + Aldolase B + Aldolase C antibody [EPR9724(B)] (ab169544) at 1/1000 dilution

Lane 1:
A549 lysate at 10 µg

Lane 2:
Fetal liver lysate at 10 µg

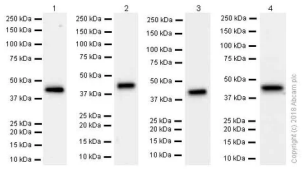
Lane 3:
HeLa lysate at 10 µg

Lane 4:
Fetal brain lysate at 10 µg

Lane 5:
Human skeletal muscle lysate at 10 µg

Secondary

All lanes:
HRP labeled goat anti-rabbit at 1/2000 dilution



Western blot - Anti-Aldolase + Aldolase B + Aldolase C antibody [EPR9724(B)] (ab169544)

Blocking and diluting buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-Aldolase + Aldolase B + Aldolase C antibody [EPR9724(B)] (ab169544) at 0.02 µg/mL

Lane 1:
HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysates at 15 µg

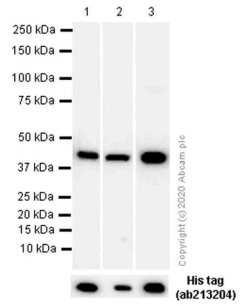
Lane 2:
Mouse brain lysates at 15 µg

Lane 3:
Rat brain lysates at 15 µg

Lane 4:
Pig heart lysates at 15 µg

Secondary

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



Western blot - Anti-Aldolase + Aldolase B + Aldolase C antibody [EPR9724(B)] (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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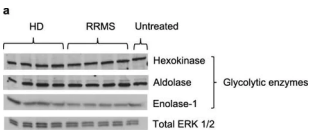


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Western blot - Anti-Aldolase + Aldolase B + Aldolase C antibody [EPR9724(B)] (ab169544)

Aldolase + Aldolase B + Aldolase C western blot using anti-Aldolase + Aldolase B + Aldolase C antibody [EPR9724(B)] ab169544. Publication image and figure legend from Sheikh, M. H., Henson, S. M., et al., 2020, J Neuroinflammation, PubMed 32386505.

ab169544 was used in this publication in western blot. This may not be the same as the application(s) guaranteed by Abcam. For a full list of applications guaranteed by Abcam for ab169544 please see the product overview.

Biochemical pathways of brain ECs treated with RRMS sera and matched HD. a Immunoblot for hexokinase, aldolase and enolase-1 on hCMEC/D3 cells treated overnight with 20% HD or RRMS naïve-to-treatment sera. Total ERK 1/2 served as a loading control. One representative out of at least three independent experiments performed on 12 donors in total/group. b Densitometry quantification for hexokinase, aldolase and enolase-1 performed on all 10 donors in total/group. c Immunoblot for DLST and DLAT, on hCMEC/D3 cells treated overnight with 20% HD or RRMS naïve-to-treatment sera. Total ERK 1/2 served as a loading control. One representative out of at least three independent experiments performed on 12 donors in total/group. d Densitometry quantification of DLST and DLAT normalized on total ERK 1/2 performed on all 10 donors. Data are expressed as mean ± s.e.m. (statistical analysis by Mann-Whitney U test (two-tails) *P ≤ 0.05)

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