abcam

ab251296

Anti-Aldolase+Aldolase C antibody [EPR19355] - 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	EPR19355
Concentration	1.043 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Mouse, Human
Dilution info	-
Notes	-

Expected

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

Not recommended

Species	Recombinant full length protein - Human
Dilution info	-
Notes	-

WB

Tested

Species	Recombinant full length protein - Human, Mouse, Rat, Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

Not recommended

Species	Recombinant full length protein - Human
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	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab251296 is the carrier-free version of ab200049.

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 including Aldolase C is an important enzyme known also as fructose-bisphosphate aldolase. It catalyzes a reversible reaction in the glycolytic pathway where it cleaves fructose 16-bisphosphate into glyceraldehyde 3-phosphate and dihydroxyacetone phosphate. The enzyme's molecular mass is approximately 39 kDa. Aldolase C expresses mainly in the brain and is one of three aldolase isozymes along with Aldolase A and B each showing tissue-specific expression.
Biological function summary	In the glycolysis and gluconeogenesis processes Aldolase C contributes to energy metabolism and the regulation of glucose homeostasis. It can function as a part of a multienzyme complex where glycolytic enzymes associate along with proteins like phosphofructokinase and pyruvate kinase. Aldolase C shares a structural similarity with other aldolase isozymes but its expression pattern reflects a more CNS-oriented role.
Pathways	Quite significant roles for Aldolase C appear in the glycolysis pathway and the gluconeogenesis pathway. The enzyme facilitates the conversion of sugars specifically glucose into energy tying it closely with energy production cycles within the cell. Aldolase C interacts with enzymes like phosphoglycerate mutase and enolase in these pathways which together work to ensure smooth energy transitions and cellular metabolic functions.
Associated diseases and disorders	Alterations in Aldolase C levels link to certain neurological diseases such as Alzheimer's disease and glioblastoma. In Alzheimer's changes in glucose metabolism may connect to Aldolase C's altered expressional patterns. In glioblastoma high expression suggests a potential role in tumor metabolism. The target's relation to neurodegenerative and cancerous conditions often associates with proteins like tau in Alzheimer's and with signaling proteins in cancer pathways indicating its importance in disease diagnosis and therapy exploration.

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.

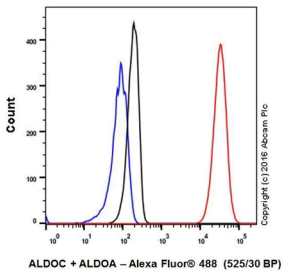
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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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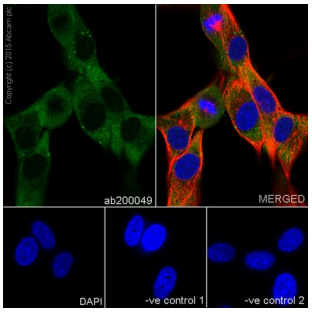
6 product images



Flow Cytometry (Intracellular) - Anti-Aldolase+Aldolase C antibody [EPR19355] - BSA and Azide free (ab251296)

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

This data was developed using ab200049, the same antibody clone in a different buffer formulation.
Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed U-87 MG (Human glioblastoma-astrocytoma epithelial cell line) cells labeling Aldolase + Aldolase C with ab200049 at 1/600 dilution (red) compared with a rabbit monoclonal IgG isotype control (ab172730; black) and an unlabelled control (cells without incubation with primary antibody and secondary antibody; blue). Goat anti rabbit IgG (Alexa Fluor® 488) at 1/500 dilution was used as the secondary antibody.



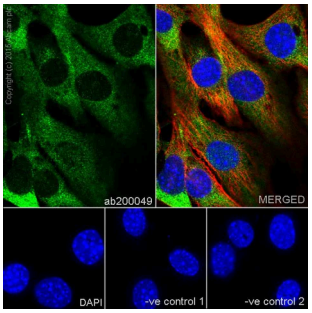
Immunocytochemistry/ Immunofluorescence - Anti-Aldolase+Aldolase C antibody [EPR19355] - BSA and Azide free (ab251296)

Aldolase+Aldolase C Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Aldolase+Aldolase C antibody

This data was developed using ab200049, the same antibody clone in a different buffer formulation.
Immunofluorescent analysis of 100% methanol-fixed U-87 MG (Human glioblastoma-astrocytoma epithelial cell line) cells labeling Aldolase C + Aldolase with ab200049 at 1/500 dilution, followed by Goat Anti-Rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing cytoplasmic staining on U-87 MG cell line. The nuclear counter stain is DAPI (blue). Tubulin is detected with Anti-alpha Tubulin mouse MAb (ab7291) at 1/1000

dilution, followed by Goat Anti-Mouse IgG H&L (Alexa Fluor® 594) (ab150120) secondary antibody at 1/1000 dilution (red).

The negative controls are as follows:
-ve control 1: ab200049 at 1/500 dilution followed by Goat Anti-Mouse IgG H&L (Alexa Fluor® 594) (ab150120) secondary antibody at 1/1000 dilution.
-ve control 2: Anti-alpha Tubulin mouse MAb (ab7291) at 1/1000 dilution, followed by Goat Anti-Rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution.



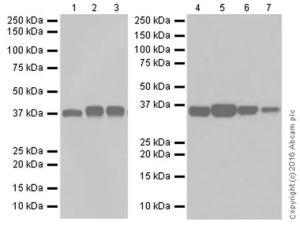
Immunocytochemistry/ Immunofluorescence - Anti-Aldolase+Aldolase C antibody [EPR19355] - BSA and Azide free (ab251296)

Aldolase+Aldolase C Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Aldolase+Aldolase C antibody

This data was developed using ab200049, the same antibody clone in a different buffer formulation.
Immunofluorescent analysis of 100% methanol-fixed NIH/3T3 (Mouse embryonic fibroblast cell line) cells labeling Aldolase C + Aldolase with ab200049 at 1/500 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing cytoplasmic staining on NIH/3T3 cell line. The nuclear counter stain is DAPI (blue).

Tubulin is detected with Anti-alpha Tubulin mouse MAb (ab7291) at 1/1000 dilution, followed by Goat Anti-Mouse IgG H&L (Alexa Fluor® 594) (ab150120) secondary antibody at 1/1000 dilution (red).

The negative controls are as follows:
-ve control 1: ab200049 at 1/500 dilution, followed by Goat Anti-Mouse IgG H&L (Alexa Fluor® 594) (ab150120) secondary antibody at 1/1000 dilution.
-ve control 2: Anti-alpha Tubulin mouse MAb (ab7291) at 1/1000 dilution followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution.



Western blot - Anti-Aldolase+Aldolase C antibody [EPR19355] - BSA and Azide free (ab251296)

Aldolase+Aldolase C Western blot staining using rabbit Anti-Aldolase+Aldolase C antibody

This data was developed using ab200049, the same antibody clone in a different buffer formulation.
Blocking and dilution buffer: 5% NFDM/TBST.

Exposure times: Lanes 1-3: 8 seconds; Lanes 4-7: 10 seconds.

The expression profile observed is consistent with what has been described in the literature (PMID: 24475166 and 17659271).

Lanes 1 - 3:
Western blot - Anti-Aldolase + Aldolase C antibody [EPR19355] - Astrocyte Marker (ab200049) at 1/5000 dilution

Lanes 4 - 7:
Western blot - Anti-Aldolase + Aldolase C antibody [EPR19355] - Astrocyte Marker (ab200049) at 1/2000 dilution

Lane 1:

HeLa (Human epithelial cell line from cervix adenocarcinoma) whole cell lysate at 10 µg

Lane 2:
U 87 MG (Human glioblastoma-astrocytoma epithelial cell line) whole cell lysate at 10 µg

Lane 3:
Human cerebellum lysate at 10 µg

Lane 4:
Human fetal liver lysate at 10 µg

Lane 5:
Human fetal heart lysate at 10 µg

Lane 6:
Human fetal kidney lysate at 10 µg

Lane 7:
human fetal spleenlysate at 10 µg

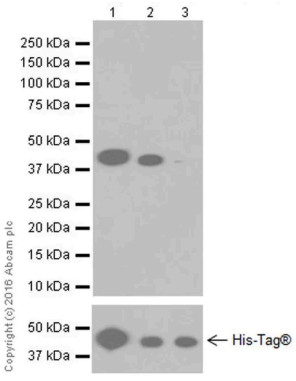
Secondary

Lanes 1 - 3:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Lanes 4 - 7:
Goat Anti-Rabbit IgG Peroxidase Conjugate, specific to the non-reduced form of IgG at 1/10000 dilution

Predicted band size: 39 kDa

Observed band size: 39 kDa



Western blot - Anti-Aldolase+Aldolase C antibody [EPR19355] - BSA and Azide free (ab251296)

Aldolase+Aldolase C Western blot staining using rabbit Anti-Aldolase+Aldolase C antibody

This data was developed using ab200049, the same antibody clone in a different buffer formulation.
Blocking and dilution buffer: 5% NFDM/TBST.

Human ALDOC full length recombinant protein contains aa2-364 with a His-Tag®. Human ALDOA and ALDOB full length recombinant protein contains aa1-364 with a His-Tag®. These three recombinant proteins were made in-house.

This product showed very weak reactivity to Aldolase B, relative to Aldolase and Aldolase C, as demonstrated by WB of recombinant proteins.

All lanes:
Western blot - Anti-Aldolase + Aldolase C antibody [EPR19355] - Astrocyte Marker (ab200049) at 1/1000 dilution

Lane 1:
Human Aldolase C full length recombinant protein at 0.01 µg

Lane 2:
Human Aldolase full length recombinant protein at 0.01 µg

Lane 3:
Human Aldolase B full length recombinant protein at 0.01 µg

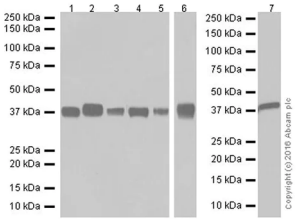
Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 39 kDa

Observed band size: 39 kDa

Exposure time: 3min



Western blot - Anti-Aldolase+Aldolase C antibody [EPR19355] - BSA and Azide free (ab251296)

Aldolase+Aldolase C Western blot staining using rabbit Anti-Aldolase+Aldolase C antibody

This data was developed using ab200049, the same antibody clone in a different buffer formulation.
Blocking and dilution buffer: 5% NFDM/TBST.

Exposure times: Lanes 1-5: 8 seconds; Lanes 6-7: 3 seconds.

Lanes 1 - 6:
Western blot - Anti-Aldolase + Aldolase C antibody [EPR19355] - Astrocyte Marker (ab200049) at 1/5000 dilution

Lane 7:
Western blot - Anti-Aldolase + Aldolase C antibody [EPR19355] - Astrocyte Marker (ab200049) at 1/2000 dilution

Lane 1:
C6 (Rat glial tumor cell line) whole cell lysate at 10 µg

Lane 2:
Rat brain tissue lysate at 10 µg

Lane 3:
Rat kidney tissue lysate at 10 µg

Lane 4:
Mouse heart tissue lysate at 10 µg

Lane 5:
RAW 264.7 (Mouse macrophage cell line transformed with Abelson murine leukemia virus) whole cell lysate at 10 µg

Lane 6:
Mouse brain tissue lysate at 10 µg

Lane 7:
NIH/3T3 (Mouse embryonic fibroblast cell line) whole cell lysate at 10 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 39 kDa

Observed band size: 39 kDa

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