abcam

ab200049

Anti-Aldolase + Aldolase C antibody [EPR19355] - Astrocyte Marker

Lab Essentials | Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 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	EPR19355
Purification technique	Affinity purification Protein A
Concentration	0.65 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Recombinant full length protein - Human
Dilution info	1/2000
Notes	-

Species	Mouse
Dilution info	1/2000
Notes	-

Species	Rat
Dilution info	1/2000
Notes	-

Species	Human
Dilution info	1/2000
Notes	-

ICC/IF

Tested

Species	Mouse
Dilution info	1/500
Notes	-

Species	Human
Dilution info	1/500
Notes	-

Expected

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

Not recommended

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/600
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	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 C also known as fructose-bisphosphate aldolase C is a glycolytic enzyme involved in the conversion of fructose-16-bisphosphate into glyceraldehyde 3-phosphate and dihydroxyacetone phosphate. This enzyme belongs to the class I aldolase family and shares high sequence similarity with aldolase A and aldolase B. The molecular weight of aldolase C is approximately 39 kDa. It is mainly found in the brain particularly in the cerebellum where it plays important roles in metabolic processes.
Biological function summary	Aldolase C functions in the glycolytic pathway an important metabolic pathway for producing energy. While it does not form part of a larger protein complex aldolase C interacts with other proteins involved in metabolic flux regulation. It contributes to maintaining glucose homeostasis in neural tissues by ensuring efficient glucose metabolism. In comparison the related aldolase A enzyme is expressed in muscle and has distinct functions related to muscle energy metabolism.
Pathways	Aldolase C plays a significant role in the glycolytic and gluconeogenesis pathways. In glycolysis it catalyzes a critical step that ensures continuous energy supply to brain tissues. Gluconeogenesis serves to create glucose from non-carbohydrate sources. Aldolase C's relationship with other glycolytic enzymes like hexokinase and pyruvate kinase enhances the coordination of energy metabolism pathways predominantly within neurons.

Associated diseases and disorders	Aldolase C alterations have links to neurodegenerative diseases such as Alzheimer's disease and cerebellar ataxia. In Alzheimer’s disease aberrant metabolic processes in the brain may involve dysregulation of aldolase C's function altering energy metabolism. Scientists have observed altered aldolase C expression in cerebellar ataxia a disorder characterized by the degeneration of cerebellar cells. Changes in aldolase C activity might also interact with other neurodegeneration-related proteins like tau contributing further to disease pathology.

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

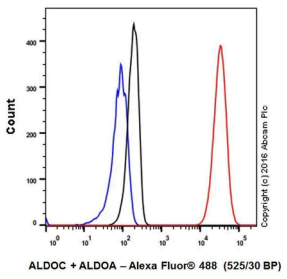
We do not recommend this combination. It is not covered by our product promise.

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.

6 product images

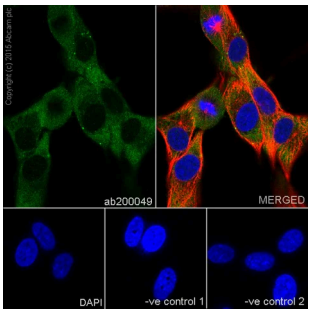


Flow Cytometry (Intracellular) - Anti-Aldolase + Aldolase C antibody [EPR19355] - Astrocyte Marker (ab200049)

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

Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed U-87 MG (Human glioblastoma-astrocytoma epithelial cell line) cells labeling Aldolase + Aldolase Cwith 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;

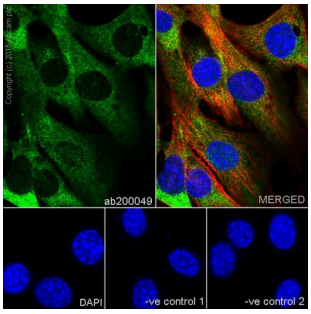
blue). Goat anti rabbit IgG (Alexa Fluorr® 488) at 1/500 dilution was used as the secondary antibody.



Immunocytochemistry/ Immunofluorescence - Anti-Aldolase + Aldolase C antibody [EPR19355] - Astrocyte Marker (ab200049)

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

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.

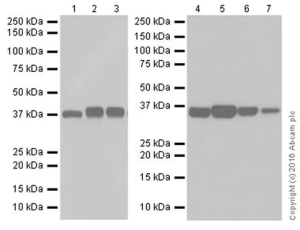


Immunocytochemistry/ Immunofluorescence - Anti-Aldolase + Aldolase C antibody [EPR19355] - Astrocyte Marker (ab200049)

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

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] - Astrocyte Marker (ab200049)

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

Blocking/Dilution buffer: 5% NFDM/TBST.
Exposure time: Lane 1-3: 8 seconds; Lane 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

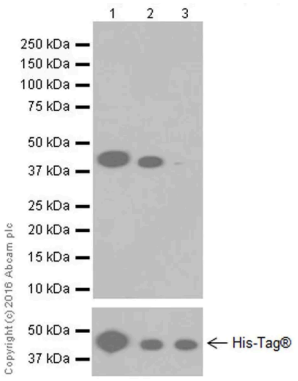
Secondary

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] - Astrocyte Marker (ab200049)

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

Blocking/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

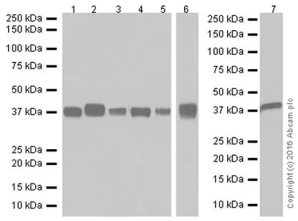
Secondary

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] - Astrocyte Marker (ab200049)

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

Blocking/Dilution buffer: 5% NFDM/TBST.
Exposure time: Lane 1-5: 8 seconds; Lane 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'.