abcam

ab129728

Anti-Aldolase B antibody [5E2AD2]

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	pH: 7.5 Preservative: 0.02% Sodium azide Constituents: 99% HEPES buffered saline
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	5E2AD2
Light chain type	kappa
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purity is near homogeneity as judged by SDS-PAGE. ab129728 was produced in vitro using hybridomas grown in serum-free medium, and then purified by biochemical fractionation.

Reactivity data

IP

Tested

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	5 µg/mL
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Expected

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

WB

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	5 µg/mL
Notes	-

Expected

Species	Mouse, Rat
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

Want a custom formulation?
This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact orders@abcam.com

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Aldolase B also known as fructose-bisphosphate aldolase B is an enzyme critical in fructose metabolism. It facilitates the cleavage of fructose-16-bisphosphate into dihydroxyacetone phosphate and glyceraldehyde 3-phosphate both vital intermediates in glycolysis and gluconeogenesis. Aldolase B has a molecular mass of approximately 39 kDa. It is expressed mainly in the liver with lower levels found in the kidneys and intestines.
Biological function summary	This enzyme plays an important role in the breakdown of dietary sugars. The primary biological role of aldolase B is its function in the liver-specific pathway of fructose catabolism. It does not function as part of a large multiprotein complex

	but operates as a homotetramer. Aldolase B's activity helps to regulate blood sugar levels and manage energy sources especially when glucose is not readily available.
Pathways	Aldolase B is involved in the gluconeogenesis and glycolysis pathways. In gluconeogenesis it helps in the formation of glucose from non-carbohydrate sources which is important during fasting states. In glycolysis it aids in the breakdown of glucose to produce energy. This enzyme therefore interacts with other glycolytic enzymes such as phosphofructokinase and pyruvate kinase which are part of the same metabolic pathways.
Associated diseases and disorders	Defects in aldolase B activity can lead to hereditary fructose intolerance a potentially serious condition caused by the inability to properly metabolize fructose. This disorder often results in symptoms such as hypoglycemia and jaundice following fructose ingestion. The disorder can also relate to liver and kidney dysfunctions as these organs express aldolase B most prominently. Deficient aldolase B function disrupts the metabolic pathways where the enzyme interacts with other important proteins and enzymes involved in energy balance.

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

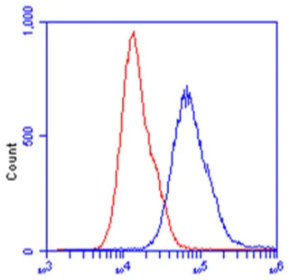
We do not recommend this combination. It is not covered by our product promise.

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.

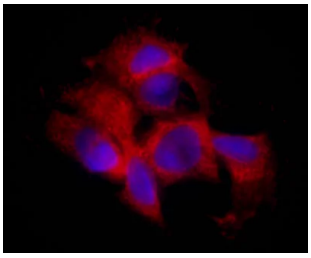
4 product images



Flow Cytometry - Anti-Aldolase B antibody [5E2AD2] (ab129728)

Aldolase B Flow Cytometry staining using mouse Anti-Aldolase B antibody

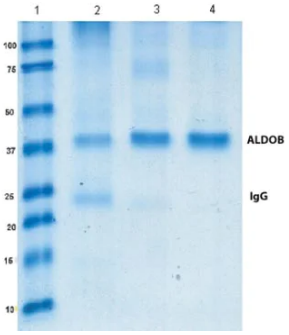
Flow cytometry using ab129728. Hela cells were stained with 5 µg/mL ab129728 antibody (blue) or no primary antibody control (red) and analyzed by flow cytometry.



Immunocytochemistry/ Immunofluorescence - Anti-Aldolase B antibody [5E2AD2] (ab129728)

Aldolase B Immunocytochemistry/ Immunofluorescence staining using mouse Anti-Aldolase B antibody

Immunocytochemistry image of ab129728 stained HepG2 cells. The cells were paraformaldehyde fixed (4%, 20 min) and Triton X-100 permeabilized (0.1%, 15 min). The cells were incubated with ab129728 at 5 µg/ml for 2h at room temperature or over night at 4°C. The secondary antibody was (red) AlexaFluor® 594 goat anti-mouse IgG (H+L) used at 1/1000 dilution for 1h. 1% BSA was used as the blocking agent for all blocking steps. DAPI was used to stain the cell nuclei (blue). **Antigen retrieval step is recommended for a better signal. The target protein locates to the cytoplasm.**

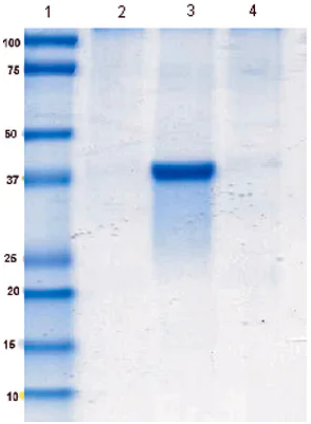


Immunoprecipitation - Anti-Aldolase B antibody [5E2AD2] (ab129728)

Immunoprecipitation image of ab129728. ALDOB antibody immunocaptured 39.4 kDa ALDOB from human liver homogenate (HLH), Rat liver homogenate (RLH) and Mouse liver homogenate (MLH). Gel stained with Coomassie brilliant blue G.

Lane 1: Ladder
Lane 2: Human liver homogenate lysate
Lane 3: Rat liver homogenate lysate
Lane 4: Mouse liver homogenate lysate
All lanes:
Immunoprecipitation - Anti-Aldolase B antibody [5E2AD2] (ab129728)

Predicted band size: 39 kDa



Immunoprecipitation - Anti-Aldolase B antibody [5E2AD2] (ab129728)

Immunoprecipitation image of ab129728. In vertebrates, three forms of this ubiquitous glycolytic enzyme are found, aldolase A in muscle, aldolase B in liver and aldolase C in brain. Antibody ab129728 immunocaptured 39.4 kDa ALDOB only from rat liver homogenate (RLH), not from rat brain homogenate (RBH) nor rat skeletal muscle homogenate (RSMH). Gel stained with Coomassie brilliant blue G. Lane1: ladder Lane2: rat brain homogenate lysate Lane3: rat liver homogenate lysate Lane4: rat skeletal muscle homogenate lysate
All lanes:
Immunoprecipitation - Anti-Aldolase B antibody [5E2AD2] (ab129728)

Predicted band size: 39 kDa

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