

Aldolase B (C-11): sc-393278

BACKGROUND

Fructose 1,6-bisphosphate aldolase catalyses the reversible condensation of glyceraldehyde-3-phosphate and dihydroxyacetone phosphate into fructose 1,6-bisphosphate. Fructose 1,6-bisphosphate aldolase exists as three forms, the muscle-specific Aldolase A, the liver-specific Aldolase B, and the brain-specific Aldolase C. Aldolase A, B, and C arose from a common ancestral gene, from which Aldolase B first diverged. Aldolase A is one of the most highly conserved enzymes known, with only about 2% of the residues changing per 100 million years. Aldolase B is regulated by the hormones Insulin and glucagon and has been implicated in hereditary fructose intolerance disease. Aldolase C is a polypeptide that is exclusively expressed in Purkinje cells. Aldolase C-positive Purkinje cells are organized in the cerebellum as stripes or bands that run from anterior to posterior across the cerebellum and alternate with bands of Aldolase C-negative Purkinje cells.

REFERENCES

1. Izzo, P., et al. 1988. Human Aldolase A gene. Structural organization and tissue-specific expression by multiple promoters and alternate mRNA processing. *Eur. J. Biochem.* 174: 569-578.
2. Freemont, P.S., et al. 1988. The complete amino acid sequence of human skeletal-muscle fructose-bisphosphate Aldolase. *Biochem. J.* 249: 779-788.
3. Caffé, A.R., et al. 1994. Distribution of Purkinje cell-specific Zebrin-III/Aldolase C immunoreactivity in the mouse, rat, rabbit, and human retina. *J. Comp. Neurol.* 348: 291-297.

CHROMOSOMAL LOCATION

Genetic locus: ALDOB (human) mapping to 9q31.1; Aldob (mouse) mapping to 4 B1.

SOURCE

Aldolase B (C-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 131-167 within an internal region of Aldolase B of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Aldolase B (C-11) is available conjugated to agarose (sc-393278 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393278 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393278 PE), fluorescein (sc-393278 FITC), Alexa Fluor® 488 (sc-393278 AF488), Alexa Fluor® 546 (sc-393278 AF546), Alexa Fluor® 594 (sc-393278 AF594) or Alexa Fluor® 647 (sc-393278 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393278 AF680) or Alexa Fluor® 790 (sc-393278 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-393278 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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APPLICATIONS

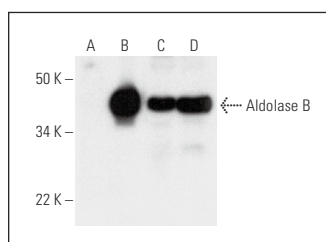
Aldolase B (C-11) is recommended for detection of Aldolase B of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Aldolase B siRNA (h): sc-29666, Aldolase B siRNA (m): sc-29667, Aldolase B shRNA Plasmid (h): sc-29666-SH, Aldolase B shRNA Plasmid (m): sc-29667-SH, Aldolase B shRNA (h) Lentiviral Particles: sc-29666-V and Aldolase B shRNA (m) Lentiviral Particles: sc-29667-V.

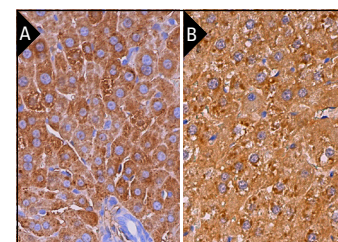
Molecular Weight of Aldolase B: 40 kDa.

Positive Controls: Aldolase B (m13): 293T Lysate: sc-124950, mouse liver extract: sc-2256 or human liver extract: sc-363766.

DATA



Aldolase B (C-11): sc-393278. Western blot analysis of Aldolase B expression in non-transfected: sc-117752 (A) and mouse Aldolase B transfected: sc-124950 (B) 293T whole cell lysates and mouse liver (C) and human liver (D) tissue extracts.



Aldolase B (C-11): sc-393278. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse liver (A) and rat liver (B) tissue showing cytoplasmic staining of hepatocytes.

SELECT PRODUCT CITATIONS

1. Cho, J.H., et al. 2018. Hepatic glucose-6-phosphatase- α deficiency leads to metabolic reprogramming in glycogen storage disease type Ia. *Biochem. Biophys. Res. Commun.* 498: 925-931.
2. Kim, J., et al. 2020. Ketohehexokinase-A acts as a nuclear protein kinase that mediates fructose-induced metastasis in breast cancer. *Nat. Commun.* 11: 5436.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.