

Aldolase C (E-5): sc-374141

BACKGROUND

Fructose 1,6-bisphosphate aldolase catalyses the reversible condensation of glycerone-P and glyceraldehyde 3-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

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- Freemont, P.S., et al. 1988. The complete amino acid sequence of human skeletal-muscle fructose-bisphosphate aldolase. *Biochem. J.* 249: 779-788.
- Caffe, A.R., et al. 1994. Distribution of Purkinje cell-specific Zebrin-II/aldolase C immunoreactivity in the mouse, rat, rabbit, and human retina. *J. Comp. Neurol.* 348: 291-297.
- Lannoo, M.J. and Hawkes, R. 1997. A search for primitive Purkinje cells: zebrin II expression in sea lampreys (*Petromyzon marinus*). *Neurosci. Lett.* 237: 53-55.
- Walther, E.U., et al. 1998. Genomic sequences of aldolase C (Zebrin II) direct lacZ expression exclusively in non-neuronal cells of transgenic mice. *Proc. Natl. Acad. Sci. USA* 95: 2615-2620.
- Dehnes, Y., et al. 1998. The glutamate transporter EAAT4 in rat cerebellar Purkinje cells: a glutamate-gated chloride channel concentrated near the synapse in parts of the dendritic membrane facing astroglia. *J. Neurosci.* 18: 3606-3619.
- Eisenman, L.M., et al. 1998. Regionalization defects in the weaver mouse cerebellum. *J. Comp. Neurol.* 394: 431-444.

CHROMOSOMAL LOCATION

Genetic locus: ALDOC (human) mapping to 17q11.2; Aldoc (mouse) mapping to 11 B5.

SOURCE

Aldolase C (E-5) is a mouse monoclonal antibody raised against amino acids 310-364 mapping at the C-terminus of Aldolase C of human origin.

PRODUCT

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

APPLICATIONS

Aldolase C (E-5) is recommended for detection of Aldolase C 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Aldolase C siRNA (h): sc-29668, Aldolase C siRNA (m2): sc-270351, Aldolase C shRNA Plasmid (h): sc-29668-SH, Aldolase C shRNA Plasmid (m2): sc-270351-SH, Aldolase C shRNA (h) Lentiviral Particles: sc-29668-V and Aldolase C shRNA (m2) Lentiviral Particles: sc-270351-V.

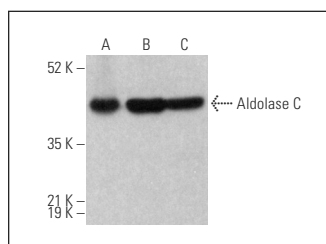
Molecular Weight of Aldolase C: 40 kDa.

Positive Controls: Aldolase C (h): 293T Lysate: sc-112417, rat cerebellum extract: sc-2398 or mouse brain extract: sc-2253.

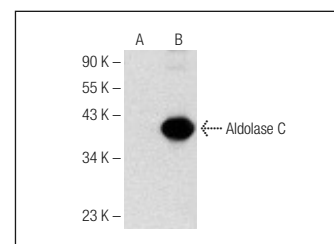
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Aldolase C (E-5): sc-374141. Western blot analysis of Aldolase C expression in rat cerebellum (A), mouse cerebellum (B) and mouse brain (C) tissue extracts.



Aldolase C (E-5): sc-374141. Western blot analysis of Aldolase C expression in non-transfected: sc-117752 (A) and human Aldolase C transfected: sc-112417 (B) 293T whole cell lysates.

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.