

Aldolase C (D-14): sc-12066

BACKGROUND

Fructose 1,6-bisphosphate aldolase catalyses the reversible condensation of glyceralone-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

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-II/ Aldolase C immunoreactivity in the mouse, rat, rabbit, and human retina. *J. Comp. Neurol.* 348: 291-297.
4. Lannoo, M.J., et al. 1997. A search for primitive Purkinje cells: zebrin II expression in sea lampreys (*Petromyzon marinus*). *Neurosci. Lett.* 237: 53-55.
5. 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.

CHROMOSOMAL LOCATION

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

SOURCE

Aldolase C (D-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Aldolase C of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-12066 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

Aldolase C (D-14) is recommended for detection of aldolase C of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

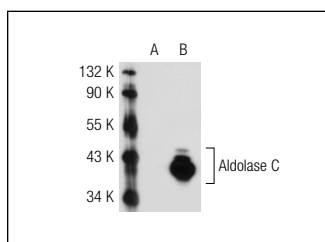
Aldolase C (D-14) is also recommended for detection of aldolase C in additional species, including equine, canine, bovine and porcine.

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.

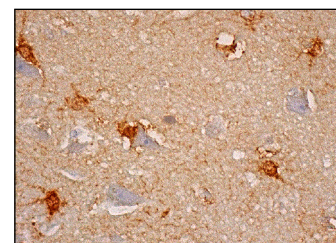
Molecular Weight of Aldolase C: 40 kDa.

Positive Controls: Aldolase C (h): 293T Lysate: sc-112417, RAW 264.7 whole cell lysate: sc-2211 or mouse cerebellum extract: sc-2403.

DATA



Aldolase C (D-14): sc-12066. 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.



Aldolase C (D-14): sc-12066. Immunoperoxidase staining of formalin fixed, paraffin-embedded human hippocampus tissue showing cytoplasmic staining of glial cells.

SELECT PRODUCT CITATIONS

1. Ginzburg, L., et al. 2005. Defective calcium homeostasis in the cerebellum in a mouse model of Niemann-Pick A disease. *J. Neurochem.* 95: 1619-1628.
2. Klein-Scory, S., et al. 2010. Immunoscreening of the extracellular proteome of colorectal cancer cells. *BMC Cancer* 10: 70.

RESEARCH USE

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

MONOS
Satisfaction
Guaranteed

Try **Aldolase C (H-11): sc-271593** or **Aldolase C (E-5): sc-374141**, our highly recommended monoclonal alternatives to Aldolase C (D-14).