



Aldolase A (h): 293T Lysate: sc-159689

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., Costanzo, P., Lupo, A., Rippa, E., Paoletta, G. and Salvatore, F. 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., Dunbar, B. and Fothergill-Gilmore, L.A. 1988. The complete amino acid sequence of human skeletal muscle fructose-bisphosphate aldolase. *Biochem. J.* 249: 779-788.
3. Caffé, A.R., Von Schantz, M., Szél, A., Voogd, J. and Van Veen, T. 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. Hawkes, R. and Herrup, K. 1995. Aldolase C/zebrin II and the regionalization of the cerebellum. *J. Mol. Neurosci.* 6: 147-158.
5. 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.
6. Walther, E.U., Dichgans, M., Maricich, S.M., Romito, R.R., Yang, F., Dziennis, S., Jackson, S., Hawkes, R. and Herrup, K. 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.
7. Dehnes, Y., Chaudhry, F.A., Ullensvang, K., Lehre, K.P., Storm-Mathisen, J. and Danbolt, N.C. 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.
8. Eisenman, L.M., Gallagher, E. and Hawkes, R. 1998. Regionalization defects in the weaver mouse cerebellum. *J. Comp. Neurol.* 394: 431-444.
9. Takano, Y., Iuchi, Y., Ito, J., Otsu, K., Kuzumaki, T. and Ishikawa, K. 2000. Characterization of the responsive elements to hormones in the rat Aldolase B gene. *Arch. Biochem. Biophys.* 377: 58-64.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

CHROMOSOMAL LOCATION

Genetic locus: ALDOA (human) mapping to 16p11.2.

PRODUCT

Aldolase A (h): 293T Lysate represents a lysate of human Aldolase A transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

Aldolase A (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive Aldolase A antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

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.