SANTA CRUZ BIOTECHNOLOGY, INC.

Aldolase A (A-2): sc-377058

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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

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.

CHROMOSOMAL LOCATION

Genetic locus: ALDOA (human) mapping to 16p11.2; Aldoa (mouse) mapping to 7 F3.

SOURCE

Aldolase A (A-2) is a mouse monoclonal antibody raised against amino acids 320-364 mapping at the C-terminus of Aldolase A of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Aldolase A (A-2) is recommended for detection of Aldolase A 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 A siRNA (h): sc-29664, Aldolase A siRNA (m): sc-29665, Aldolase A shRNA Plasmid (h): sc-29664-SH, Aldolase A shRNA Plasmid (m): sc-29665-SH, Aldolase A shRNA (h) Lentiviral Particles: sc-29664-V and Aldolase A shRNA (m) Lentiviral Particles: sc-29665-V.

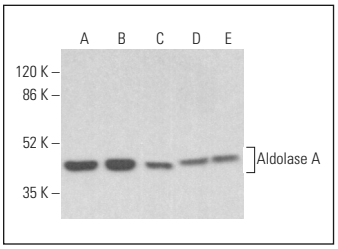
Molecular Weight of Aldolase A: 40 kDa.

Positive Controls: Sol8 cell lysate: sc-2249, EOC 20 whole cell lysate: sc-364187 or KNRK whole cell lysate: sc-2214.

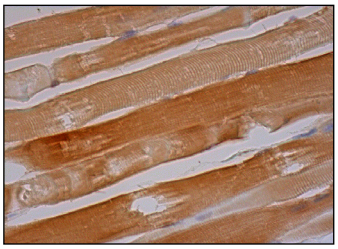
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



Aldolase A (A-2): sc-377058. Western blot analysis of Aldolase A expression in Sol8 (**A**), EOC 20 (**B**), HeLa (**C**), Hep G2 (**D**) and KNRK (**E**) whole cell lysates.



Aldolase A (A-2): sc-377058. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skeletal muscle tissue showing cytoplasmic staining of myocytes.

SELECT PRODUCT CITATIONS

1. Yang, H.Y., et al. 2019. Tankyrase promotes aerobic glycolysis and proliferation of ovarian cancer through activation of Wnt/β-catenin signaling. Biomed Res. Int. 2019: 2686340.
2. Han, J.W., et al. 2020. Isoproterenol-induced hypertrophy of neonatal cardiac myocytes and H9c2 cell is dependent on TRPC3-regulated $Ca_V1.2$ expression. Cell Calcium 92: 102305.
3. Daks, A., et al. 2021. p53-independent effects of Set7/9 lysine methyltransferase on metabolism of non-small cell lung cancer cells. Front. Oncol. 11: 706668.
4. Huang, P., et al. 2022. Correlations of ALD, Keap-1, and FoxO4 expression with traditional tumor markers and clinicopathological characteristics in colorectal carcinoma. Medicine 101: e30222.
5. Sheinboim, D., et al. 2022. An exercise-induced metabolic shield in distant organs blocks cancer progression and metastatic dissemination. Cancer Res. E-published.

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.