SANTA CRUZ BIOTECHNOLOGY, INC.

Aldolase A (A-2): sc-377058



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.

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 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, **D0 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.

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 mycortes.

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 $Ca_V 1.2$ expression. Cell Calcium 92: 102305.
- 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.
- 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.
- Sheinboim, D., et al. 2022. An exercise-induced metabolic shield in distant organs blocks cancer progression and metastatic dissemination. Cancer Res. 82: 4164-4178.
- Chen, L., et al. 2023. Initial clinical and experimental analyses of ALDOA in gastric cancer, as a novel prognostic biomarker and potential therapeutic target. Clin. Exp. Med. 23: 2443-2456.

PROTOCOLS

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