SANTA CRUZ BIOTECHNOLOGY, INC.

ALDH1B1 (M-45): sc-135332

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Aldehyde dehydrogenases (ALDHs) mediate $NADP^+$-dependent oxidation of aldehydes into acids during detoxification of alcohol-derived acetaldehyde, lipid peroxidation and metabolism of corticosteroids, biogenic amines and neurotransmitters. Alcohol drinking habits and cardiovascular disease risk factors may be associated with ALDH gene variants. ALDH1B1 (Aldehyde dehydrogenase family 1 member B1), also known as ALDH5 or ALDHX (Aldehyde dehydrogenase X, mitochondrial), is a 517 amino acid mitochondrial protein that is expressed in the liver, testis and to a lesser extent in brain. ALDH1B1 belongs to the aldehyde dehydrogenase family and may play a major role in ethanol detoxification.

REFERENCES

1. Sherman, D., et al. 1993. Diverse polymorphism within a short coding region of the human aldehyde dehydrogenase-5 (ALDH5) gene. Hum. Genet. 92: 477-480.
2. Stewart, M.J., et al. 1995. The novel aldehyde dehydrogenase gene, ALDH5, encodes an active aldehyde dehydrogenase enzyme. Biochem. Biophys. Res. Commun. 211: 144-151.
3. Vasiliou, V., et al. 1999. Eukaryotic aldehyde dehydrogenase (ALDH) genes: human polymorphisms, and recommended nomenclature based on divergent evolution and chromosomal mapping. Pharmacogenetics 9: 421-434.
4. Vasiliou, V. and Pappa, A. 2000. Polymorphisms of human aldehyde dehydrogenases. Consequences for drug metabolism and disease. Pharmacology 61: 192-198.
5. Horwitz, J., et al. 2006. Scallop lens ω-crystallin (ALDH1A9): a novel tetrameric aldehyde dehydrogenase. Biochem. Biophys. Res. Commun. 348: 1302-1309.
6. Yokoyama, A., Tet al. 2007. Contribution of the alcohol dehydrogenase-1B genotype and oral microorganisms to high salivary acetaldehyde concentrations in Japanese alcoholic men. Int. J. Cancer 121: 1047-1054.
7. Luo, P., et al. 2007. Intrinsic retinoic acid receptor α-cyclin-dependent kinase-activating kinase signaling involves coordination of the restricted proliferation and granulocytic differentiation of human hematopoietic stem cells. Stem Cells 25: 2628-2637.

CHROMOSOMAL LOCATION

Genetic locus: Aldh1b1 (mouse) mapping to 4 B1.

SOURCE

ALDH1B1 (M-45) is a rabbit polyclonal antibody raised against amino acids 1-45 mapping at the N-terminus of ALDH1B1 of mouse origin.

PRODUCT

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

RESEARCH USE

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

APPLICATIONS

ALDH1B1 (M-45) is recommended for detection of ALDH1B1 of mouse and rat 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for ALDH1B1 siRNA (m): sc-140999, ALDH1B1 shRNA Plasmid (m): sc-140999-SH and ALDH1B1 shRNA (m) Lentiviral Particles: sc-140999-V.

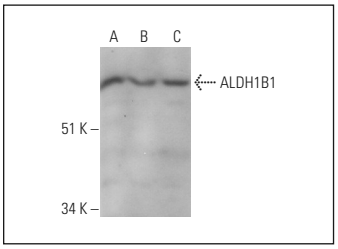
Molecular Weight of ALDH1B1: 57 kDa.

Positive Controls: c4 whole cell lysate: sc-364186, NIH/3T3 whole cell lysate: sc-2210 or EOC 20 whole cell lysate: sc-364187.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



ALDH1B1 (M-45): sc-135332. Western blot analysis of ALDH1B1 expression in c4 (**A**), NIH/3T3 (**B**) and EOC 20 (**C**) 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.