SANTA CRUZ BIOTECHNOLOGY, INC.

ALDH1B1 (V-14): sc-107393

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., et 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.

CHROMOSOMAL LOCATION

Genetic locus: ALDH1B1 (human) mapping to 9p13.2; Aldh1b1 (mouse) mapping to 4 B1.

SOURCE

ALDH1B1 (V-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ALDH1B1 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-107393 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

ALDH1B1 (V-14) is recommended for detection of ALDH1B1 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).

ALDH1B1 (V-14) is also recommended for detection of ALDH1B1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for ALDH1B1 siRNA (h): sc-92848, ALDH1B1 siRNA (m): sc-140999, ALDH1B1 shRNA Plasmid (h): sc-92848-SH, ALDH1B1 shRNA Plasmid (m): sc-140999-SH, ALDH1B1 shRNA (h) Lentiviral Particles: sc-92848-V and ALDH1B1 shRNA (m) Lentiviral Particles: sc-140999-V.

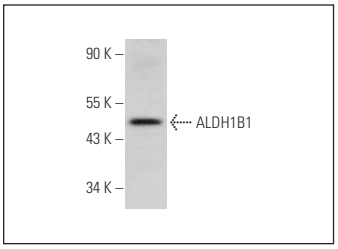
Molecular Weight of ALDH1B1: 57 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203.

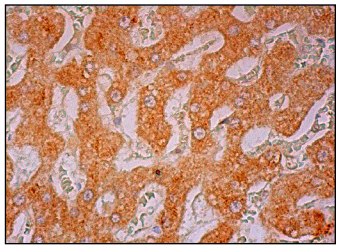
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



ALDH1B1 (V-14): sc-107393. Western blot analysis of ALDH1B1 expression in K-562 whole cell lysate.



ALDH1B1 (V-14): sc-107393. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic staining of hepatocytes.

RESEARCH USE

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