

ALDH3B1 (D-14): sc-109190

BACKGROUND

Aldehyde dehydrogenases (ALDHs) mediate the NADP⁺-dependent oxidation of aldehydes into acids and play an important role in the detoxification of alcohol-derived acetaldehyde, as well as in lipid peroxidation and in the metabolism of corticosteroids, biogenic amines and neurotransmitters. ALDH3B1 (aldehyde dehydrogenase 3 family, member B1), also known as ALDH4 or ALDH7, is a 468 amino acid protein that belongs to the alcohol dehydrogenase family and is involved in the pathway of ethanol degradation. Expressed at high levels in lung and kidney tissue, ALDH3B1 catalyzes the NADP⁺-dependent conversion of an aldehyde, ethanol, to an acid, acetate, a key reaction in the metabolism of alcohol. Multiple isoforms of ALDH3B1 exist due to alternative splicing events.

REFERENCES

- Hsu, L.C., et al. 1994. Cloning of a cDNA encoding human ALDH7, a new member of the aldehyde dehydrogenase family. *Gene* 151: 285-289.
- Hsu, L.C., et al. 1997. Human aldehyde dehydrogenase genes, ALDH7 and ALDH8: genomic organization and gene structure comparison. *Gene* 189: 89-94.
- Yoshida, A., et al. 1998. Human aldehyde dehydrogenase gene family. *Eur. J. Biochem.* 251: 549-557.
- Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 600466. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Sun, X., et al. 2005. Multi-locus association study of schizophrenia susceptibility genes with a posterior probability method. *Sci. China, C, Life Sci.* 48: 263-269.
- Marchitti, S.A., et al. 2007. Expression and initial characterization of human ALDH3B1. *Biochem. Biophys. Res. Commun.* 356: 792-798.
- Wang, Y., et al. 2009. Evidence of epistasis between the catechol-O-methyltransferase and aldehyde dehydrogenase 3B1 genes in paranoid schizophrenia. *Biol. Psychiatry* 65: 1048-1054.

CHROMOSOMAL LOCATION

Genetic locus: *Aldh3b1* (mouse) mapping to 19 A.

SOURCE

ALDH3B1 (D-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ALDH3B1 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.

Blocking peptide available for competition studies, sc-109190 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

ALDH3B1 (D-14) is recommended for detection of ALDH3B1 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

ALDH3B1 (D-14) is also recommended for detection of ALDH3B1 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for ALDH3B1 siRNA (m): sc-141002, ALDH3B1 shRNA Plasmid (m): sc-141002-SH and ALDH3B1 shRNA (m) Lentiviral Particles: sc-141002-V.

Molecular Weight (observed) of ALDH3B1: 52/69 kDa.

Positive Controls: Rat liver extract: sc-2395.

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) 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.

RESEARCH USE

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

PROTOCOLS

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