SANTA CRUZ BIOTECHNOLOGY, INC.

ALDH9A1 (T-14): sc-104040

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. ALDH9A1 (aldehyde dehydrogenase family 9 member A1), also known as E3, ALDH4, ALDH7, ALDH9 or TMABADH, is a 494 amino acid cytoplasmic protein that is highly expressed in adult liver, skeletal muscle, kidney and embryonic brain. ALDH9A1 converts γ-trimethylaminobutyraldehyde into γ-butyrobetaine and catalyzes the irreversible oxidation of a broad range of aldehydes to the corresponding acids in a NAD-dependent reaction.

REFERENCES

1. 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.
2. Vasiliou, V., et al. 2000. Polymorphisms of human aldehyde dehydrogenases. Consequences for drug metabolism and disease. Pharmacology 61: 192-198.
3. Sophos, N.A., et al. 2003. Aldehyde dehydrogenase gene superfamily: the 2002 update. Chem. Biol. Interact. 143-144: 5-22.
4. Aldenhoven, J., et al. 2003. Improving the comparative map of porcine chromosome 10 with respect to human chromosomes 1, 9 and 10. Cytogenet. Genome Res. 102: 121-127.
5. Vasiliou, V., et al. 2005. Analysis and update of the human aldehyde dehydrogenase (ALDH) gene family. Hum. Genomics 2: 138-143.
6. Sato, W., et al. 2006. Hepatic gene expression in hepatocyte-specific Pten deficient mice showing steatohepatitis without ethanol challenge. Hepatol. Res. 34: 256-265.
7. Wang, X., et al. 2007. Ethanol attenuates Aldh9 mRNA expression in Japanese medaka *(Oryzias latipes)* embryogenesis. Comp. Biochem. Physiol. B, Biochem. Mol. Biol. 146: 357-363.

CHROMOSOMAL LOCATION

Genetic locus: ALDH9A1 (human) mapping to 1q24.1; Aldh9a1 (mouse) mapping to 1 H2.3.

SOURCE

ALDH9A1 (T-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ALDH9A1 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-104040 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

ALDH9A1 (T-14) is recommended for detection of ALDH9A1 of mouse, rat and human 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); non cross-reactive with other ALDH family members.

ALDH9A1 (T-14) is also recommended for detection of ALDH9A1 in additional species, including equine, canine, bovine and porcine.

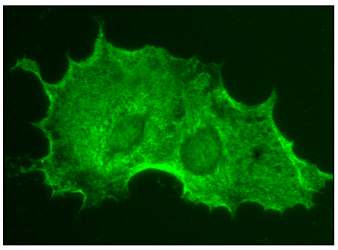
Suitable for use as control antibody for ALDH9A1 siRNA (h): sc-88344, ALDH9A1 siRNA (m): sc-105052, ALDH9A1 shRNA Plasmid (h): sc-88344-SH, ALDH9A1 shRNA Plasmid (m): sc-105052-SH, ALDH9A1 shRNA (h) Lentiviral Particles: sc-88344-V and ALDH9A1 shRNA (m) Lentiviral Particles: sc-105052-V.

Molecular Weight of ALDH9A1: 54 kDa.

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.

DATA



ALDH9A1 (T-14): sc-104040. Immunofluorescence staining of formalin-fixed Hep G2 cells showing cytoplasmic localization.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

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