SANTA CRUZ BIOTECHNOLOGY, INC.

ALDH1B1 (G-2): sc-393583

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.

CHROMOSOMAL LOCATION

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

SOURCE

ALDH1B1 (G-2) is a mouse monoclonal antibody raised against amino acids 1-45 mapping at the N-terminus of ALDH1B1 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ALDH1B1 (G-2) is available conjugated to agarose (sc-393583 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-393583 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393583 PE), fluorescein (sc-393583 FITC), Alexa Fluor® 488 (sc-393583 AF488), Alexa Fluor® 546 (sc-393583 AF546), Alexa Fluor® 594 (sc-393583 AF594) or Alexa Fluor® 647 (sc-393583 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393583 AF680) or Alexa Fluor® 790 (sc-393583 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

ALDH1B1 (G-2) is recommended for detection of ALDH1B1 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 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.

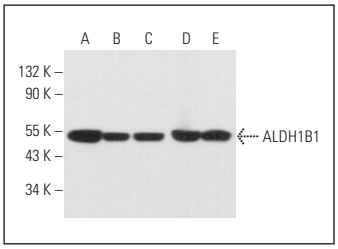
Molecular Weight of ALDH1B1: 57 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, F9 cell lysate: sc-2245 or KNRK whole cell lysate: sc-2214.

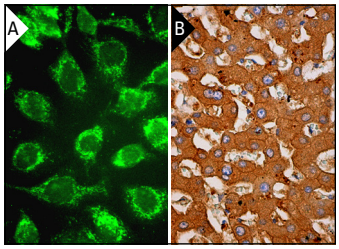
RECOMMENDED SUPPORT REAGENTS

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



ALDH1B1 (G-2): sc-393583. Western blot analysis of ALDH1B1 expression in Hep G2 (**A**), K-562 (**B**), MDA-MB-231 (**C**), KNRK (**D**) and F9 (**E**) whole cell lysates.



ALDH1B1 (G-2): sc-393583. Immunofluorescence staining of formalin-fixed A-431 cells showing mitochondrial localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic staining of hepatocytes (**B**).

SELECT PRODUCT CITATIONS

1. Choi, S., et al. 2018. Pregnane X receptor promotes ethanol-induced hepatosteatosis in mice. J. Biol. Chem. 293: 1-17.
2. Li, H., et al. 2018. Alcohol metabolism in the progression of human non-alcoholic steatohepatitis. Toxicol. Sci. 164: 428-438.
3. Choi, S., et al. 2024. Molecular targets of PXR-dependent ethanol-induced hepatotoxicity in female mice. Biochem. Pharmacol. 228: 116416.

STORAGE

Store at 4° C, **DO 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.

PROTOCOLS

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