SANTA CRUZ BIOTECHNOLOGY, INC.

ALDH3A2 (H-76): sc-68892

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. ALDH3A2 (aldehyde dehydrogenase 3 family, member A2), also known as SLS, FALDH or ALDH10, is a 485 amino acid single-pass membrane protein that localizes to the cytoplasmic side of the endoplasmic reticulum and belongs to the aldehyde dehydrogenase family. Expressed in a variety of tissues, including liver, heart, lung, brain, kidney and placenta, ALDH3A2 catalyzes the NAD^+-dependent oxidation of long-chain aliphatic aldehydes to fatty acids, a process that is necessary for detoxification and lipid metabolism. Defects in the gene encoding ALDH3A2 are the cause of Sjoegren-Larsson syndrome (SLS), an autosomal recessive neurocutaneous disorder characterized by severe mental retardation, seizures and speech defects. Multiple isoforms of ALDH3A2 exist due to alternative splicing events.

REFERENCES

1. De Laurenzi, V., et al. 1996. Sjögren-Larsson syndrome is caused by mutations in the fatty aldehyde dehydrogenase gene. Nat. Genet. 12: 52-57.
2. Rogers, G.R., et al. 1997. Genomic organization and expression of the human fatty aldehyde dehydrogenase gene (FALDH). Genomics 39: 127-135.
3. Chang, C. and Yoshida, A. 1997. Human fatty aldehyde dehydrogenase gene (ALDH10): organization and tissue-dependent expression. Genomics 40: 80-85.
4. Jean-François, E., et al. 2007. Sjögren-Larsson syndrome and crystalline maculopathy associated with a novel mutation. Arch. Ophthalmol. 125: 1582-1583.
5. Lloyd, M.D., et al. 2007. Characterisation of recombinant human fatty aldehyde dehydrogenase: implications for Sjögren-Larsson syndrome. J. Enzyme Inhib. Med. Chem. 22: 584-590.
6. Ashibe, B., et al. 2007. Dual subcellular localization in the endoplasmic reticulum and peroxisomes and a vital role in protecting against oxidative stress of fatty aldehyde dehydrogenase are achieved by alternative splicing. J. Biol. Chem. 282: 20763-20773.
7. Didona, B., et al. 2007. Novel and recurrent ALDH3A2 mutations in Italian patients with Sjögren-Larsson syndrome. J. Hum. Genet. 52: 865-870.
8. Rizzo, W.B. 2007. Sjögren-Larsson syndrome: molecular genetics and biochemical pathogenesis of fatty aldehyde dehydrogenase deficiency. Mol. Genet. Metab. 90: 1-9.

CHROMOSOMAL LOCATION

Genetic locus: ALDH3A2 (human) mapping to 17p11.2; Aldh3a2 (mouse) mapping to 11 B2.

SOURCE

ALDH3A2 (H-76) is a rabbit polyclonal antibody raised against amino acids 28-103 mapping within a cytoplasmic domain of ALDH3A2 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.

APPLICATIONS

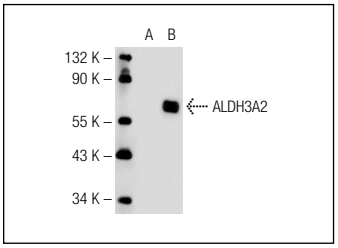
ALDH3A2 (H-76) is recommended for detection of ALDH3A2 of human and, to a lesser extent, mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 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 ALDH3A2 siRNA (h): sc-72476, ALDH3A2 siRNA (m): sc-72477, ALDH3A2 shRNA Plasmid (h): sc-72476-SH, ALDH3A2 shRNA Plasmid (m): sc-72477-SH, ALDH3A2 shRNA (h) Lentiviral Particles: sc-72476-V and ALDH3A2 shRNA (m) Lentiviral Particles: sc-72477-V.

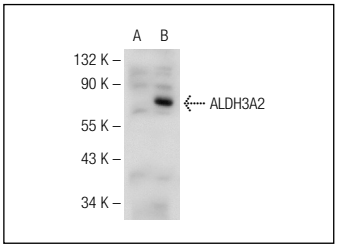
Molecular Weight of ALDH3A2: 55 kDa.

Positive Controls: ALDH3A2 (h): 293T Lysate: sc-174820.

DATA



ALDH3A2 (H-76): sc-68892. Western blot analysis of ALDH3A2 expression in non-transfected: sc-117752 (**A**) and human ALDH3A2 transfected: sc-174820 (**B**) 293T whole cell lysates.



ALDH3A2 (H-76): sc-68892. Western blot analysis of ALDH3A2 expression in non-transfected: sc-117752 (**A**) and human ALDH3A2 transfected: sc-174825 (**B**) 293T 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.

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.