# SANTA CRUZ BIOTECHNOLOGY, INC.

# ALDH3A2 (G-9): sc-373921



## 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 me-tabolism 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 en-coding 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.
- Chang, C., et al. 1997. Human fatty aldehyde dehydrogenase gene (ALDH10): organization and tissue-dependent expression. Genomics 40: 80-85.
- Jean-François, E., et al. 2007. Sjögren-larsson syndrome and crystalline maculopathy associated with a novel mutation. Arch. Ophthalmol. 125: 1582-1583.
- 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.

#### **CHROMOSOMAL LOCATION**

Genetic locus: ALDH3A2 (human) mapping to 17p11.2.

### SOURCE

ALDH3A2 (G-9) is a mouse monoclonal antibody raised against amino acids 28-103 mapping within a cytoplasmic domain of ALDH3A2 of human origin.

### PRODUCT

Each vial contains 200  $\mu g\, lg G_1$  kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ALDH3A2 (G-9) is available conjugated to agarose (sc-373921 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-373921 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-373921 PE), fluorescein (sc-373921 FITC), Alexa Fluor<sup>®</sup> 488 (sc-373921 AF488), Alexa Fluor<sup>®</sup> 546 (sc-373921 AF546), Alexa Fluor<sup>®</sup> 594 (sc-373921 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-373921 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-373921 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-373921 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

ALDH3A2 (G-9) is recommended for detection of ALDH3A2 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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 shRNA Plasmid (h): sc-72476-SH and ALDH3A2 shRNA (h) Lentiviral Particles: sc-72476-V.

Molecular Weight of ALDH3A2: 55 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, RT-4 whole cell lysate: sc-364257 or human adrenal gland extract: sc-363761.

## **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<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

#### DATA





ALDH3A2 (G-9): sc-373921. Western blot analysis of ALDH3A2 expression in Hep G2 (A) and RT-4 (B) whole cell lysates and human adrenal gland tissue extract (C). Detection reagent used: m-IgG<sub>1</sub> BP-HRP: sc-525408.

ALDH3A2 (G-9): sc-373921. 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.

# **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.

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