

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 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 NADP⁺-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 Sjögren-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., et al. 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.

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 µg IgG₁ 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[®] 488 (sc-373921 AF488), Alexa Fluor[®] 546 (sc-373921 AF546), Alexa Fluor[®] 594 (sc-373921 AF594) or Alexa Fluor[®] 647 (sc-373921 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-373921 AF680) or Alexa Fluor[®] 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 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 shRNA Plasmid (h): sc-72476-SH and ALDH3A2 shRNA (h) Lentiviral Particles: sc-72476-V.

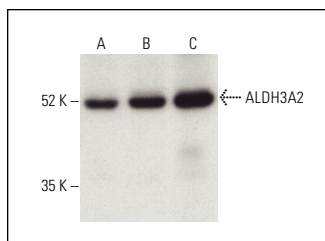
Molecular Weight of ALDH3A2: 55 kDa.

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

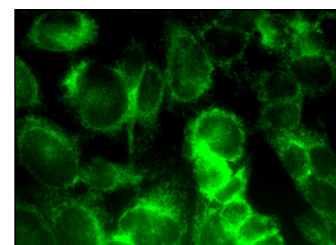
RECOMMENDED SUPPORT REAGENTS

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[™] 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.

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-IgG₁ 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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