SANTA CRUZ BIOTECHNOLOGY, INC.

ALDH8A1 (D-21): sc-130686

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. ALDH8A1 (aldehyde dehydrogenase 8 family, member A1), also known as ALDH12, is a 487 amino acid protein that localizes to the cytoplasm and belongs to the aldehyde dehydrogenase family. Expressed in kidney and liver, ALDH8A1 converts 9-*cis*-retinal to 9-*cis*-retinoic acid. 9-*cis*-retinoic acid activates retinoid X receptors, a family of nuclear receptors which are involved in regulating multiple signaling pathways. Three isoforms exist due to alternative splicing events.

REFERENCES

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2. Lin, M. and Napoli, J.L. 2000. cDNA cloning and expression of a human aldehyde dehydrogenase (ALDH) active with 9-*cis*-retinal and identification of a rat ortholog, ALDH12. J. Biol. Chem. 275: 40106-40112.
3. Vasiliou, V. and Pappa, A. 2000. Polymorphisms of human aldehyde dehydrogenases. Consequences for drug metabolism and disease. Pharmacology 61: 192-198.
4. Zhuang, R., Lin, M. and Napoli, J.L. 2002. *cis*-Retinol/androgen dehydrogenase, isozyme 3 (CRAD3): a short-chain dehydrogenase active in a reconstituted path of 9-*cis*-retinoic acid biosynthesis in intact cells. Biochemistry 41: 3477-3483.
5. Ahuja, H.S., Szanto, A., Nagy, L. and Davies, P.J. 2003. The retinoid X receptor and its ligands: versatile regulators of metabolic function, cell differentiation and cell death. J. Biol. Regul. Homeost. Agents. 17: 29-45.
6. Close, J., Game, L., Clark, B., Bergounioux, J., Gerovassili, A. and Thein, S.L. 2004. Genome annotation of a 1.5 Mb region of human chromosome 6q23 encompassing a quantitative trait locus for fetal hemoglobin expression in adults. BMC Genomics 5: 33.
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CHROMOSOMAL LOCATION

Genetic locus: ALDH8A1 (human) mapping to 6q23.3; Aldh8a1 (mouse) mapping to 10 A3.

SOURCE

ALDH8A1 (D-21) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus of ALDH8A1 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

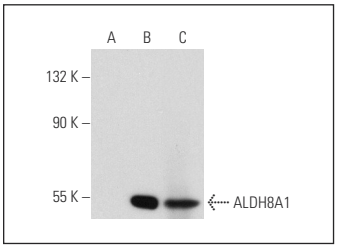
ALDH8A1 (D-21) is recommended for detection of ALDH8A1 of mouse and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), 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 ALDH8A1 siRNA (h): sc-95150, ALDH8A1 siRNA (m): sc-141005, ALDH8A1 shRNA Plasmid (h): sc-95150-SH, ALDH8A1 shRNA Plasmid (m): sc-141005-SH, ALDH8A1 shRNA (h) Lentiviral Particles: sc-95150-V and ALDH8A1 shRNA (m) Lentiviral Particles: sc-141005-V.

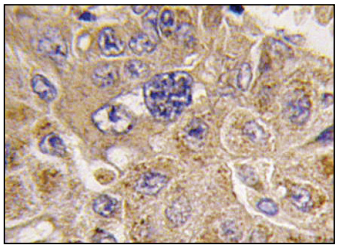
Molecular Weight of ALDH8A1: 53 kDa.

Positive Controls: ALDH8A1 (m): 293T Lysate: sc-118346, mouse liver extract: sc-2256 or mouse kidney extract: sc-2255.

DATA



ALDH8A1 (D-21): sc-130686. Western blot analysis of ALDH8A1 expression in non-transfected: sc-117752 (**A**) and mouse ALDH8A1 transfected: sc-118346 (**B**) 293T whole cell lysates and mouse kidney tissue extract (**C**).



ALDH8A1 (D-21): sc-130686. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human hepatocarcinoma tissue 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 or our catalog for detailed protocols and support products.