

ALDH1L1 (YY8): sc-100497

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. ALDH1L1 (aldehyde dehydrogenase 1 family member L1), also known as FTHFD or 10-FTHFD (10-formyltetrahydrofolate dehydrogenase), is a cytosolic protein that is developmentally regulated in the cerebellum. ALDH1L1 binds to folate and catalyzes the conversion of 10-formyltetrahydrofolate (10-FTHF) to tetrahydrofolate (THF). This suggests a possible role for ALDH1L1 in the regulation of cellular THF levels as well as in the inhibition of cell proliferation (as 10-FTHF is essential for the synthesis of purine). In addition, the overexpression of ALDH1L1 can restrict cell proliferation *in vitro*.

CHROMOSOMAL LOCATION

Genetic locus: ALDH1L1 (human) mapping to 3q21.3; Aldh1l1 (mouse) mapping to 6 D1.

SOURCE

ALDH1L1 (YY8) is a mouse monoclonal antibody raised against recombinant ALDH1L1 of human origin.

PRODUCT

Each vial contains 50 µg IgG₃ kappa light chain in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

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

APPLICATIONS

ALDH1L1 (YY8) is recommended for detection of ALDH1L1 of mouse, rat 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 ALDH1L1 siRNA (h): sc-78373, ALDH1L1 siRNA (m): sc-141000, ALDH1L1 shRNA Plasmid (h): sc-78373-SH, ALDH1L1 shRNA Plasmid (m): sc-141000-SH, ALDH1L1 shRNA (h) Lentiviral Particles: sc-78373-V and ALDH1L1 shRNA (m) Lentiviral Particles: sc-141000-V.

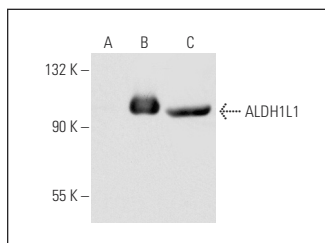
Molecular Weight of ALDH1L1: 99 kDa.

Positive Controls: ALDH1L1 (m4): 293T Lysate: sc-118337 or NIH/3T3 whole cell lysate: sc-2210.

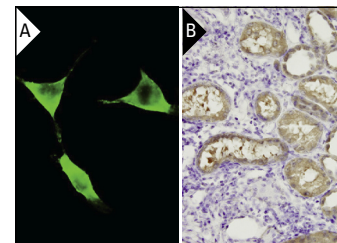
RECOMMENDED SUPPORT REAGENTS

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



ALDH1L1 (YY8): sc-100497. Western blot analysis of ALDH1L1 expression in non-transfected 293T: sc-117752 (A), mouse ALDH1L1 transfected 293T: sc-118337 (B) and NIH/3T3 (C) whole cell lysates.



ALDH1L1 (YY8): sc-100497. Immunofluorescence staining of paraformaldehyde-fixed NIH/3T3 cells showing membrane and cytoplasmic localization (A). Immunoperoxidase staining of formalin-fixed, paraffin-embedded human kidney tissue showing cytoplasmic localization (B).

SELECT PRODUCT CITATIONS

1. Sterz, C.M., et al. 2010. A basal-cell-like compartment in head and neck squamous cell carcinomas represents the invasive front of the tumor and is expressing MMP-9. *Oral Oncol.* 46: 116-122.
2. Mancone, C., et al. 2010. Proteomic analysis reveals a major role for contact inhibition in the terminal differentiation of hepatocytes. *J. Hepatol.* 52: 234-243.
3. Perdomo, A.B., et al. 2012. Liver protein profiling in chronic hepatitis C: identification of potential predictive markers for interferon therapy outcome. *J. Proteome Res.* 11: 717-727.
4. Kapucuoglu, N., et al. 2015. The clinicopathological and prognostic significance of CD24, CD44, CD133, ALDH1 expressions in invasive ductal carcinoma of the breast: CD44/CD24 expression in breast cancer. *Pathol. Res. Pract.* 211: 740-747.
5. Saba, J., et al. 2020. Astrocytes from cortex and striatum show differential responses to mitochondrial toxin and BDNF: implications for protection of striatal neurons expressing mutant huntingtin. *J. Neuroinflammation* 17: 290.

RESEARCH USE

For research use only, not for use in diagnostic procedures.