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SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

ALDH1L1 (m4): 293T Lysate: sc-118337

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*.

REFERENCES

1. Champion, K.M., et al. 1994. Identification of a heritable deficiency of the folate-dependent enzyme 10-formyltetrahydrofolate dehydrogenase in mice. *Proc. Natl. Acad. Sci. USA* 91: 11338-11342.
2. Vasilou, V., et al. 2000. Role of aldehyde dehydrogenases in endogenous and xenobiotic metabolism. *Chem. Biol. Interact.* 129: 1-19.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 600249. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Sládek, N.E. 2003. Human aldehyde dehydrogenases: potential pathological, pharmacological, and toxicological impact. *J. Biochem. Mol. Toxicol.* 17: 7-23.
5. Strolin Benedetti, M., et al. 2006. Involvement of enzymes other than CYPs in the oxidative metabolism of xenobiotics. *Expert Opin. Drug Metab. Toxicol.* 2: 895-921.
6. Lee, K.M., et al. 2007. One-carbon metabolism gene polymorphisms and risk of non-Hodgkin lymphoma in Australia. *Hum. Genet.* 122: 525-533.

CHROMOSOMAL LOCATION

Genetic locus: *Aldh1l1* (mouse) mapping to 6 D1.

PRODUCT

ALDH1L1 (m4): 293T Lysate represents a lysate of mouse ALDH1L1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

ALDH1L1 (m4): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive ALDH1L1 antibodies. Recommended use: 10-20 µl per lane.

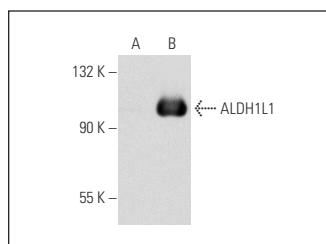
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

ALDH1L1 (YY8): sc-100497 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse ALDH1L1 expression in ALDH1L1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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.

DATA



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

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. 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.