

ALDH16A1 (E-1): sc-398657

BACKGROUND

ALDH16A1 (aldehyde dehydrogenase 16 family, member A1) is an 802 amino acid protein belonging to the aldehyde dehydrogenase superfamily. Family members react with aldehyde substrates and enlist nicotinamide adenine dinucleotide phosphate (NADP) as a cofactor. ALDH16A1 participates in oxidoreductase activity, protein binding and interacts with Maspardin, a protein linked to Mast syndrome. Encoded by a gene that maps to human chromosome 19q13.33, ALDH16A1 exists as two alternatively spliced isoforms and contains seventeen exons. ALDH16A1 is conserved in chimpanzee, canine, bovine, mouse, rat and zebrafish; however, a cysteine active site and glutamate residues are not conserved.

REFERENCES

1. Vasilou, V. and Nebert, D.W. 2005. Analysis and update of the human aldehyde dehydrogenase (ALDH) gene family. *Hum. Genomics* 2: 138-143.
2. Marchitti, S.A., et al. 2008. Non-P450 aldehyde oxidizing enzymes: the aldehyde dehydrogenase superfamily. *Expert Opin. Drug Metab. Toxicol.* 4: 697-720.
3. Hanna, M.C. and Blackstone, C. 2009. Interaction of the SPG21 protein ACP33/maspardin with the aldehyde dehydrogenase ALDH16A1. *Neurogenetics* 10: 217-228.
4. Black, W.J., et al. 2009. Human aldehyde dehydrogenase genes: alternatively spliced transcriptional variants and their suggested nomenclature. *Pharmacogenet. Genomics* 19: 893-902.
5. Um, H.N., et al. 2010. Molecular coevolution of kisspeptins and their receptors from fish to mammals. *Ann. N.Y. Acad. Sci.* 1200: 67-74.
6. Assoum, M., et al. 2010. Rundataxin, a novel protein with RUN and diacylglycerol binding domains, is mutant in a new recessive ataxia. *Brain* 133: 2439-2447.
7. Soderblom, C., et al. 2010. Targeted disruption of the Mast syndrome gene SPG21 in mice impairs hind limb function and alters axon branching in cultured cortical neurons. *Neurogenetics* 11: 369-378.

CHROMOSOMAL LOCATION

Genetic locus: ALDH16A1 (human) mapping to 19q13.33; Aldh16a1 (mouse) mapping to 7 B4.

SOURCE

ALDH16A1 (E-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 53-81 near the N-terminus of ALDH16A1 of human origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-398657 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

ALDH16A1 (E-1) is recommended for detection of ALDH16A1 of mouse, rat and 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 ALDH16A1 siRNA (h): sc-97458, ALDH16A1 siRNA (m): sc-140996, ALDH16A1 shRNA Plasmid (h): sc-97458-SH, ALDH16A1 shRNA Plasmid (m): sc-140996-SH, ALDH16A1 shRNA (h) Lentiviral Particles: sc-97458-V and ALDH16A1 shRNA (m) Lentiviral Particles: sc-140996-V.

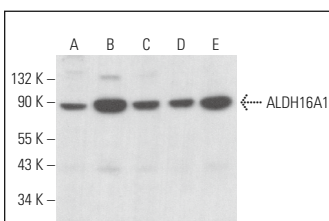
Molecular Weight of ALDH16A1: 85 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, HeLa whole cell lysate: sc-2200 or SW480 cell lysate: sc-2219.

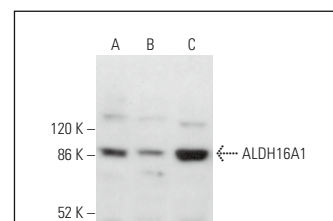
RECOMMENDED SUPPORT REAGENTS

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 L-Agarose: sc-2336 (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



ALDH16A1 (E-1): sc-398657. Western blot analysis of ALDH16A1 expression in HeLa (A), NCI-H929 (B), SW480 (C), Sol8 (D) and NIH/3T3 (E) whole cell lysates.



ALDH16A1 (E-1): sc-398657. Western blot analysis of ALDH16A1 expression in HeLa (A), c4 (B) and NCI-H929 (C) whole cell lysates.

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.