

# ALDH5A1 (B-24): sc-130684

## BACKGROUND

Aldehyde dehydrogenases (ALDHs) mediate the NADP<sup>+</sup>-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. ALDH5A1 (aldehyde dehydrogenase 5 family, member A1), also known as SSDH or SSADH, is a 535 amino acid protein that localizes to the mitochondria and belongs to the aldehyde dehydrogenase family. Expressed in a variety of tissues, including liver, heart, lung, brain, kidney and placenta, ALDH5A1 is required for  $\gamma$ -aminobutyric acid (GABA) recycling from the synaptic cleft. Mutations of ALDH5A1 leads to succinate semialdehyde dehydrogenase deficiency (SSADH deficiency) that is characterized by severe ataxia and by mildly retarded psychomotor development.

## REFERENCES

1. Kang, J.H., et al. 2005. High-level expression and characterization of the recombinant enzyme, and tissue distribution of human succinic semialdehyde dehydrogenase. *Protein Expr. Purif.* 44: 16-22.
2. Leone, O., et al. 2006. A human derived SSADH coding variant is replacing the ancestral allele shared with primates. *Ann. Hum. Biol.* 33: 593-603.
3. Jansen, E.E., et al. 2006. Increased guanidino species in murine and human succinate semialdehyde dehydrogenase (SSADH) deficiency. *Biochim. Biophys. Acta* 1762: 494-498.

## CHROMOSOMAL LOCATION

Genetic locus: ALDH5A1 (human) mapping to 6p22.3.

## SOURCE

ALDH5A1 (B-24) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the N-terminus of ALDH5A1 of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

ALDH5A1 (B-24) is recommended for detection of ALDH5A1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for ALDH5A1 siRNA (h): sc-72480, ALDH5A1 shRNA Plasmid (h): sc-72480-SH and ALDH5A1 shRNA (h) Lentiviral Particles: sc-72480-V.

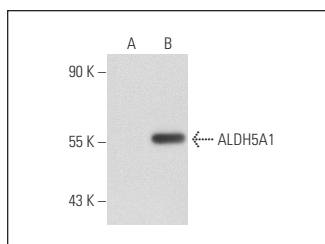
Molecular Weight of ALDH5A1: 54 kDa.

Positive Controls: ALDH5A1 (h2): 293T Lysate: sc-175083 or Ramos cell lysate: sc-2216.

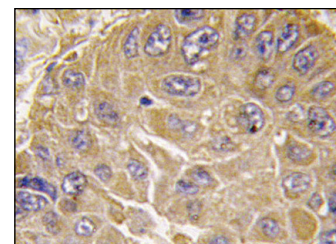
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker<sup>™</sup> compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz<sup>™</sup> Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz<sup>™</sup>: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

## DATA



ALDH5A1 (B-24): sc-130684. Western blot analysis of ALDH5A1 expression in non-transfected: sc-117752 (A) and human ALDH5A1 transfected: sc-175083 (B) 293T whole cell lysates.



ALDH5A1 (B-24): sc-130684. 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](http://www.scbt.com) or our catalog for detailed protocols and support products.

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Try **ALDH5A1 (D-3): sc-390754**, our highly recommended monoclonal alternative to ALDH5A1 (B-24).