

# ALDH2 (K-15): sc-48837

## BACKGROUND

Aldehyde dehydrogenases (ALDHs) mediate NADP<sup>+</sup>-dependent oxidation of aldehydes into acids during detoxification of alcohol-derived acetaldehyde; lipid peroxidation; and metabolism of corticosteroids, biogenic amines and neurotransmitters. ALDH1A1, also designated retinal dehydrogenase 1 (RALDH1 or RALDH1); aldehyde dehydrogenase family 1 member A1; aldehyde dehydrogenase cytosolic; ALDH1; ALDH-E1 or ALDH E1, is a retinal dehydrogenase that participates in the biosynthesis of retinoic acid (RA). The major liver isoform ALDH1 localizes to cytosolic space, while ALDH2 localizes to the mitochondria. The ALDH1A2 (RALDH2, RALDH2-T) gene produces three different transcripts and also catalyzes the synthesis of RA from retinaldehyde. ALDH2 is present in most Caucasians, yet is absent in 50% of Asians. The absence of this enzyme has been linked to alcohol intolerance and thusly, a reduced risk for alcoholism-related liver disease.

## REFERENCES

- Ikawa, M. et al. 1983. Isolation and characterization of aldehyde dehydrogenase isozymes from usual and atypical human livers. *J. Biol. Chem.* 258: 6282-6287.
- Vasilou, V., et al. 1992. Negative regulation of the murine cytosolic aldehyde dehydrogenase-3 (ALDH3C) gene by functional CYP1A1 and CYP1A2 proteins. *Biochem. Biophys. Res. Commun.* 187: 413-419.
- Vasilou, V., et al. 1999. Eukaryotic aldehyde dehydrogenase (ALDH) genes: human polymorphisms and recommended nomenclature based on divergent evolution and chromosomal mapping. *Pharmacogenetics* 9: 421-434.
- Hsu, L.C., et al. 1999. Molecular analysis of two closely related mouse aldehyde dehydrogenase genes: identification of a role for Aldh1, but not Aldh-pb, in the biosynthesis of retinoic acid. *Biochem. J.* 339: 387-395.

## CHROMOSOMAL LOCATION

Genetic locus: ALDH2 (human) mapping to 12q24.12; Aldh2 (mouse) mapping to 5 F.

## SOURCE

ALDH2 (K-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of ALDH2 of human origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-48837 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## 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.

## APPLICATIONS

ALDH2 (K-15) is recommended for detection of ALDH2 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); may cross-reactive with a broad range of ALDH family members.

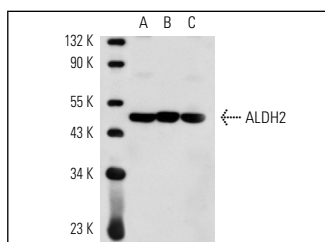
ALDH2 (K-15) is also recommended for detection of ALDH2 in additional species, including equine, canine and porcine.

Suitable for use as control antibody for ALDH2 siRNA (h): sc-60147, ALDH2 siRNA (m): sc-60148, ALDH2 shRNA Plasmid (h): sc-60147-SH, ALDH2 shRNA Plasmid (m): sc-60148-SH, ALDH2 shRNA (h) Lentiviral Particles: sc-60147-V and ALDH2 shRNA (m) Lentiviral Particles: sc-60148-V.

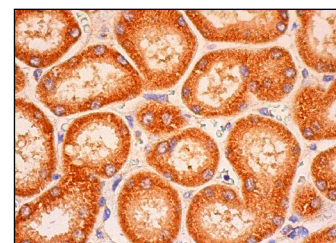
Molecular Weight of ALDH2: 53 kDa.

Positive Controls: c4 whole cell lysate: sc-364186, mouse lung extract: sc-2390 or rat liver extract: sc-2395.

## DATA



ALDH2 (K-15): sc-48837. Western blot analysis of ALDH2 expression in c4 whole cell lysate (A) and rat liver (B) and mouse lung (C) tissue extracts.



ALDH2 (K-15): sc-48837. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules.

## SELECT PRODUCT CITATIONS

- Ciccosanti, F., et al. 2010. Proteomic analysis identifies prohibitin down-regulation as a crucial event in the mitochondrial damage observed in HIV-infected patients. *Antivir. Ther.* 15: 377-390.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

**MONOS**  
Satisfaction  
Guaranteed

Try **ALDH2 (3D12): sc-100496**, our highly recommended monoclonal alternative to ALDH2 (K-15).