SANTA CRUZ BIOTECHNOLOGY, INC.

# ALDH1A3 (C-13): sc-26713

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

Aldehyde dehydrogenases (ALDHs) mediate $NADP^+$-dependent oxidation of aldehydes into acids during the detoxification of alcohol-derived acetaldehyde; metabolism of corticosteroids, biogenic amines and neurotransmitters; and lipid peroxidation. ALDH1A1, also designated retinal dehydrogenase 1 (RalDH1 or RALDH1), aldehyde dehydrogenase family 1 member A1, aldehyde dehydrogenase cytosolic, ALDHII, ALDH-E1 or ALDH E1, is a retinal dehydrogenase that participates in the biosynthesis of retinoic acid (RA). There are two major liver isoforms of ALDH1 that can localize to cytosolic or mitochondrial space. The ALDH1A2 (RALDH2, RALDH2-T) gene produces three different transcripts and also catalyzes the synthesis of RA from retinaldehyde. ALDH1A3 (ALDH6, RALDH3, ALDH1A6) is a 37 kb gene that consists of 13 exons and produces a major transcript of approximately 3.5 kb most abundant in salivary gland, stomach and kidney. ALDH3A1 (stomach type, ALDH3, ALDHIII) forms a cytoplasmic homodimer that preferentially oxidizes aromatic aldehyde substrates. ALDH genes upregulate as a part of the oxidative stress response, and appear to be abundant in certain tumors that have an accelerated metabolism toward chemotherapy agents.

## REFERENCES


1. Vasiliou, V., et al. 1992. Negative regulation of the murine cytosolic aldehyde dehydrogenase-3 (Aldh-3c) gene by functional CYP1A1 and CYP1A2 proteins. Biochem. Biophys. Res. Commun. 187: 413-419.
2. 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.
3. Vasiliou, 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.


## CHROMOSOMAL LOCATION

Genetic locus: ALDH1A1 (human) mapping to 15q26.3; Aldh1a1 (mouse) mapping to 7 C.

## SOURCE

ALDH1A3 (C-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of ALDH1A3 of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-26713 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

ALDH1A3 (C-13) is recommended for detection of ALDH1A3 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

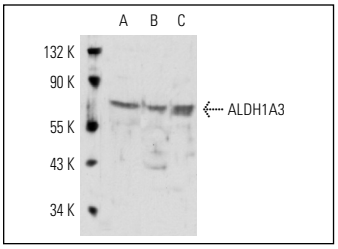
ALDH1A3 (C-13) is also recommended for detection of ALDH1A3 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for ALDH1A3 siRNA (h): sc-43611, ALDH1A3 siRNA (m): sc-44466, ALDH1A3 shRNA Plasmid (h): sc-43611-SH, ALDH1A3 shRNA Plasmid (m): sc-44466-SH, ALDH1A3 shRNA (h) Lentiviral Particles: sc-43611-V and ALDH1A3 shRNA (m) Lentiviral Particles: sc-44466-V.

Molecular Weight of ALDH1A3: 64 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, MCF7 whole cell lysate: sc-2206 or Caki-1 cell lysate: sc-2224.

## DATA




ALDH1A3 (C-13): sc-26713. Western blot analysis of ALDH1A3 expression in Hep G2 (**A**), MCF7 (**B**) and Caki-1 (**C**) whole cell lysates.

## SELECT PRODUCT CITATIONS


1. Vila, A.M., et al. 2010. Development of a new magnetic beads-based immunoprecipitation strategy for proteomics analysis. J. Proteomics 73: 1491-1501.


## PROTOCOLS

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