

# ADH (C-16): sc-22867

## BACKGROUND

The alcohol dehydrogenase family of proteins metabolize a wide variety of substrates, including ethanol, retinol, other aliphatic alcohols, hydroxysteroids, and lipid peroxidation products. Class I alcohol dehydrogenase, consisting of several homo- and heterodimers of alpha, beta, and gamma subunits, exhibits high activity for ethanol oxidation and plays a major role in ethanol catabolism. Three genes encoding  $\alpha$  (ADH1A),  $\beta$  (ADH1B) and  $\gamma$  (ADH1C) subunits are tandemly organized on chromosome 4q23 as a gene cluster. The alpha form of ADH is monomorphic and predominant in fetal and infant livers, becoming less active in gestation and only weakly active during adulthood. The genes encoding beta and gamma subunits, however, are polymorphic and strongly expressed in adult livers. With the coenzyme NAD, ADH catalyzes the reversible conversion of organic alcohols to ketones or aldehydes. The physiologic function for ADH in the liver is the removal of ethanol formed by microorganisms in the intestinal tract.

## REFERENCES

1. Smith, M., Hopkinson, D.A. and Harris, H. 1973. Studies on the subunit structure and molecular size of the human dehydrogenase isozymes determined by the different loci, ADH1, ADH2, and ADH3. *Ann. Hum. Genet.* 36: 401-414.
2. Smith, M., Duester, G., Bilanchone, V., Carlock, L., and Hatfield, W. 1984. Derivation of probes for molecular genetic analysis of human class I alcohol dehydrogenase (ADH), a polymorphic gene family on chromosome 4. *Am. J. Hum. Genet.* 36: 153S.
3. Tsukahara, M. and Yoshida, A. 1989. Chromosomal assignment of the alcohol dehydrogenase cluster locus to human chromosome 4q21-23 by *in situ* hybridization. *Genomics* 4: 218-220.
4. Yasunami, M., Kikuchi, I., Sarapata, D. and Yoshida, A. 1989. The organization of human class I alcohol dehydrogenase gene cluster. (Abstract) *Cytogenet. Cell Genet.* 51: 1113.
5. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 103700. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. LocusLink Report (LocusID: 124). <http://www.ncbi.nlm.nih.gov/LocusLink/>

## CHROMOSOMAL LOCATION

Genetic locus: ADH1A/ADH1B/ADH1C (human) mapping to 4q23; Adh1 (mouse) mapping to 3 G3.

## SOURCE

ADH (C-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of ADH of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-22867 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

ADH (C-16) is recommended for detection of ADH $\alpha$ , ADH $\beta$  and ADH $\gamma$  of human origin and ADH1 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

ADH (C-16) is also recommended for detection of ADH $\alpha$ , ADH $\beta$  and ADH $\gamma$  in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for ADH1 siRNA (m): sc-41437, ADH1 shRNA Plasmid (m): sc-41437-SH and ADH1 shRNA (m) Lentiviral Particles: sc-41437-V.

Molecular Weight of ADH: 46 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227 or c4 whole cell lysate: sc-364186.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker<sup>™</sup> compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz<sup>™</sup> Mounting Medium: sc-24941.

## 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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Satisfaction  
Guaranteed

Try **ADH (G-7): sc-133207** or **ADH (B-12): sc-137078**, our highly recommended monoclonal alternatives to ADH (C-16).