

ADH (A-8): sc-137091

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 α , β and γ subunits, exhibits high activity for ethanol oxidation and plays a major role in ethanol catabolism. Three genes encoding α (ADH1A), β (ADH1B) and γ (ADH1C) subunits are tandemly organized on chromosome 4q22 as a gene cluster. The α 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 β and γ 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. *Cytogenet. Cell Genet.* 51: 1113.
5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 103700. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Jelski, W., Chrostek, L., Laszewicz, W. and Szmittkowski, M. 2007. Alcohol dehydrogenase (ADH) isoenzyme activity in the sera of patients with *Helicobacter pylori* infection. *Dig. Dis. Sci.* 52: 1513-1516.

SOURCE

ADH (A-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 18-49 near the N-terminus of ADH of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

ADH (A-8) is recommended for detection of ADH α , ADH β and ADH γ of human origin and ADH1 of mouse and rat origin by Western Blotting (starting dilution 1:100, dilution range 1:100 - 1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

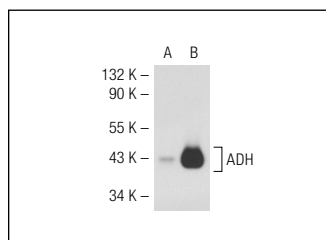
Molecular Weight of ADH: 46 kDa.

Positive Controls: ADH γ (h): 293T Lysate: sc-111481, ADH (m): 293T Lysate: sc-118253 or Hep G2 cell lysate: sc-2227.

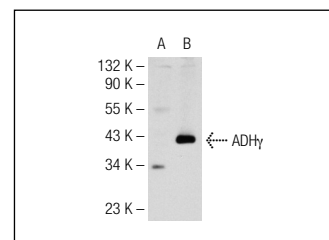
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ 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-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



ADH (A-8): sc-137091. Western blot analysis of ADH expression in non-transfected: sc-117752 (A) and mouse ADH transfected: sc-118253 (B) 293T whole cell lysates.



ADH (A-8): sc-137091. Western blot analysis of ADH γ expression in non-transfected: sc-117752 (A) and human ADH γ transfected: sc-111481 (B) 293T whole cell lysates.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

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