SANTA CRUZ BIOTECHNOLOGY, INC.

ADHγ (h): 293T Lysate: sc-111481

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 4q23 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 Szmitkowski, M. 2007. Alcohol dehydrogenase (ADH) isoenzyme activity in the sera of patients with Helicobacter pylori infection. Dig. Dis. Sci. 52: 1513-1516.

CHROMOSOMAL LOCATION

Genetic locus: ADH1C (human) mapping to 4q23.

PRODUCT

ADHγ (h): 293T Lysate represents a lysate of human ADHγ transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

APPLICATIONS

ADHγ (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive ADHγ antibodies. Recommended use: 10-20 µl per lane.

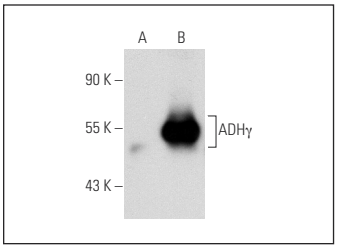
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

ADH (G-7): sc-133207 is recommended as a positive control antibody for Western Blot analysis of enhanced human ADHγ expression in ADHγ transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

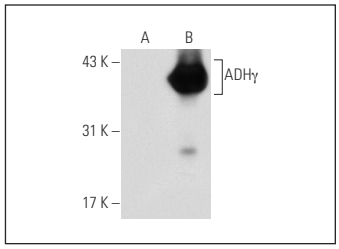
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



ADH (G-7): sc-133207. Western blot analysis of ADHγ expression in non-transfected: sc-117752 (**A**) and human ADHγ transfected: sc-111481 (**B**) 293T whole cell lysates.



ADH (B-12): sc-137078. Western blot analysis of ADHγ expression in non-transfected: sc-117752 (**A**) and human ADHγ 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 for detailed protocols and support products.