SANTA CRUZ BIOTECHNOLOGY, INC.

# ADHβ (E-24): sc-130942

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

The alcohol dehydrogenase family of proteins metabolize a wide variety of substrates, including retinol, hydroxysteroids, ethanol, aliphatic alcohols and lipid peroxidation products. ADHβ (alcohol dehydrogenase 1B (class I), β polypeptide), also known as ADH2, is a 375 amino acid protein that localizes to the cytoplasm and belongs to the zinc-containing alcohol dehydrogenase family. Existing as a dimer of α, β or γ chains, ADHβ uses zinc as a cofactor to catalyze the $NAD^+$-dependent conversion of an alcohol to an aldehyde or a ketone. Polymorphisms in the ADHβ gene are associated with an increased risk for alcohol dependency, as well as alcohol-related cancer. The gene encoding ADHβ maps to human chromosome 4, which encodes nearly 6% of the human genome and has the largest gene deserts (regions of the genome with no protein encoding genes) of all of the human chromosomes.

## REFERENCES


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2. Yasunami, M., Kikuchi, I., Sarapata, D. and Yoshida, A. 1990. The human class I alcohol dehydrogenase gene cluster: three genes are tandemly organized in an 80-kb-long segment of the genome. Genomics 7: 152-158.
3. Hurley, T.D., Bosron, W.F., Hamilton, J.A. and Amzel, L.M. 1991. Structure of human β 1 β 1 alcohol dehydrogenase: catalytic effects of non-active-site substitutions. Proc. Natl. Acad. Sci. USA 88: 8149-8153.
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5. Husemoen, L.L., Fenger, M., Friedrich, N., Tolstrup, J.S., Beenfeldt Fredriksen, S. and Linneberg, A. 2008. The association of ADH and ALDH gene variants with alcohol drinking habits and cardiovascular disease risk factors. Alcohol. Clin. Exp. Res. 32: 1984-1991.
6. Hashibe, M., McKay, J.D., Curado, M.P., Oliveira, J.C., Koifman, S., Koifman, R., Zaridze, D., Shangina, O., Wünsch-Filho, V., Eluf-Neto, J., Levi, J.E., Matos, E., Lagiou, P., Lagiou, A., Benhamou, S., Bouchardy, C., Szeszenia-Dabrowska, N., Menezes, A., Dall'Agnol, M.M., et al. 2008. Multiple ADH genes are associated with upper aerodigestive cancers. Nat. Genet. 40: 707-709.


## CHROMOSOMAL LOCATION

Genetic locus: ADH1B (human) mapping to 4q23.

## SOURCE

ADHβ (E-24) is a Protein A purified rabbit polyclonal antibody raised against synthetic ADHβ peptide of human origin.

## PRODUCT

Each vial contains 100 µg IgG in 1.0 ml PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

## APPLICATIONS

ADHβ (E-24) is recommended for detection of ADHβ of 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).

Suitable for use as control antibody for ADHβ siRNA (h): sc-41438, ADHβ shRNA Plasmid (h): sc-41438-SH and ADHβ shRNA (h) Lentiviral Particles: sc-41438-V.

Molecular Weight (predicted) of ADHβ: 40 kDa.

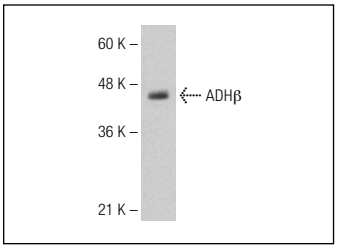
Molecular Weight (observed) of ADHβ: 45 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or Jurkat whole cell lysate: sc-2204.

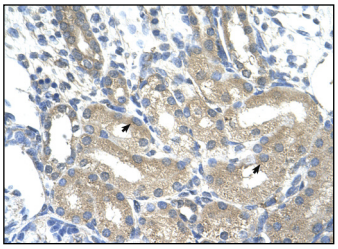
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

## DATA




ADHβ (E-24): sc-130942. Western blot analysis of ADHβ expression in Jurkat whole cell lysate.



ADHβ (E-24): sc-130942. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human kidney tissue showing cytoplasmic localization.

## 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.