

ADH4 (E-25): sc-130943

BACKGROUND

ADH4 (alcohol dehydrogenase 4) is a 380 amino acid protein that belongs to the zinc-containing alcohol dehydrogenase family of enzymes that function to metabolize a wide variety of substrates, including retinol, hydroxysteroids, ethanol, aliphatic alcohols and lipid peroxidation products. Localized to the cytoplasm and existing as a homodimer, ADH4 uses zinc as a cofactor to catalyze the NAD⁺-dependent conversion of an alcohol to an aldehyde or a ketone, thereby participating in the metabolic degradation of alcohols within the body. Multiple isoforms of ADH4 exist due to alternative splicing events. The gene encoding ADH4 maps to a cluster of alcohol dehydrogenase genes on human chromosome 4, a chromosome that 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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- von Bahr-Lindström, H., et al. 1991. Cloning and characterization of the human ADH4 gene. Gene 103: 269-274.
- Edman, K. and Maret, W. 1992. Alcohol dehydrogenase genes: restriction fragment length polymorphisms for ADH4 (pi-ADH) and ADH5 (chi-ADH) and construction of haplotypes among different ADH classes. Hum. Genet. 90: 395-401.
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- Macgregor, S., et al. 2009. Associations of ADH and ALDH2 gene variation with self report alcohol reactions, consumption and dependence: an integrated analysis. Hum. Mol. Genet. 18: 580-593.

CHROMOSOMAL LOCATION

Genetic locus: ADH4 (human) mapping to 4q23.

SOURCE

ADH4 (E-25) is a Protein A purified rabbit polyclonal antibody raised against synthetic ADH4 peptide of human origin.

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.

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

ADH4 (E-25) is recommended for detection of ADH4 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 ADH4 siRNA (h): sc-105043, ADH4 shRNA Plasmid (h): sc-105043-SH and ADH4 shRNA (h) Lentiviral Particles: sc-105043-V.

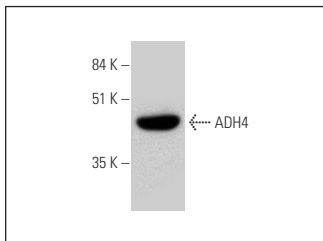
Molecular Weight of ADH4: 40 kDa.

Positive Controls: human liver extract: sc-363766.

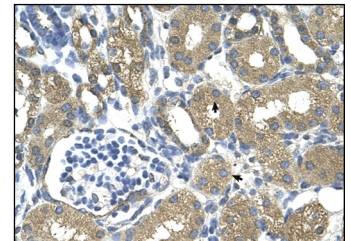
RECOMMENDED SECONDARY REAGENTS

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



ADH4 (E-25): sc-130943. Western blot analysis of ADH4 expression in human liver tissue extract.



ADH4 (E-25): sc-130943. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human kidney tissue showing cytoplasmic localization.

PROTOCOLS

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