

ADH8 (H-240): sc-292533

BACKGROUND

The alcohol dehydrogenase family of proteins metabolize a wide variety of substrates, including retinol, hydroxysteroids, ethanol, aliphatic alcohols and lipid peroxidation products. ADH8, also known as ADHFE1 (alcohol dehydrogenase, iron containing, 1) or HOT, is a 467 amino acid protein that belongs to the iron-containing alcohol dehydrogenase family and localizes to the mitochondrion. Expressed specifically in adult liver, ADH8 functions to catalyze the cofactor-independent oxidation of γ -hydroxybutyrate to succinic semialdehyde, a reaction that is coupled to the reduction of 2-ketoglutarate to D-2-hydroxyglutarate and occurs at an optimal pH of 7.5. Succinic semialdehyde can then be converted to succinic acid which is used for energy production in the Krebs cycle. Four isoforms of ADH8 exist due to alternative splicing events.

REFERENCES

- Deng, Y., Wang, Z., Gu, S., Ji, C., Ying, K., Xie, Y. and Mao, Y. 2002. Cloning and characterization of a novel human alcohol dehydrogenase gene (ADHFe1). *DNA Seq.* 13: 301-306.
- Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 611083. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Rosell, A., Valencia, E., Pares, X., Fita, I., Farres, J. and Ochoa, W.F. 2003. Crystal structure of the vertebrate NADP(H)-dependent alcohol dehydrogenase (ADH8). *J. Mol. Biol.* 330: 75-85. 3
- Reimers, M.J., Hahn, M.E. and Tanguay, R.L. 2004. Two zebrafish alcohol dehydrogenases share common ancestry with mammalian class I, II, IV, and V alcohol dehydrogenase genes but have distinct functional characteristics. *J. Biol. Chem.* 279: 38303-38312.
- Struys, E.A., Verhoeven, N.M., Ten Brink, H.J., Wickenhagen, W.V., Gibson, K.M. and Jakobs, C. 2005. Kinetic characterization of human hydroxyacid-oxoacid transhydrogenase: relevance to D-2-hydroxyglutaric and gamma-hydroxybutyric acidurias. *J. Inherit. Metab. Dis.* 28: 921-930.
- Kardon, T., Noël, G., Vertommen, D. and Schaftingen, E.V. 2006. Identification of the gene encoding hydroxyacid-oxoacid transhydrogenase, an enzyme that metabolizes 4-hydroxybutyrate. *FEBS Lett.* 580: 2347-2350.
- Kim, J.Y., Tillison, K.S., Zhou, S., Lee, J.H. and Smas, C.M. 2007. Differentiation-dependent expression of ADHFE1 in adipogenesis. *Arch. Biochem. Biophys.* 464: 100-111.

CHROMOSOMAL LOCATION

Genetic locus: ADHFE1 (human) mapping to 8q13.1; Adhfe1 (mouse) mapping to 1 A2.

SOURCE

ADH8 (H-240) is a rabbit polyclonal antibody raised against amino acids 20-259 mapping near the N-terminus of ADH8 of human origin.

PRODUCT

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

APPLICATIONS

SKRP1 (H-94) is recommended for detection of SKRP1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

SKRP1 (H-94) is also recommended for detection of SKRP1 in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for SKRP1 siRNA (h): sc-61557, SKRP1 siRNA (m): sc-61558, SKRP1 shRNA Plasmid (h): sc-61557-SH, SKRP1 shRNA Plasmid (m): sc-61558-SH, SKRP1 shRNA (h) Lentiviral Particles: sc-61557-V and SKRP1 shRNA (m) Lentiviral Particles: sc-61558-V.

Molecular Weight of ADH8: 50 kDa.

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.

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 or our catalog for detailed protocols and support products.