SANTA CRUZ BIOTECHNOLOGY, INC.

ADH (G-7): sc-133207

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.

CHROMOSOMAL LOCATION

Genetic locus: ADH1A/ADH1B/ADH1C (human) mapping to 4q23; Adh1 (mouse) mapping to 3 G3.

SOURCE

ADH (G-7) is a mouse monoclonal antibody raised against amino acids 1-300 mapping at the N-terminus of ADH of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ADH (G-7) is available conjugated to agarose (sc-133207 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-133207 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-133207 PE), fluorescein (sc-133207 FITC), Alexa Fluor® 488 (sc-133207 AF488), Alexa Fluor® 546 (sc-133207 AF546), Alexa Fluor® 594 (sc-133207 AF594) or Alexa Fluor® 647 (sc-133207 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-133207 AF680) or Alexa Fluor® 790 (sc-133207 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

ADH (G-7) is recommended for detection of ADHα, ADHβ and ADHγ 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 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 Adh1 siRNA (m): sc-41437, Adh1 shRNA Plasmid (m): sc-41437-SH and Adh1 shRNA (m) Lentiviral Particles: sc-41437-V.

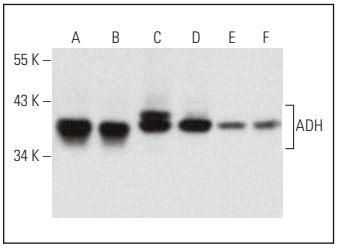
Molecular Weight of ADH: 46 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, K-562 whole cell lysate: sc-2203 or C3H/10T1/2 cell lysate: sc-3801.

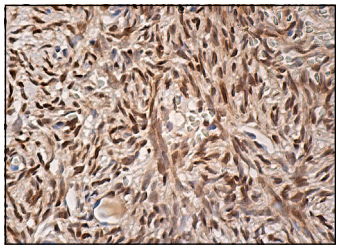
RECOMMENDED SUPPORT REAGENTS

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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



ADH (G-7): sc-133207. Western blot analysis of ADH expression in Jurkat (**A**), K-562 (**B**), C3H/10T1/2 (**C**), Sol8 (**D**), RIN-m5F (**E**) and RPE-J (**F**) whole cell lysates.



ADH (G-7): sc-133207. Immunoperoxidase staining of formalin fixed, paraffin-embedded human ovary tissue showing nuclear and cytoplasmic staining of ovarian stroma cells.

SELECT PRODUCT CITATIONS

1. Maity, G., et al. 2015. Aspirin blocks growth of breast tumor cells and tumor-initiating cells and induces reprogramming factors of mesenchymal to epithelial transition. Lab. Invest. 95: 702-717.
2. Yan, S., et al. 2019. Diverse consequences in liver injury in mice with different autophagy functional status treated with alcohol. Am. J. Pathol. 189: 1744-1762.
3. Mello, A., et al. 2021. Soluble epoxide hydrolase hepatic deficiency ameliorates alcohol-associated liver disease. Cell. Mol. Gastroenterol. Hepatol. 11: 815-830.
4. Das, A., et al. 2021. CCN5 activation by free or encapsulated EGCG is required to render triple-negative breast cancer cell viability and tumor progression. Pharmacol. Res. Perspect. 9: e00753.
5. Zhao, T., et al. 2023. Effect of ADHI on hepatic stellate cell activation and liver fibrosis in mice. Biochem. Biophys. Res. Commun. 651: 98-106.

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.