

ADH5 Antibody (Center)
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP8562C

Specification

ADH5 Antibody (Center) - Product Information

Application	WB, IHC-P, FC,E
Primary Accession	P11766
Other Accession	O19053
Reactivity	Human
Predicted	Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Antigen Region	212-239

ADH5 Antibody (Center) - Additional Information

Gene ID 128

Other Names

Alcohol dehydrogenase class-3, Alcohol dehydrogenase 5, Alcohol dehydrogenase class chi chain, Alcohol dehydrogenase class-III, Glutathione-dependent formaldehyde dehydrogenase, FALDH, FDH, GSH-FDH, 111-, S-(hydroxymethyl)glutathione dehydrogenase, ADH5 (http://www.genenames.org/cgi-bin/gene_symbol_report?hgnc_id=253 target="_blank">HGNC:253), ADHX, FDH

Target/Specificity

This ADH5 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 212-239 amino acids from the Central region of human ADH5.

Dilution

WB~~1:4000
IHC-P~~1:100
FC~~1:10~50

Format

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

Storage

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions

ADH5 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

ADH5 Antibody (Center) - Protein Information

Name ADH5 ([HGNC:253](#))

Synonyms ADHX, FDH

Function Catalyzes the oxidation of long-chain primary alcohols and the oxidation of S-(hydroxymethyl) glutathione (PubMed:[8460164](#)). Also oxidizes long chain omega-hydroxy fatty acids, such as 20-HETE, producing both the intermediate aldehyde, 20-oxoarachidonate and the end product, a dicarboxylic acid, (5Z,8Z,11Z,14Z)-eicosatetraenedioate (PubMed:[16081420](#)). Class-III ADH is remarkably ineffective in oxidizing ethanol (PubMed:[8460164](#)). Required for clearance of cellular formaldehyde, a cytotoxic and carcinogenic metabolite that induces DNA damage (PubMed:[33355142](#)). Also acts as a S-nitroso-glutathione reductase by catalyzing the NADH-dependent reduction of S-nitrosoglutathione, thereby regulating protein S-nitrosylation (By similarity).

Cellular Location

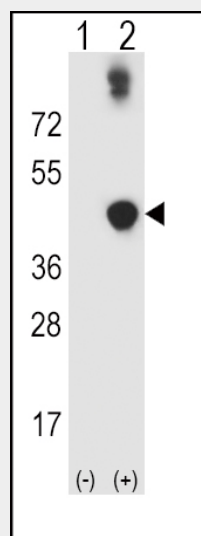
Cytoplasm.

ADH5 Antibody (Center) - Protocols

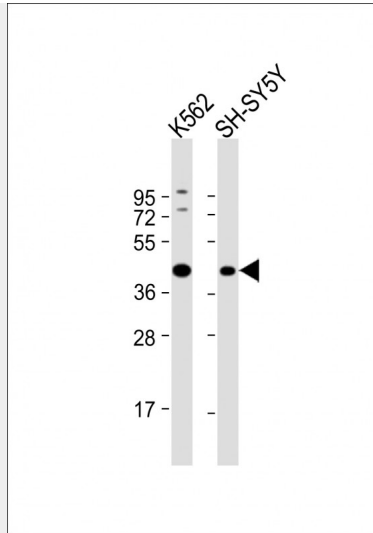
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

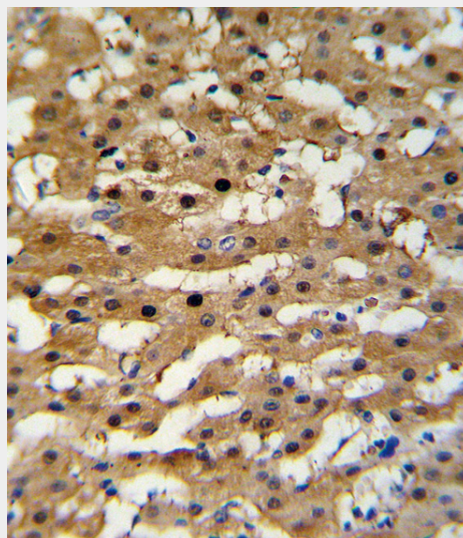
ADH5 Antibody (Center) - Images



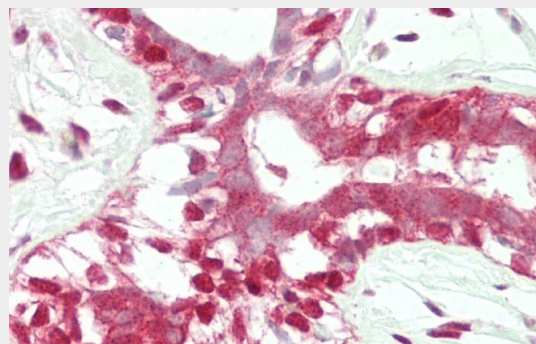
Western blot analysis of ADH5 (arrow) using rabbit polyclonal ADH5 Antibody (Center) (Cat. #AP8562c). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected (Lane 2) with the ADH5 gene.



All lanes : Anti-ADH5 Antibody (Center) at 1:4000 dilution Lane 1: K562 whole cell lysate Lane 2: SH-SY5Y whole cell lysate Lysates/proteins at 20 μ g per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 40 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

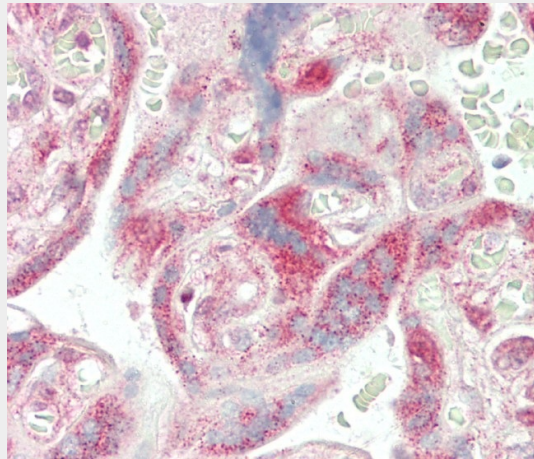


Formalin-fixed and paraffin-embedded human hepatocarcinoma with ADH5 Antibody (Center), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.

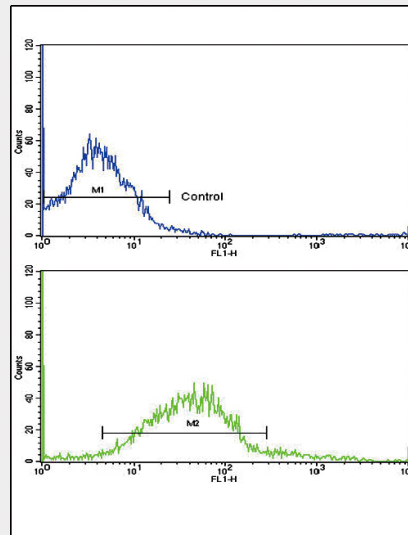


Formalin-fixed and paraffin-embedded H.breast tissue reacted with ADH5 Antibody (Center)

(Cat#AP8562c).



Formalin-fixed and paraffin-embedded H.placenta tissue reacted with ADH5 Antibody (Center) (Cat#AP8562c).



Flow cytometric analysis of K562 cells using ADH5 Antibody (Center)(bottom histogram) compared to a negative control cell (top histogram). FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

ADH5 Antibody (Center) - Background

ADH5 is a member of the alcohol dehydrogenase family. Members of this family metabolize a wide variety of substrates, including ethanol, retinol, other aliphatic alcohols, hydroxysteroids, and lipid peroxidation products. This protein forms a homodimer. It has virtually no activity for ethanol oxidation, but exhibits high activity for oxidation of long-chain primary alcohols and for oxidation of S-hydroxymethyl-glutathione, a spontaneous adduct between formaldehyde and glutathione. This enzyme is an important component of cellular metabolism for the elimination of formaldehyde, a potent irritant and sensitizing agent that causes lacrymation, rhinitis, pharyngitis, and contact dermatitis.

ADH5 Antibody (Center) - References

- Martins-de-Souza,D., et.al., Eur Arch Psychiatry Clin Neurosci 259 (3), 151-163 (2009)
- Iborra,F.J., et.al., J. Histochem. Cytochem. 40 (12), 1865-1878 (1992)