

**Anti-ADH5 Antibody**  
Catalog # ABO12787**Specification****Anti-ADH5 Antibody - Product Information**

Application	WB
Primary Accession	<a href="#">P11766</a>
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized

**Description**

Rabbit IgG polyclonal antibody for Alcohol dehydrogenase class-3(ADH5) detection. Tested with WB in Human;Mouse;Rat.

**Reconstitution**

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

**Anti-ADH5 Antibody - Additional Information**

**Gene ID** 128

**Other Names**

Alcohol dehydrogenase class-3, 1.1.1.1, Alcohol dehydrogenase 5, Alcohol dehydrogenase class chi chain, Alcohol dehydrogenase class-III, Glutathione-dependent formaldehyde dehydrogenase, FALDH, FDH, GSH-FDH, 1.1.1.-, S-(hydroxymethyl)glutathione dehydrogenase, 1.1.1.284, ADH5 ([http://www.genenames.org/cgi-bin/gene\\_symbol\\_report?hgnc\\_id=253](http://www.genenames.org/cgi-bin/gene_symbol_report?hgnc_id=253) target="\_blank">HGNC:253</a>), ADHX, FDH

**Calculated MW**

39724 MW KDa

**Application Details**

Western blot, 0.1-0.5 µg/ml, Human, Mouse, Rat<br>

**Subcellular Localization**

Cytoplasm.

**Protein Name**

Alcohol dehydrogenase class-3

**Contents**

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na<sub>2</sub>HPO<sub>4</sub>, 0.05mg Na<sub>3</sub>N.

**Immunogen**

E. coli-derived human ADH5 recombinant protein (Position: K212-I374). Human ADH5 shares 90.2% and 92% amino acid (aa) sequence identity with mouse and rat ADH5, respectively.

**Purification**

Immunogen affinity purified.

#### Cross Reactivity

No cross reactivity with other proteins.

Storage

**At -20°C for one year. After r°Constitution, at 4°C for one month. It°Can also be aliquotted and stored frozen at -20°C for a longer time.Avoid repeated freezing and thawing.**

### Anti-ADH5 Antibody - 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:<a href="http://www.uniprot.org/citations/8460164" target="\_blank">8460164</a>). 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:<a href="http://www.uniprot.org/citations/16081420" target="\_blank">16081420</a>). Class-III ADH is remarkably ineffective in oxidizing ethanol (PubMed:<a href="http://www.uniprot.org/citations/8460164" target="\_blank">8460164</a>). Required for clearance of cellular formaldehyde, a cytotoxic and carcinogenic metabolite that induces DNA damage (PubMed:<a href="http://www.uniprot.org/citations/33355142" target="\_blank">33355142</a>). 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

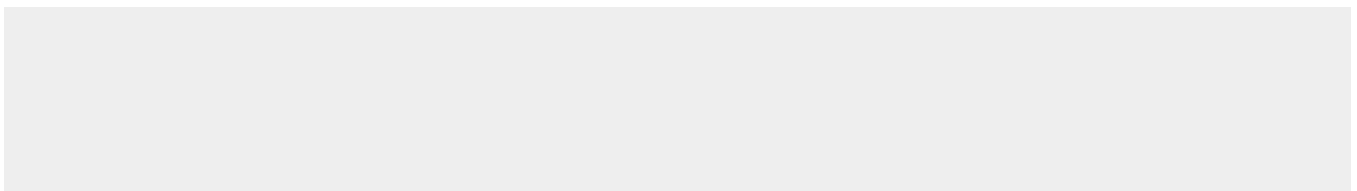
Cytoplasm.

### Anti-ADH5 Antibody - 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](#)

### Anti-ADH5 Antibody - Images





Western blot analysis of ADH5 expression in rat brain extract (lane 1), mouse brain extract (lane 2) and HEPG2 whole cell lysates (lane 3). ADH5 at 40KD was detected using rabbit anti- ADH5 Antigen Affinity purified polyclonal antibody (Catalog # ABO12787) at 0.5 µg/mL. The blot was developed using chemiluminescence (ECL) method .

#### **Anti-ADH5 Antibody - Background**

Alcohol dehydrogenase class-3 is an enzyme that in humans is encoded by the ADH5 gene. This gene encodes 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. The encoded 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. The human genome contains several non-transcribed pseudogenes related to this gene.