

### **AKR1A1 Antibody**

Purified Rabbit Polyclonal Antibody (Pab) Catalog # AP51718

## **Specification**

## **AKR1A1 Antibody - Product Information**

Application WB
Primary Accession P14550
Reactivity Human, Mouse, Rat
Rabbit

Clonality Polyclonal
Calculated MW 37 KDa
Antigen Region 261 - 320

# **AKR1A1 Antibody - Additional Information**

**Gene ID 10327** 

#### **Other Names**

Alcohol dehydrogenase [NADP(+)], Aldehyde reductase, Aldo-keto reductase family 1 member A1, AKR1A1, ALDR1, ALR

# **Target/Specificity**

KLH conjugated synthetic peptide derived from human AKR1A1

### **Dilution**

WB~~ 1:1000

#### **Format**

0.01M PBS, pH 7.2, 0.09% (W/V) Sodium azide, Glycerol 50%

## **Storage**

Store at -20 °C. Stable for 12 months from date of receipt

# **AKR1A1 Antibody - Protein Information**

Name AKR1A1

Synonyms ALDR1, ALR

#### **Function**

Catalyzes the NADPH-dependent reduction of a wide variety of carbonyl-containing compounds to their corresponding alcohols. Displays enzymatic activity towards endogenous metabolites such as aromatic and aliphatic aldehydes, ketones, monosaccharides and bile acids, with a preference for negatively charged substrates, such as glucuronate and succinic semialdehyde (PubMed:<a href="http://www.uniprot.org/citations/10510318" target="\_blank">10510318</a>/a>). Functions as a detoxifiying enzyme by reducing a range of toxic aldehydes. Reduces methylglyoxal and 3-deoxyglucosone, which are present at elevated levels under hyperglycemic conditions and are



cytotoxic. Involved also in the detoxification of lipid-derived aldehydes like acrolein (By similarity). Plays a role in the activation of procarcinogens, such as polycyclic aromatic hydrocarbon trans-dihydrodiols, and in the metabolism of various xenobiotics and drugs, including the anthracyclines doxorubicin (DOX) and daunorubicin (DAUN) (PubMed:<a href="http://www.uniprot.org/citations/18276838" target="\_blank">18276838</a>, PubMed:<a href="http://www.uniprot.org/citations/11306097" target="\_blank">11306097</a>). Displays no reductase activity towards retinoids (By similarity).

#### **Cellular Location**

Cytoplasm, cytosol {ECO:0000250|UniProtKB:Q9JII6}. Apical cell membrane {ECO:0000250|UniProtKB:Q9JII6}

#### **Tissue Location**

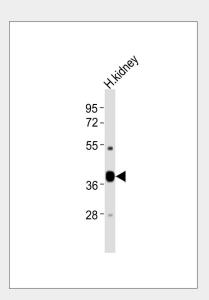
Widely expressed. Highly expressed in kidney, salivary gland and liver. Detected in trachea, stomach, brain, lung, prostate, placenta, mammary gland, small intestine and lung

### **AKR1A1 Antibody - Protocols**

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

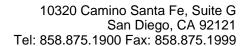
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

### **AKR1A1 Antibody - Images**



Anti-AKR1A1 Antibodyat 1:1000 dilution + human kidney lysates Lysates/proteins at 20  $\mu$ g per lane. Secondary Goat Anti-Rabbit IgG, (H+L),Peroxidase conjugated at 1/10000 dilution Predicted band size : 37 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

## **AKR1A1 Antibody - Background**





Catalyzes the NADPH-dependent reduction of a variety of aromatic and aliphatic aldehydes to their corresponding alcohols. Catalyzes the reduction of mevaldate to mevalonic acid and of glyceraldehyde to glycerol. Has broad substrate specificity. In vitro substrates include succinic semialdehyde, 4- nitrobenzaldehyde, 1,2-naphthoquinone, methylglyoxal, and D- glucuronic acid. Plays a role in the activation of procarcinogens, such as polycyclic aromatic hydrocarbon trans-dihydrodiols, and in the metabolism of various xenobiotics and drugs, including the anthracyclines doxorubicin (DOX) and daunorubicin (DAUN).

## **AKR1A1 Antibody - References**

Bohren K.M.,et al.J. Biol. Chem. 264:9547-9551(1989). Fujii J.,et al.Cytogenet. Cell Genet. 84:230-232(1999). Barski O.A.,et al.Genomics 60:188-198(1999). Ota T.,et al.Nat. Genet. 36:40-45(2004). Ebert L.,et al.Submitted (JUN-2004) to the EMBL/GenBank/DDBJ databases.