

**AKR1A1 Antibody (CT)**  
**Rabbit Polyclonal Antibody**  
**Catalog # ABV11288****Specification**

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**AKR1A1 Antibody (CT) - Product Information**

Application	WB, IHC
Primary Accession	<a href="#">P14550</a>
Reactivity	Human, Mouse, Rat, Pig, Bovine
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	36573

**AKR1A1 Antibody (CT) - Additional Information****Gene ID** 10327

Positive Control	Western blot: Y79, 293 cell line lysates, IHC: human hepatocarcinoma
Application & Usage	Western blot: ~1:1000, IHC: ~1:10 - 1:50
<b>Other Names</b>	
AKR1A1; ALDR1; ALR; Alcohol dehydrogenase [NADP(+)]; Aldehyde reductase; Aldo-keto reductase family 1 member A1	

**Target/Specificity**  
AKR1A1**Antibody Form**  
Liquid**Appearance**  
Colorless liquid**Formulation**  
100 µl of antibody in PBS with 0.09% (W/V) sodium azide**Handling**  
The antibody solution should be gently mixed before use.**Reconstitution & Storage**  
-20 °C**Background Descriptions****Precautions**

AKR1A1 Antibody (CT) is for research use only and not for use in diagnostic or therapeutic procedures.

## AKR1A1 Antibody (CT) - 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>). Functions as a detoxifying 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 (CT) - 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](#)

## AKR1A1 Antibody (CT) - Images

## AKR1A1 Antibody (CT) - Background

AKR1A1 (aldo-keto reductase family 1 member A1), also known as ALR (aldehyde reductase), DD3 (dihydrodiol dehydrogenase 3) or ALDR1 (alcohol dehydrogenase), is a widely and abundantly expressed member of the aldo-keto reductase (AKR) family of proteins. Members of the AKR family are soluble NADPH-dependent oxidoreductases. They play important roles in the metabolism of drugs, carcinogens and reactive aldehydes. AKR1A1 exists as a monomer and catalyzes the reduction of xenobiotic and biogenic aldehydes and ketones to their corresponding alcohols. In particular, AKR1A1 efficiently catalyzes medium-chain and aromatic aldehydes. AKR1A1

participates in the biosynthetic pathways of cholesterol and triglyceride and plays a role in the activation of polycyclic aromatic hydrocarbons (PAHs).