

**AKR1B1 / Aldose Reductase Antibody (clone 2D12)**  
**Mouse Monoclonal Antibody**  
**Catalog # ALS14359****Specification**

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**AKR1B1 / Aldose Reductase Antibody (clone 2D12) - Product Information**

Application	IHC
Primary Accession	<a href="#">P15121</a>
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Calculated MW	36kDa KDa

**AKR1B1 / Aldose Reductase Antibody (clone 2D12) - Additional Information****Gene ID** 231**Other Names**

Aldose reductase, AR, 1.1.1.21, Aldehyde reductase, Aldo-keto reductase family 1 member B1, AKR1B1, ALDR1

**Target/Specificity**

Human AKR1B1

**Reconstitution & Storage**

Store at -20°C or lower. Aliquot to avoid repeated freezing and thawing.

**Precautions**

AKR1B1 / Aldose Reductase Antibody (clone 2D12) is for research use only and not for use in diagnostic or therapeutic procedures.

**AKR1B1 / Aldose Reductase Antibody (clone 2D12) - Protein Information****Name** AKR1B1**Synonyms** ALDR1, ALR2 {ECO:0000303|PubMed:17368668}**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, bile acids and xenobiotics substrates. Key enzyme in the polyol pathway, catalyzes reduction of glucose to sorbitol during hyperglycemia (PubMed:<a href="http://www.uniprot.org/citations/1936586" target="\_blank">1936586</a>). Reduces steroids and their derivatives and prostaglandins. Displays low enzymatic activity toward all-trans-retinal, 9-cis-retinal, and 13-cis- retinal (PubMed:<a href="http://www.uniprot.org/citations/12732097" target="\_blank">12732097</a>, PubMed:<a href="http://www.uniprot.org/citations/19010934" target="\_blank">19010934</a>, PubMed:<a href="http://www.uniprot.org/citations/8343525" target="\_blank">8343525</a>). Catalyzes the

reduction of diverse phospholipid aldehydes such as 1-palmitoyl-2- (5-oxovaleroyl)-sn-glycero-3-phosphoethanolamin (POVPC) and related phospholipid aldehydes that are generated from the oxydation of phosphatidylcholine and phosphatidylethanolamides (PubMed:<a href="http://www.uniprot.org/citations/17381426" target="\_blank">17381426</a>). Plays a role in detoxifying dietary and lipid-derived unsaturated carbonyls, such as crotonaldehyde, 4-hydroxynonenal, trans-2-hexenal, trans-2,4-hexadienal and their glutathione-conjugates carbonyls (GS- carbonyls) (PubMed:<a href="http://www.uniprot.org/citations/21329684" target="\_blank">21329684</a>).

**Cellular Location**

Cytoplasm.

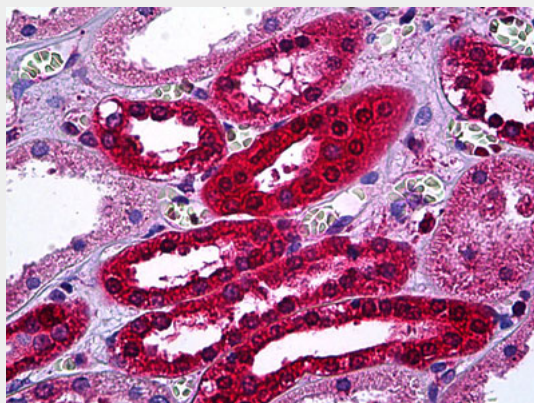
**Tissue Location**

Highly expressed in embryonic epithelial cells (EUE) in response to osmotic stress.

**AKR1B1 / Aldose Reductase Antibody (clone 2D12) - 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](#)

**AKR1B1 / Aldose Reductase Antibody (clone 2D12) - Images**

Anti-AKR1B1 antibody IHC of human kidney, tubules.

**AKR1B1 / Aldose Reductase Antibody (clone 2D12) - Background**

Catalyzes the NADPH-dependent reduction of a wide variety of carbonyl-containing compounds to their corresponding alcohols with a broad range of catalytic efficiencies.

**AKR1B1 / Aldose Reductase Antibody (clone 2D12) - References**

Bohren K.M.,et al.J. Biol. Chem. 264:9547-9551(1989).  
Chung S.,et al.J. Biol. Chem. 264:14775-14777(1989).

Graham A.,et al.Nucleic Acids Res. 17:8368-8368(1989).  
Grundmann U.,et al.DNA Cell Biol. 9:149-157(1990).  
Nishimura C.,et al.J. Biol. Chem. 265:9788-9792(1990).