

**Anti-AKR1B1 Picoband Antibody**  
Catalog # ABO11653**Specification**

---

**Anti-AKR1B1 Picoband Antibody - Product Information**

Application	<b>WB, IHC</b>
Primary Accession	<a href="#">P15121</a>
Host	<b>Rabbit</b>
Reactivity	<b>Human, Mouse, Rat</b>
Clonality	<b>Polyclonal</b>
Format	<b>Lyophilized</b>

**Description**

Rabbit IgG polyclonal antibody for Aldose reductase(AKR1B1) detection. Tested with WB, IHC-P in Human;Mouse;Rat.

**Reconstitution**

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

**Anti-AKR1B1 Picoband Antibody - 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

**Calculated MW**

35853 MW KDa

**Application Details**

Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, Mouse, Rat, By Heat  
Western blot, 0.1-0.5 µg/ml, Human, Rat

**Subcellular Localization**

Cytoplasm.

**Tissue Specificity**

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

**Protein Name**

Aldose reductase

**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 AKR1B1 recombinant protein (Position: L228-F316). Human AKR1B1 shares 87.5% amino acid (aa) sequence identity with both mouse and rat AKR1B1.

**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-AKR1B1 Picoband Antibody - 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 phosphotidylcholine and phosphatdyleethanolamides (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.

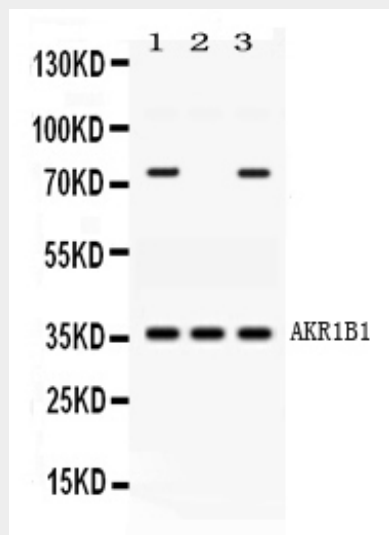
**Anti-AKR1B1 Picoband Antibody - Protocols**

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

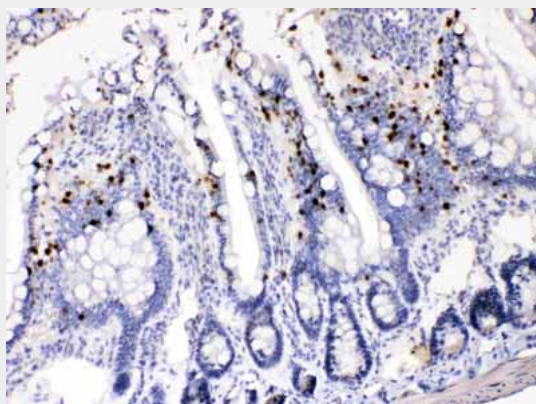
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)

- [Flow Cytometry](#)
- [Cell Culture](#)

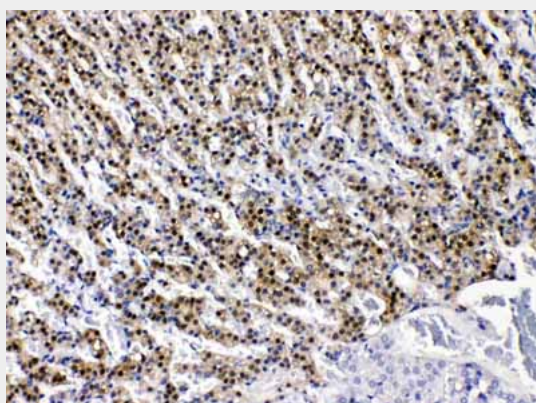
### Anti-AKR1B1 Picoband Antibody - Images



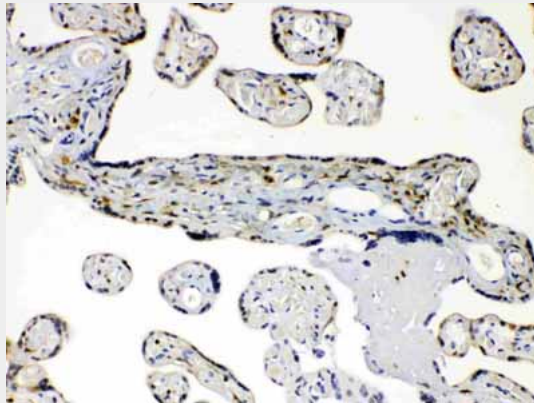
Western blot analysis of AKR1B1 expression in rat cardiac muscle extract (lane 1), human placenta extract (lane 2) and HELA whole cell lysates (lane 3). AKR1B1 at 36KD was detected using rabbit anti- AKR1B1 Antigen Affinity purified polyclonal antibody (Catalog # ABO11653) at 0.5  $\mu$ g/mL. The blot was developed using chemiluminescence (ECL) method .



AKR1B1 was detected in paraffin-embedded sections of rat intestine tissues using rabbit anti-AKR1B1 Antigen Affinity purified polyclonal antibody (Catalog # ABO11653) at 1  $\mu$ g/mL. The immunohistochemical section was developed using SABC method .



AKR1B1 was detected in paraffin-embedded sections of rat adrenal gland tissues using rabbit anti- AKR1B1 Antigen Affinity purified polyclonal antibody (Catalog # ABO11653) at 1  $\mu$ g/mL. The immunohistochemical section was developed using SABC method .



AKR1B1 was detected in paraffin-embedded sections of human placenta tissues using rabbit anti- AKR1B1 Antigen Affinity purified polyclonal antibody (Catalog # ABO11653) at 1  $\mu$ g/mL. The immunohistochemical section was developed using SABC method .

#### **Anti-AKR1B1 Picoband Antibody - Background**

Aldo-keto reductase family 1, member B1 (aldose reductase), also known as AR, is an enzyme that in humans is encoded by the AKR1B1 gene. This gene encodes a member of the aldo/keto reductase superfamily, which consists of more than 40 known enzymes and proteins. This member catalyzes the reduction of a number of aldehydes, including the aldehyde form of glucose, and is thereby implicated in the development of diabetic complications by catalyzing the reduction of glucose to sorbitol.