

AKR1B1 Antibody (Center) Blocking Peptide
Synthetic peptide
Catalog # BP2735c**Specification**

AKR1B1 Antibody (Center) Blocking Peptide - Product InformationPrimary Accession [P15121](#)**AKR1B1 Antibody (Center) Blocking Peptide - Additional Information**

Gene ID 231

Other Names

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

Target/Specificity

The synthetic peptide sequence used to generate the antibody [AP2735c](/products/AP2735c) was selected from the Center region of human AKR1B1. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

AKR1B1 Antibody (Center) Blocking Peptide - 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: [1936586](http://www.uniprot.org/citations/1936586)). Reduces steroids and their derivatives and prostaglandins. Displays low enzymatic activity toward all-trans-retinal, 9-cis-retinal, and 13-cis-retinal (PubMed: [12732097](http://www.uniprot.org/citations/12732097), PubMed: [19010934](http://www.uniprot.org/citations/19010934), PubMed: [19010934](http://www.uniprot.org/citations/19010934)).

[8343525](http://www.uniprot.org/citations/8343525)). 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:[17381426](http://www.uniprot.org/citations/17381426)). 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:[21329684](http://www.uniprot.org/citations/21329684)).

Cellular Location

Cytoplasm.

Tissue Location

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

AKR1B1 Antibody (Center) Blocking Peptide - Protocols

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

- [Blocking Peptides](#)

AKR1B1 Antibody (Center) Blocking Peptide - Images**AKR1B1 Antibody (Center) Blocking Peptide - Background**

AKR1B1 is a member of the aldo/keto reductase superfamily, which consists of more than 40 known enzymes and proteins. This protein 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.

AKR1B1 Antibody (Center) Blocking Peptide - References

Steuber,H.,J. Mol. Biol. 379 (5), 991-1016 (2008) Gleissner,C.A.,Arterioscler. Thromb. Vasc. Biol. 28 (6), 1137-1143 (2008) Grundmann,U.,DNA Cell Biol. 9 (3), 149-157 (1990)