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KD-Validated Anti-AKR1B1 Mouse Monoclonal Antibody

Mouse monoclonal antibody
Catalog # AGI1973

Product Information

Application	WB
Primary Accession	P15121
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Isotype	Mouse IgG1
Clone Names	24GB6775
Calculated MW	35853
Gene Name	AKR1B1
Aliases	AKR1B1; Aldo-Keto Reductase Family 1 Member B; AR; Aldose Reductase; ALDR1; Aldo-Keto Reductase Family 1 Member B1; EC 1.1.1.21; ALR2; Aldo-Keto Reductase Family 1, Member B1 (Aldose Reductase); Lii5-2 CTCL Tumor Antigen; Low Km Aldose Reductase; Aldehyde Reductase 1; Aldehyde Reductase; EC 1.1.1.300; EC 1.1.1.372; EC 1.1.1.54; EC 1.1.1; ADR
Immunogen	Recombinant protein of human AKR1B1

Additional Information

Gene ID	231
Other Names	Aldo-keto reductase family 1 member B1, 1.1.1.21, 1.1.1.300, 1.1.1.372, 1.1.1.54, Aldehyde reductase, Aldose reductase, AR, AKR1B1, ALDR1, ALR2 {ECO:0000303|PubMed:17368668}

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 (PubMed:10510318, PubMed:12732097, PubMed:1332968, PubMed:21329684, PubMed:8245005, PubMed:4402695, PubMed:1936586). It catalyzes the reduction of glucose to sorbitol, the first step of the polyol pathway, an alternative route of glucose metabolism that converts glucose to fructose (PubMed:4402695, PubMed:1936586). This pathway becomes highly active under elevated glucose levels, such as during hyperglycemia (PubMed: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, PubMed:19010934,

PubMed: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 phosphotidylcholine and phosphatdyleethanolamides (PubMed: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).

Cellular Location Cytoplasm.

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

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