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AKR1B1 Antibody

Purified Mouse Monoclonal Antibody (Mab)
Catalog # AP52760

Product Information

Application	WB
Primary Accession	P15121
Reactivity	Human, Mouse
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1
Calculated MW	35853

Additional Information

Gene ID	231
Other Names	ADR; AKR1B 1;Akr1b1;Aldehyde reductase 1;Aldehyde reductase;Aldo keto reductase family 1, member B1;Aldo-keto reductase family 1 member B1;aldo-keto reductase family 1, member B1 (aldose reductase);Aldose reductase;aldr 1;ALDR_HUMAN;ALDR1;ALR2;AR;Lii5 2 CTCL tumor antigen;Low Km aldose reductase;MGC1804.
Dilution	WB~~1:1000
Format	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide, pH 7.3.
Storage	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.

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.

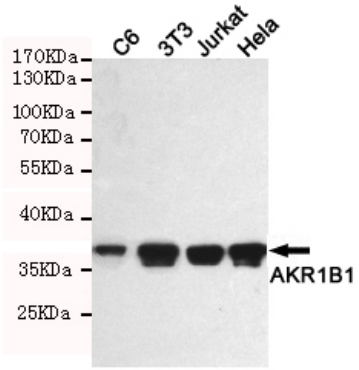
Background

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

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).

Images



Western blot detection of AKR1B1 in C6,3T3,Jurkat and Hela cell lysates using AKR1B1 mouse mAb (1:1000 diluted). Predicted band size:36KDa. Observed band size:36KDa.

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