

AKR1B1 Antibody (Center)
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AW5437

Specification

AKR1B1 Antibody (Center) - Product Information

Application	IF, WB, IHC-P,E
Primary Accession	P15121
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Calculated MW	H=36 KDa
Isotype	Rabbit IgG
Antigen Source	HUMAN

AKR1B1 Antibody (Center) - Additional Information

Gene ID 231

Antigen Region
102-135

Other Names

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

Dilution

IF~~1:10~50
WB~~1:1000
IHC-P~~1:10~50

Target/Specificity

This AKR1B1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 102-135 amino acids from the Central region of human AKR1B1.

Format

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.

Storage

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions

AKR1B1 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

AKR1B1 Antibody (Center) - 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). 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

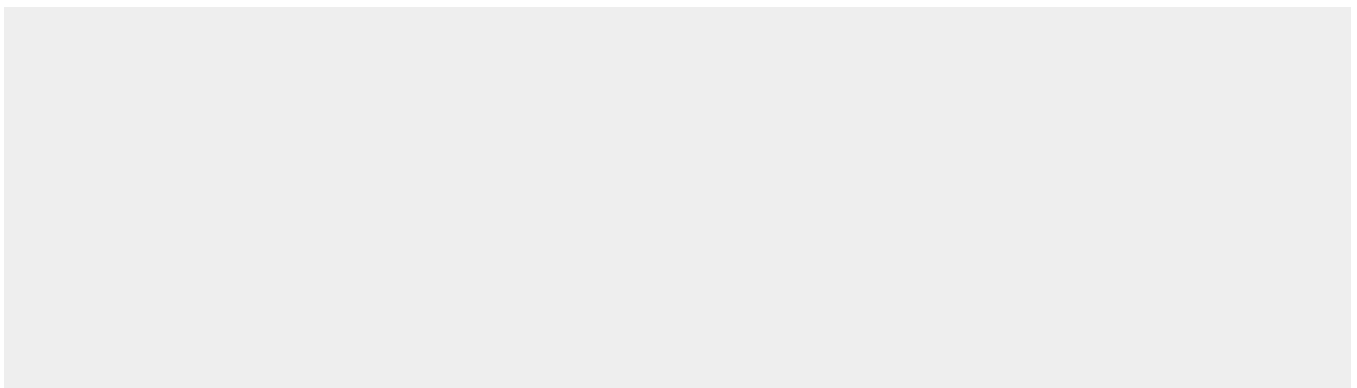
Highly expressed in embryonic epithelial cells (EUE) in response to osmotic stress.

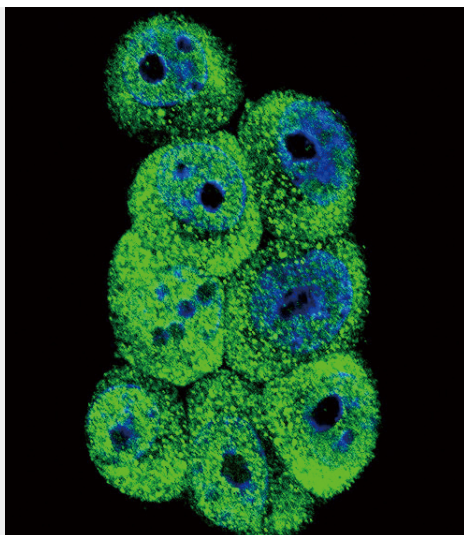
AKR1B1 Antibody (Center) - Protocols

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

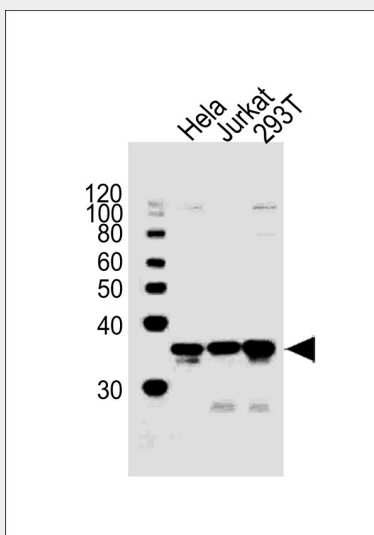
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

AKR1B1 Antibody (Center) - Images

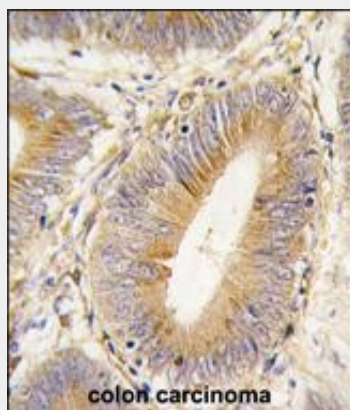




Confocal immunofluorescent analysis of AKR1B1 Antibody (Center)(Cat#AW5437) with 293 cell followed by Alexa Fluor 488-conjugated goat anti-rabbit IgG (green). DAPI was used to stain the cell nuclear (blue).



All lanes : Anti-AKR1B1 Antibody (Center) at 1:1000 dilution Lane 1: HeLa whole cell lysates Lane 2: Jurkat whole cell lysates Lane 3: 293T whole cell lysates Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution Predicted band size : 36 kDa Blocking/Dilution buffer: 5% NFDm/TBST.



Formalin-fixed and paraffin-embedded human colon carcinoma tissue reacted with AKR1B1 antibody (Center) (Cat.#AW5437), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.

AKR1B1 Antibody (Center) - 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) - 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)