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AKR1B1 Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AW5144

Specification

AKR1B1 Antibody (C-term) - Product Information

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

AKR1B1 Antibody (C-term) - Additional Information

Gene ID 231

Antigen Region
290-316

Other Names
AKR1B1; ALDR1; Aldose reductase; Aldehyde reductase; Aldo-keto reductase family 1 member B1

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

Target/Specificity
This AKR1B1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 290-316 amino acids from the C-terminal 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 (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

AKR1B1 Antibody (C-term) - 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, monosacharides, 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 (C-term) - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

AKR1B1 Antibody (C-term) - Images

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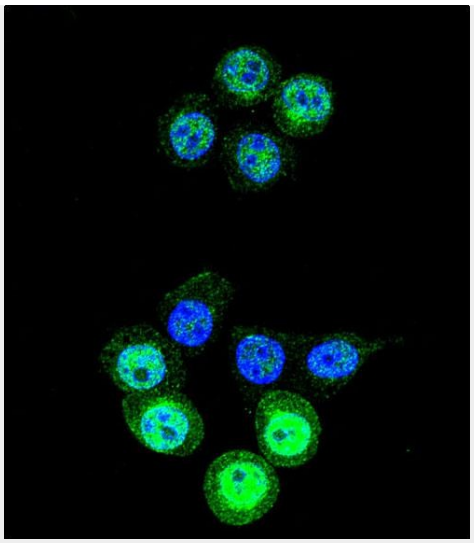
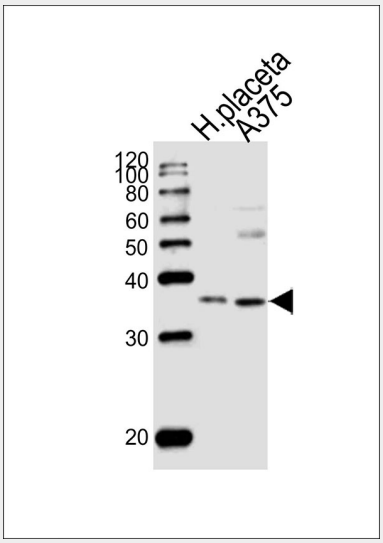
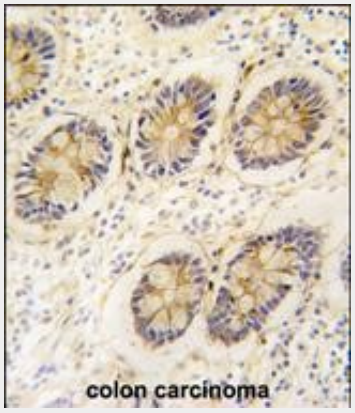


Confocal immunofluorescent analysis of AKR1B1 Antibody (C-term)(Cat#AW5144) with 293 cell followed by Alexa Fluor 488-conjugated goat anti-rabbit IgG (green).DAPI was used to stain the cell nuclear (blue).



Western blot analysis of lysates from human placeta tissue and A375 cell line (from left to right), using AKR1B1 Antibody (C-term)(Cat. #AW5144). AW5144 was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L(HRP) at 1:10000 dilution was used as the secondary antibody.Lysates at 20ug per lane.



Formalin-fixed and paraffin-embedded human colon carcinoma tissue reacted with AKR1B1 antibody (C-term) (Cat.#AW5144), 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 (C-term) - 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 (C-term) - 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)