10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Anti-AKR1B1 Picoband Antibody

Catalog # ABO11653

Product Information

Application	WB, IHC-P
Primary Accession	P15121
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Aldose reductase(AKR1B1) detection. Tested with WB, IHC-P in Human;Mouse;Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	231
Other Names	Aldose reductase, AR, 1.1.1.21, Aldehyde reductase, Aldo-keto reductase family 1 member B1, AKR1B1, ALDR1
Calculated MW	35853
Application Details	Immunohistochemistry(Paraffin-embedded Section), 0.5-1 □g/ml, Human, Mouse, Rat, By Heat Western blot, 0.1-0.5 □g/ml, Human, Rat
Subcellular Localization	Cytoplasm.
Tissue Specificity	Highly expressed in embryonic epithelial cells (EUE) in response to osmotic stress. .
Source	Eukaryota
Protein Name	Aldose reductase
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
Immunogen	E. coli-derived human AKR1B1 recombinant protein (Position: L228-F316). Human AKR1B1 shares 87.5% amino acid (aa) sequence identity with both mouse and rat AKR1B1.
Purification	Immunogen affinity purified.
Cross Reactivity	No cross reactivity with other proteins

Storage	At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.

Protein Information

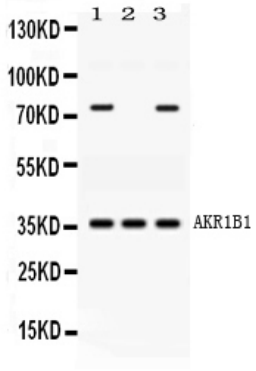
Name	AKR1B1
Synonyms	ALDR1, ALR2 {ECO:0000303|PubMed:17368668
Function	Catalyzes the NADPH-dependent reduction of a wide variety of carbonyl-containing compounds to their corresponding alcohols. Displays enzymatic activity towards endogenous metabolites such as aromatic and aliphatic aldehydes, ketones, 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.

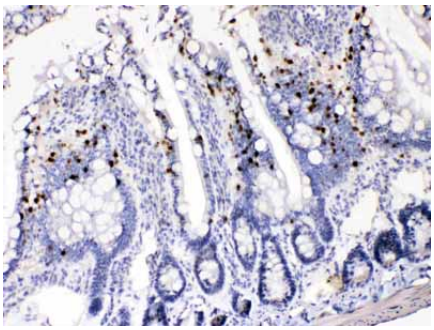
Background

Aldo-keto reductase family 1, member B1 (aldose reductase), also known as AR, is an enzyme that in humans is encoded by the AKR1B1 gene. This gene encodes a member of the aldo/keto reductase superfamily, which consists of more than 40 known enzymes and proteins. This member catalyzes the reduction of a number ofaldehydes, including the aldehyde form of glucose, and is thereby implicated in the development of diabetic complications by catalyzing the reduction of glucose to sorbitol.

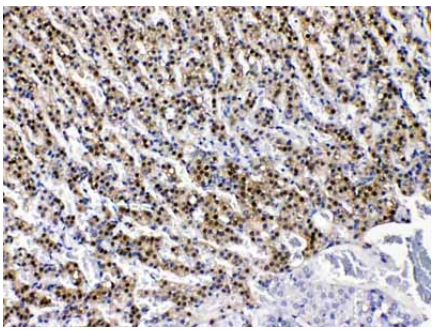
Images

Western blot analysis of AKR1B1 expression in rat cardiac muscle extract (lane 1), human placenta extract (lane 2) and HELA whole cell lysates (lane 3). AKR1B1 at 36KD was detected using rabbit anti- AKR1B1 Antigen Affinity purified polyclonal antibody (Catalog # ABO11653) at 0.5 □¼g/mL. The blot was developed using chemiluminescence (ECL) method .

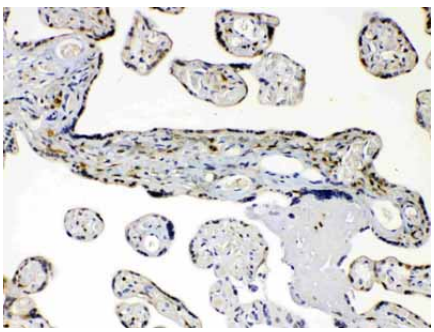




AKR1B1 was detected in paraffin-embedded sections of rat intestine tissues using rabbit anti- AKR1B1 Antigen Affinity purified polyclonal antibody (Catalog # ABO11653) at 1 □¼g/mL. The immunohistochemical section was developed using SABC method .



AKR1B1 was detected in paraffin-embedded sections of rat adrenal gland tissues using rabbit anti- AKR1B1 Antigen Affinity purified polyclonal antibody (Catalog # ABO11653) at 1 □¼g/mL. The immunohistochemical section was developed using SABC method .



AKR1B1 was detected in paraffin-embedded sections of human placenta tissues using rabbit anti- AKR1B1 Antigen Affinity purified polyclonal antibody (Catalog # ABO11653) at 1 ??g/mL. The immunohistochemical section was developed using SABC method .

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.