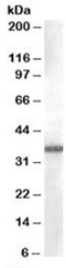
AKR1B10 Goat Polyclonal Antibody / Aldose Reductase-Like 1 Antibody (R35471)

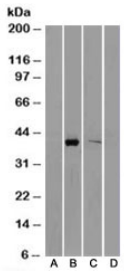
Catalog No.	Formulation	Size
R35471-100UG	0.5 mg/ml in 1X TBS, pH7.3, with 0.5% BSA (US sourced) and 0.02% sodium azide	100 ug

Bulk quote request

Species Reactivity	Human
Format	Antigen affinity purified
Host	Goat
Clonality	Polyclonal (goat origin)
Isotype	Goat Ig
Purity	Antigen affinity
Gene ID	57016
Applications	Western blot: 0.03-0.1ug/ml ELISA (peptide) LOD: 1:8000
Limitations	This AKR1B10 Goat Polyclonal Antibody / Aldose Reductase-Like 1 Antibody is available for research use only.



AKR1B10 Goat Polyclonal Antibody WB Analysis of Human A549 Cell Lysate. Western blot analysis of human A549 cell lysate using Aldose Reductase-Like 1 Antibody at 0.03 ug/ml. A prominent immunoreactive band is detected near 36 kDa, consistent with the predicted molecular weight of AKR1B10.



AKR1B10 Goat Polyclonal Antibody WB Analysis of AKR1B10-FLAG-Transfected Human HEK293 Cells. Western blot analysis of human HEK293 cell lysates following transfection with FLAG-tagged AKR1B10. The expressed protein is detected with anti-FLAG antibody in lane B and Aldose Reductase-Like 1 Antibody in lane C, with corresponding mock-transfected controls in lanes A and D. Immunoreactive bands are observed near 36-40 kDa in both transfected samples, while no comparable prominent bands are detected in the mock controls. The results support recognition of overexpressed AKR1B10 by the antibody.

Description

AKR1B10 Goat Polyclonal Antibody / Aldose Reductase-Like 1 Antibody targets AKR1B10, an NADPH-dependent oxidoreductase in the aldo-keto reductase superfamily. Also known as small intestine reductase, this enzyme catalyzes the reduction of selected aldehydes and other carbonyl-containing molecules. Although closely related to aldose reductase AKR1B1, AKR1B10 has a distinct substrate profile and regulatory context, linking its activity to detoxification, retinoid metabolism, and adaptation to metabolic stress.

Reactive aldehydes arise from normal metabolism as well as oxidation of membrane lipids. Some, including lipid peroxidation products, can form adducts with proteins and nucleic acids when they accumulate. AKR1B10 uses NADPH to reduce susceptible carbonyl groups to alcohols, potentially limiting the effects of electrophilic stress. Its contribution to cellular protection depends on substrate availability, competing metabolic pathways, and the expression of related reductases.

AKR1B10 also catalyzes the reduction of retinaldehyde to retinol. This reaction can influence the amount of retinaldehyde available for conversion to retinoic acid, a signaling molecule that regulates transcriptional programs associated with differentiation and tissue maintenance. The consequences of altered AKR1B10 activity are therefore not limited to aldehyde clearance; they may extend to retinoid balance and downstream signaling. These effects remain dependent on the metabolic environment and should not be assumed to occur uniformly in all tissues.

Changes in AKR1B10 expression have been documented in several malignancies, particularly subsets of hepatocellular carcinoma, and have motivated research into its potential value as a biomarker. Expression patterns differ by tumor type, stage, and differentiation state. Elevated enzyme abundance does not by itself establish increased catalytic activity or a direct causal role in tumor growth. Studies of AKR1B10 also consider its connections with lipid metabolism, oxidative stress responses, and the handling of reactive endogenous metabolites.

AKR1B10 Goat Polyclonal Antibody is relevant to investigations of this enzyme's contribution to carbonyl metabolism and retinoid homeostasis. Interpretation of AKR1B10 protein abundance is strengthened by complementary measurements of catalytic activity, metabolic context, and related aldo-keto reductases.

For an alternative reagent with knockout-supported specificity validation and additional immunohistochemistry and immunofluorescence data, explore our AKR1B10 Antibody (R32646).

Application Notes

Optimal dilution of the AKR1B10 Goat Polyclonal Antibody / Aldose Reductase-Like 1 Antibody should be determined by the researcher.

Immunogen

Amino acids QSSHLEDYPFDAE were used as the immunogen for this AKR1B10 Goat Polyclonal Antibody.

Storage

Aliquot and store the AKR1B10 Goat Polyclonal Antibody at -20oC.

Alternate Names

Aldose Reductase-Like Protein 1 antibody, Aldose Reductase-Like 1 antibody, Small Intestine Reductase antibody, Aldo-Keto Reductase Family 1 Member B10 antibody, Aldo-Keto Reductase B10 antibody, Aldo-Keto Reductase 1B10 antibody, AKR1B10 Oxidoreductase antibody, AKR1B10 Aldehyde Reductase antibody, AKR1B10 Retinaldehyde Reductase antibody, AKR1B10 Carbonyl Reductase antibody

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