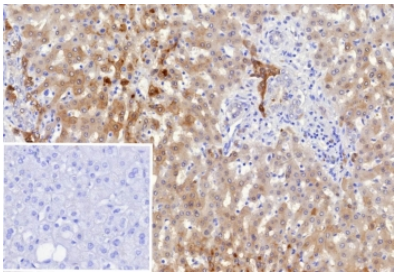
AKR1C1 Antibody / Dihydrodiol Dehydrogenase 1 Detoxification Enzyme Antibody [clone AKR1C1/9318] (V5685)

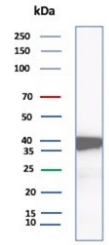
Catalog No.	Formulation	Size
V5685-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V5685-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V5685SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

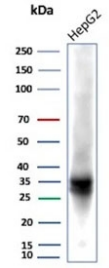
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat, Hamster, Guinea pig
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2b, kappa
Clone Name	AKR1C1/9318
Purity	Protein G affinity
UniProt	Q04828
Localization	Cytoplasm
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml (Human) Western Blot : 2-4ug/ml (Human/Mouse/Rat/Hamster/Guinea pig)
Limitations	This AKR1C1 Antibody / Dihydrodiol Dehydrogenase 1 Detoxification Enzyme Antibody is available for research use only.



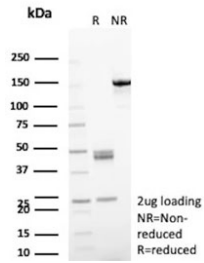
AKR1C1 Antibody Hepatocellular Carcinoma IHC. Immunohistochemistry analysis of FFPE human hepatocellular carcinoma tissue using AKR1C1 Antibody (clone AKR1C1/9318) shows cytoplasmic staining in tumor cells, consistent with AKR1C1 / Dihydrodiol dehydrogenase 1 localization as a detoxification enzyme. The staining is heterogeneous across the tumor field, reflecting variation in metabolic and xenobiotic processing activity. Inset: PBS used in place of primary antibody confirms minimal non-specific background staining. Hematoxylin counterstain provides nuclear contrast and tissue architecture. HIER: boil FFPE tissue sections in pH 9 10 mM Tris with 1 mM EDTA for 20 min and allow to cool before testing.



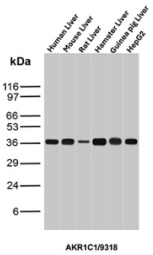
AKR1C1 Antibody A549 Cell WB. Western blot analysis of human A549 cell lysate using AKR1C1 Antibody (clone AKR1C1/9318) detects a band at approximately 37 kDa, consistent with the predicted molecular weight of AKR1C1 / Dihydrodiol dehydrogenase 1. The observed band supports detection of this cytosolic detoxification enzyme in lung-derived cells, aligning with its role in xenobiotic metabolism and cellular stress response pathways.



AKR1C1 Antibody HepG2 Cell WB. Western blot analysis of human HepG2 cell lysate using AKR1C1 Antibody (clone AKR1C1/9318) detects a strong band at approximately 37 kDa, consistent with the predicted molecular weight of AKR1C1 / Dihydrodiol dehydrogenase 1. The prominent signal in this liver-derived cell line supports detection of this cytosolic detoxification enzyme, aligning with its role in xenobiotic metabolism and cellular stress response pathways.



SDS-PAGE analysis of purified, BSA-free Dihydrodiol dehydrogenase 1 antibody (clone AKR1C1/9318) as confirmation of integrity and purity.



AKR1C1 Antibody Multi-Species Liver WB. Western blot analysis of (1) human liver, (2) mouse liver, (3) rat liver, (4) hamster liver, (5) guinea pig liver, and (6) HepG2 cell lysates using AKR1C1 Antibody (clone AKR1C1/9318) detects a band at approximately 37 kDa, consistent with the predicted molecular weight of AKR1C1 / Dihydrodiol dehydrogenase 1. The uniform banding pattern across species and hepatic models supports reliable detection of this cytosolic detoxification enzyme, aligning with its role in xenobiotic metabolism and cellular stress response pathways.

Description

Aldo-keto reductase family 1 member C1 (AKR1C1), also known as dihydrodiol dehydrogenase 1 (DDH1), is a cytosolic enzyme that plays a key role in the detoxification of xenobiotics and reactive metabolic intermediates. The AKR1C1 Antibody / Dihydrodiol Dehydrogenase 1 Detoxification Enzyme Antibody is designed for studies focused on cellular defense mechanisms and metabolic processing of endogenous and exogenous compounds. AKR1C1 is encoded on chromosome 10p15 and belongs to the aldo-keto reductase superfamily, which catalyzes NADPH-dependent reduction reactions involved in the metabolism of aldehydes, ketones, and lipid peroxidation products.

The AKR1C1 antibody, also referred to as Dihydrodiol dehydrogenase 1 antibody and DDH1 antibody in the literature, recognizes a protein that is predominantly localized in the cytoplasm. In this context, DDH1 contributes to the detoxification of polycyclic aromatic hydrocarbons and other xenobiotic compounds by converting reactive intermediates into less toxic metabolites. This enzymatic activity is essential for maintaining cellular homeostasis under conditions of oxidative stress and chemical exposure.

This AKR1C1 Antibody / Dihydrodiol Dehydrogenase 1 Detoxification Enzyme Antibody is uniquely positioned for studies of detoxification pathways and metabolic stress responses. In immunohistochemistry, AKR1C1 is typically observed as cytoplasmic staining in hepatocytes and epithelial cells, reflecting its role in intracellular metabolic processing. In western

blot analysis, the protein is detected as a band corresponding to its predicted molecular weight, supporting evaluation of expression across tissues and experimental models.

AKR1C1 expression is particularly prominent in liver tissue, where detoxification processes are highly active. The enzyme also participates in the metabolism of endogenous substrates, including steroid hormones, linking detoxification pathways with broader metabolic regulation. In cancer biology, altered AKR1C1 expression has been associated with drug resistance and adaptive metabolic changes, where increased detoxification capacity may contribute to tumor cell survival under therapeutic stress.

The mouse monoclonal clone AKR1C1/9318 provides consistent detection of AKR1C1 in research applications where detoxification and metabolic resilience are of interest. This AKR1C1 Antibody / Dihydrodiol Dehydrogenase 1 Detoxification Enzyme Antibody is suitable for detecting DDH1 expression in studies of xenobiotic metabolism, oxidative stress response, and disease-associated metabolic adaptation. Its performance supports detailed evaluation of enzyme expression across normal and pathological conditions.

This antibody supports investigation of detoxification pathways, metabolic stress responses, and disease-associated changes in AKR1C1 expression.

This antibody can be compared with our AKR1C1 Antibody (clone AKR1C1/9063) for consistent detection of AKR1C1 across steroid metabolism and detoxification studies.

Application Notes

Optimal dilution of the AKR1C1 Antibody / Dihydrodiol Dehydrogenase 1 Detoxification Enzyme Antibody should be determined by the researcher.

Immunogen

A recombinant human full-length AKR1C1 protein was used as the immunogen for the Dihydrodiol dehydrogenase 1 antibody.

Storage

Aliquot the Dihydrodiol dehydrogenase 1 antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

AKR1C1 antibody, Dihydrodiol dehydrogenase 1 antibody, DDH1 antibody, AKR1C1 detoxification enzyme antibody, Aldo-keto reductase family 1 member C1 antibody