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AKR1A1 Antibody (N-term) Blocking Peptide

Synthetic peptide
Catalog # BP2734a

Specification

AKR1A1 Antibody (N-term) Blocking Peptide - Product Information

Primary Accession	P14550
Other Accession	Q6IAZ4

AKR1A1 Antibody (N-term) Blocking Peptide - Additional Information

Gene ID 10327

Other Names
Alcohol dehydrogenase [NADP(+)], Aldehyde reductase, Aldo-keto reductase family 1 member A1, AKR1A1, ALDR1, ALR

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP2734a was selected from the N-term region of human AKR1A1. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

AKR1A1 Antibody (N-term) Blocking Peptide - Protein Information

Name AKR1A1

Synonyms ALDR1, ALR

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 and bile acids, with a preference for negatively charged substrates, such as glucuronate and succinic semialdehyde (PubMed:10510318). Functions as a detoxifiying enzyme by reducing a range of toxic aldehydes. Reduces methylglyoxal and 3-deoxyglucosone, which are present at elevated levels under hyperglycemic conditions and are cytotoxic. Involved also in the detoxification of lipid-derived aldehydes like acrolein (By similarity).

Plays a role in the activation of procarcinogens, such as polycyclic aromatic hydrocarbon trans-dihydrodiols, and in the metabolism of various xenobiotics and drugs, including the anthracyclines doxorubicin (DOX) and daunorubicin (DAUN) (PubMed:18276838, PubMed:11306097). Displays no reductase activity towards retinoids (By similarity).

Cellular Location
Cytoplasm, cytosol {ECO:0000250|UniProtKB:Q9JII6}. Apical cell membrane {ECO:0000250|UniProtKB:Q9JII6}

Tissue Location
Widely expressed. Highly expressed in kidney, salivary gland and liver. Detected in trachea, stomach, brain, lung, prostate, placenta, mammary gland, small intestine and lung

AKR1A1 Antibody (N-term) Blocking Peptide - Protocols

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

- Blocking Peptides

AKR1A1 Antibody (N-term) Blocking Peptide - Images

AKR1A1 Antibody (N-term) Blocking Peptide - Background

AKR1A1 is a member of the aldo/keto reductase superfamily, which consists of more than 40 known enzymes and proteins. This member, also known as aldehyde reductase, is involved in the reduction of biogenic and xenobiotic aldehydes and is present in virtually every tissue.

AKR1A1 Antibody (N-term) Blocking Peptide - References

Steuber,H.,J. Mol. Biol. 379 (5), 991-1016 (2008)Bohren,K.M.,Biochim. Biophys. Acta 1748 (2), 201-212 (2005)El-Kabbani,O.,Acta Crystallogr. D Biol. Crystallogr. 50 (PT 6), 859-868 (1994)