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Goat Anti-AKR1C4 Antibody

Peptide-affinity purified goat antibody
Catalog # AF1048a

Specification

Goat Anti-AKR1C4 Antibody - Product Information

Application	**WB, IHC, E**
Primary Accession	P17516
Other Accession	NP_001809, 1109
Reactivity	**Human**
Host	**Goat**
Clonality	**Polyclonal**
Concentration	**0.5mg/ml**
Isotype	**IgG**
Calculated MW	**37067**

Goat Anti-AKR1C4 Antibody - Additional Information

Gene ID 1109

Other Names
Aldo-keto reductase family 1 member C4, 1.1.1.-, 3-alpha-HSD1, 3-alpha-hydroxysteroid dehydrogenase type I, 1.1.1.357, Chlordecone reductase, CDR, 1.1.1.225, Dihydrodiol dehydrogenase 4, DD-4, DD4, HAKRA, AKR1C4, CHDR

Dilution
WB~~1:1000
IHC~~1:100~500
E~~N/A

Format
0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
Goat Anti-AKR1C4 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Goat Anti-AKR1C4 Antibody - Protein Information

Name AKR1C4

Synonyms CHDR

Function
Cytosolic aldo-keto reductase that catalyzes the NADH and NADPH-dependent reduction of ketosteroids to hydroxysteroids. Liver specific enzyme that acts as an NAD(P)(H)-dependent 3-, 17- and 20- ketosteroid reductase on the steroid nucleus and side chain (PubMed:10634139, PubMed:10998348, PubMed:11158055, PubMed:14672942, PubMed:1530633, PubMed:19218247, PubMed:7650035). Displays the ability to catalyze both oxidation and reduction in vitro, but most probably acts as a reductase in vivo since the oxidase activity measured in vitro is inhibited by physiological concentration of NADPH (PubMed:14672942). Acts preferentially as a 3-alpha-hydroxysteroid dehydrogenase (HSD) with a subsidiary 3-beta-HSD activity (PubMed:14672942). Catalyzes efficiently the transformation of the potent androgen 5-alpha-dihydrotestosterone (5alpha-DHT or 17beta- hydroxy-5alpha-androstan-3-one) into the less active form, 5-alpha-androstan-3-alpha,17-beta-diol (3-alpha-diol) (PubMed:10998348, PubMed:11158055, PubMed:14672942). Catalyzes the reduction of estrone into 17beta-estradiol but with low efficiency (PubMed:14672942). Metabolizes a broad spectrum of natural and synthetic therapeutic steroid and plays an important role in metabolism of androgens, estrogens, progestereone and conjugated steroids (PubMed:10998348, PubMed:14672942, PubMed:19218247). Catalyzes the biotransformation of the pesticide chlordecone (kepone) to its corresponding alcohol leading to increased biliary excretion of the pesticide and concomitant reduction of its neurotoxicity since bile is the major excretory route (PubMed:2427522).

Cellular Location
Cytoplasm, cytosol {ECO:0000250|UniProtKB:Q04828}

Tissue Location
Liver specific.

Goat Anti-AKR1C4 Antibody - 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

Goat Anti-AKR1C4 Antibody - Images

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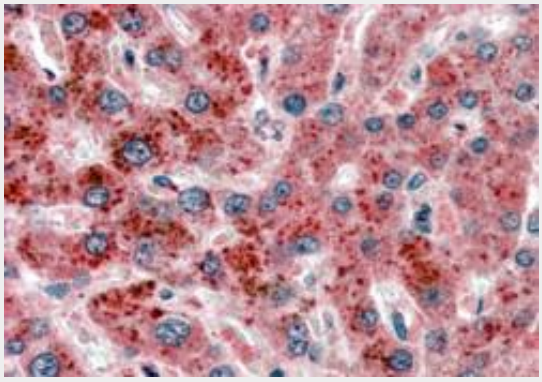
AF1048a (0.1 µg/ml) staining of human liver lysate (35 µg protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.



AF1048a (2.5 µg/ml) staining of paraffin embedded Human Liver. Steamed antigen retrieval with citrate buffer pH 6, AP-staining.

Goat Anti-AKR1C4 Antibody - Background

This gene encodes a member of the aldo/keto reductase superfamily, which consists of more than 40 known enzymes and proteins. These enzymes catalyze the conversion of aldehydes and ketones to their corresponding alcohols by utilizing NADH and/or NADPH as cofactors. The enzymes display overlapping but distinct substrate specificity. This enzyme catalyzes the bioreduction of chlordecone, a toxic organochlorine pesticide, to chlordecone alcohol in liver. This gene shares high sequence identity with three other gene members and is clustered with those three genes at chromosome 10p15-p14.

Goat Anti-AKR1C4 Antibody - References

Genetic variation in the estrogen metabolic pathway and mammographic density as an intermediate phenotype of breast cancer. Li J, et al. Breast Cancer Res, 2010. PMID 20214802.
Human variation in alcohol response is influenced by variation in neuronal signaling genes. Joslyn G, et al. Alcohol Clin Exp Res, 2010 May. PMID 20201926.
Genetic susceptibility to distinct bladder cancer subphenotypes. Guey LT, et al. Eur Urol, 2010 Feb. PMID 19692168.
PTEN identified as important risk factor of chronic obstructive pulmonary disease. Hosgood HD 3rd, et al. Respir Med, 2009 Dec. PMID 19625176.
Polymorphisms in innate immunity genes and lung cancer risk in Xuanwei, China. Shen M, et al. Environ Mol Mutagen, 2009 May. PMID 19170196.