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

AKR1C4 Antibody (N-term) Blocking Peptide

Synthetic peptide
Catalog # BP16366a

Specification

AKR1C4 Antibody (N-term) Blocking Peptide - Product Information

Primary Accession P17516

AKR1C4 Antibody (N-term) Blocking Peptide - Additional Information

Gene ID 1109

Other Names
Aldo-keto reductase family 1 member C4, 111-, 3-alpha-HSD1, 3-alpha-hydroxysteroid dehydrogenase type I, Chlordecone reductase, CDR, Dihydrodiol dehydrogenase 4, DD-4, DD4, HAKRA, AKR1C4, CHDR

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.

AKR1C4 Antibody (N-term) Blocking Peptide - 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.

AKR1C4 Antibody (N-term) Blocking Peptide - Protocols

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

- Blocking Peptides

AKR1C4 Antibody (N-term) Blocking Peptide - Images

AKR1C4 Antibody (N-term) Blocking Peptide - Background

AKR1C4 is a member of the aldo/keto reductasesuperfamily, which consists of more than 40 known enzymes andproteins. These enzymes catalyze the conversion of aldehydes andketones to their corresponding alcohols by utilizing NADH and/orNADPH as cofactors. The enzymes display overlapping but distinctsubstrate specificity. This enzyme catalyzes the bioreduction ofchlordecone, a toxic organochlorine pesticide, to chlordeconealcohol in liver. This gene shares high sequence identity withthree other gene members and is clustered with those three genes atchromosome 10p15-p14.

AKR1C4 Antibody (N-term) Blocking Peptide - References

Joslyn, G., et al. Alcohol. Clin. Exp. Res. 34(5):800-812(2010)Guey, L.T., et al. Eur. Urol. 57(2):283-292(2010)Li, J., et al. Breast Cancer Res. 12 (2), R19 (2010) :Hosgood, H.D. III, et al. Respir Med 103(12):1866-1870(2009)Shen, M., et al. Environ. Mol. Mutagen. 50(4):285-290(2009)