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AKR1C2 Antibody (C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP12246B

Product Information

Application	WB, IHC-P, E
Primary Accession	P52895
Other Accession	Q95JH7, Q04828, NP_995317.1
Reactivity	Human
Predicted	Monkey
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB32249
Calculated MW	36735
Antigen Region	296-323

Additional Information

Gene ID	1646
Other Names	Aldo-keto reductase family 1 member C2, 1---, 3-alpha-HSD3, Chlordecone reductase homolog HAKRD, Dihydrodiol dehydrogenase 2, DD-2, DD2, Dihydrodiol dehydrogenase/bile acid-binding protein, DD/BABP, Trans-1, 2-dihydrobenzene-1, 2-diol dehydrogenase, Type III 3-alpha-hydroxysteroid dehydrogenase, AKR1C2, DDH2
Target/Specificity	This AKR1C2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 296-323 amino acids from the C-terminal region of human AKR1C2.
Dilution	WB~~1:2000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	AKR1C2 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	AKR1C2

Synonyms	DDH2
Function	Cytosolic aldo-keto reductase that catalyzes the NADH and NADPH-dependent reduction of ketosteroids to hydroxysteroids (PubMed:19218247). Most probably acts as a reductase in vivo since the oxidase activity measured in vitro is inhibited by physiological concentrations of NADPH (PubMed:14672942). Displays a broad positional specificity acting on positions 3, 17 and 20 of steroids and regulates the metabolism of hormones like estrogens and androgens (PubMed:10998348). Works in concert with the 5-alpha/5-beta-steroid reductases to convert steroid hormones into the 3-alpha/5-alpha and 3- alpha/5-beta-tetrahydrosteroids. Catalyzes the inactivation of the most potent androgen 5-alpha-dihydrotestosterone (5-alpha-DHT) to 5-alpha-androstane-3-alpha,17-beta-diol (3-alpha-diol) (PubMed:15929998, PubMed:17034817, PubMed:17442338, PubMed:8573067). Also specifically able to produce 17beta-hydroxy-5alpha-androstan-3-one/5alphaDHT (PubMed:10998348). May also reduce conjugated steroids such as 5alpha-dihydrotestosterone sulfate (PubMed:19218247). Displays affinity for bile acids (PubMed:8486699).
Cellular Location	Cytoplasm, cytosol.
Tissue Location	Expressed in fetal testes. Expressed in fetal and adult adrenal glands.

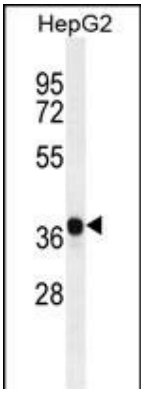
Background

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 using NADH and/or NADPH as cofactors. The enzymes display overlapping but distinct substrate specificity. This enzyme binds bile acid with high affinity, and shows minimal 3-alpha-hydroxysteroid dehydrogenase activity. This gene shares high sequence identity with three other gene members and is clustered with those three genes at chromosome 10p15-p14.

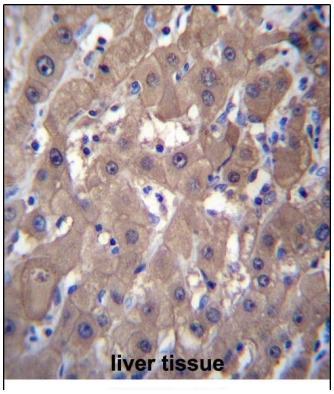
References

Setlur, S.R., et al. Cancer Epidemiol. Biomarkers Prev. 19(1):229-239(2010)
Wang, X., et al. PLoS ONE 5 (8), E11934 (2010) :
Reding, K.W., et al. Am. J. Epidemiol. 170(10):1241-1249(2009)
Cogliati, C., et al. FEBS J. 276(20):6011-6023(2009)
Davies, N.J., et al. Cancer Res. 69(11):4769-4775(2009)

Images



AKR1C2 Antibody (C-term) (Cat. #AP12246b) western blot analysis in HepG2 cell line lysates (35ug/lane).This demonstrates the AKR1C2 antibody detected the AKR1C2 protein (arrow).



AKR1C2 Antibody (C-term) (Cat. #AP12246b)immunohistochemistry analysis in formalin fixed and paraffin embedded human liver tissue followed by peroxidase conjugation of the secondary antibody and DAB staining.This data demonstrates the use of AKR1C2 Antibody (C-term) for immunohistochemistry. Clinical relevance has not been evaluated.

Citations

- Effects of Curcumin Combined With the 5-alpha Reductase Inhibitor Dutasteride on LNCaP Prostate Cancer Cells
- Modulation of AKR1C2 by curcumin decreases testosterone production in prostate cancer.