

Goat Anti-AKR1C3 Antibody
Peptide-affinity purified goat antibody
Catalog # AF1047a

Specification

Goat Anti-AKR1C3 Antibody - Product Information

Application	WB
Primary Accession	P42330
Other Accession	NP_003730 , 8644
Reactivity	Human
Host	Goat
Clonality	Polyclonal
Concentration	100ug/200ul
Isotype	IgG
Calculated MW	36853

Goat Anti-AKR1C3 Antibody - Additional Information

Gene ID 8644

Other Names

Aldo-keto reductase family 1 member C3, 1.-.-., 17-beta-hydroxysteroid dehydrogenase type 5, 17-beta-HSD 5, 3-alpha-HSD type II, brain, 3-alpha-hydroxysteroid dehydrogenase type 2, 3-alpha-HSD type 2, 1.1.1.357, Chlordecone reductase homolog HAKRb, Dihydrodiol dehydrogenase 3, DD-3, DD3, Dihydrodiol dehydrogenase type I, HA1753, Indanol dehydrogenase, 1.1.1.112, Prostaglandin F synthase, PGFS, 1.1.1.188, Testosterone 17-beta-dehydrogenase 5, 1.1.1.239, 1.1.1.64, Trans-1, 2-dihydrobenzene-1, 2-diol dehydrogenase, 1.3.1.20, AKR1C3, DDH1, HSD17B5, KIAA0119, PGFS

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-AKR1C3 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Goat Anti-AKR1C3 Antibody - Protein Information

Name AKR1C3

Function

Cytosolic aldo-keto reductase that catalyzes the NADH and NADPH-dependent reduction of

ketosteroids to hydroxysteroids. Acts as a NAD(P)(H)-dependent 3-, 17- and 20-ketosteroid reductase on the steroid nucleus and side chain and regulates the metabolism of androgens, estrogens and progesterone (PubMed: [10622721](http://www.uniprot.org/citations/10622721), PubMed: [11165022](http://www.uniprot.org/citations/11165022), PubMed: [7650035](http://www.uniprot.org/citations/7650035), PubMed: [9415401](http://www.uniprot.org/citations/9415401), PubMed: [9927279](http://www.uniprot.org/citations/9927279)). 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: [11165022](http://www.uniprot.org/citations/11165022), PubMed: [14672942](http://www.uniprot.org/citations/14672942)). Acts preferentially as a 17- ketosteroid reductase and has the highest catalytic efficiency of the AKR1C enzyme for the reduction of delta4-androstenedione to form testosterone (PubMed: [20036328](http://www.uniprot.org/citations/20036328)). Reduces prostaglandin (PG) D2 to 11beta-prostaglandin F2, progesterone to 20alpha-hydroxyprogesterone and estrone to 17beta-estradiol (PubMed: [10622721](http://www.uniprot.org/citations/10622721), PubMed: [10998348](http://www.uniprot.org/citations/10998348), PubMed: [11165022](http://www.uniprot.org/citations/11165022), PubMed: [15047184](http://www.uniprot.org/citations/15047184), PubMed: [19010934](http://www.uniprot.org/citations/19010934), PubMed: [20036328](http://www.uniprot.org/citations/20036328)). Catalyzes the transformation of the potent androgen dihydrotestosterone (DHT) into the less active form, 5-alpha-androstan-3-alpha,17-beta-diol (3-alpha-diol) (PubMed: [10557352](http://www.uniprot.org/citations/10557352), PubMed: [10998348](http://www.uniprot.org/citations/10998348), PubMed: [11165022](http://www.uniprot.org/citations/11165022), PubMed: [14672942](http://www.uniprot.org/citations/14672942), PubMed: [7650035](http://www.uniprot.org/citations/7650035), PubMed: [9415401](http://www.uniprot.org/citations/9415401)). Also displays retinaldehyde reductase activity toward 9-cis-retinal (PubMed: [21851338](http://www.uniprot.org/citations/21851338)).

Cellular Location

Cytoplasm.

Tissue Location

Expressed in many tissues including adrenal gland, brain, kidney, liver, lung, mammary gland, placenta, small intestine, colon, spleen, prostate and testis. High expression in prostate and mammary gland. In the prostate, higher levels in epithelial cells than in stromal cells. In the brain, expressed in medulla, spinal cord, frontotemporal lobes, thalamus, subthalamic nuclei and amygdala. Weaker expression in the hippocampus, substantia nigra and caudate

Goat Anti-AKR1C3 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 Cytometry](#)

- [Cell Culture](#)

Goat Anti-AKR1C3 Antibody - Images



AF1047a (0.03 $\mu\text{g/ml}$) staining of human breast lysate (35 μg protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.

Goat Anti-AKR1C3 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 reduction of prostaglandin (PG) D₂, PGH₂ and phenanthrenequinone (PQ), and the oxidation of 9 α ,11 β -PGF₂ to PGD₂. It may play an important role in the pathogenesis of allergic diseases such as asthma, and may also have a role in controlling cell growth and/or differentiation. This gene shares high sequence identity with three other gene members and is clustered with those three genes at chromosome 10p15-p14.

Goat Anti-AKR1C3 Antibody - References

Genetic variation and antioxidant response gene expression in the bronchial airway epithelium of smokers at risk for lung cancer. Wang X, et al. *PLoS One*, 2010 Aug 3. PMID 20689807.
Comprehensive analysis of common genetic variation in 61 genes related to steroid hormone and insulin-like growth factor-I metabolism and breast cancer risk in the NCI breast and prostate cancer cohort consortium. Canzian F, et al. *Hum Mol Genet*, 2010 Oct 1. PMID 20634197.
A Large-scale genetic association study of esophageal adenocarcinoma risk. Liu CY, et al. *Carcinogenesis*, 2010 Jul. PMID 20453000.
Personalized smoking cessation: interactions between nicotine dose, dependence and quit-success genotype score. Rose JE, et al. *Mol Med*, 2010 Jul-Aug. PMID 20379614.
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.