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CYP2C9 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7874a

Product Information

Application	WB, IHC-P, E
Primary Accession	P11712
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB16653
Calculated MW	55628
Antigen Region	82-110

Additional Information

Gene ID	1559
Other Names	Cytochrome P450 2C9, 11413-, (R)-limonene 6-monooxygenase, (S)-limonene 6-monooxygenase, (S)-limonene 7-monooxygenase, CYPIIC9, Cytochrome P-450MP, Cytochrome P450 MP-4, Cytochrome P450 MP-8, Cytochrome P450 PB-1, S-mephenytoin 4-hydroxylase, CYP2C9, CYP2C10
Target/Specificity	This CYP2C9 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 82-110 amino acids from the N-terminal region of human CYP2C9.
Dilution	WB~~1:1000 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 prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
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	CYP2C9 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CYP2C9 {ECO:0000303|PubMed:11950794, ECO:0000312|HGNC:HGNC:2623}
Function	A cytochrome P450 monooxygenase involved in the metabolism of various

endogenous substrates, including fatty acids and steroids (PubMed:12865317, PubMed:15766564, PubMed:19965576, PubMed:21576599, PubMed:7574697, PubMed:9435160, PubMed:9866708). Mechanistically, uses molecular oxygen inserting one oxygen atom into a substrate, and reducing the second into a water molecule, with two electrons provided by NADPH via cytochrome P450 reductase (NADPH--hemoprotein reductase) (PubMed:12865317, PubMed:15766564, PubMed:19965576, PubMed:21576599, PubMed:7574697, PubMed:9435160, PubMed:9866708). Catalyzes the epoxidation of double bonds of polyunsaturated fatty acids (PUFA) (PubMed:15766564, PubMed:19965576, PubMed:7574697, PubMed:9866708). Catalyzes the hydroxylation of carbon-hydrogen bonds. Metabolizes cholesterol toward 25-hydroxycholesterol, a physiological regulator of cellular cholesterol homeostasis (PubMed:21576599). Exhibits low catalytic activity for the formation of catechol estrogens from 17beta- estradiol (E2) and estrone (E1), namely 2-hydroxy E1 and E2 (PubMed:12865317). Catalyzes bisallylic hydroxylation and hydroxylation with double-bond migration of polyunsaturated fatty acids (PUFA) (PubMed:9435160, PubMed:9866708). Also metabolizes plant monoterpenes such as limonene. Oxygenates (R)- and (S)-limonene to produce carveol and perillyl alcohol (PubMed:11950794). Contributes to the wide pharmacokinetics variability of the metabolism of drugs such as S- warfarin, diclofenac, phenytoin, tolbutamide and losartan (PubMed:25994031).

Cellular Location Endoplasmic reticulum membrane; Peripheral membrane protein. Microsome membrane; Peripheral membrane protein

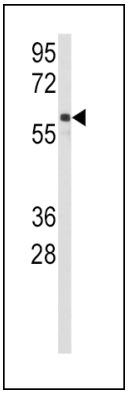
Background

CYP2C9 is a member of the cytochrome P450 superfamily of enzymes. The cytochrome P450 proteins are monooxygenases which catalyze many reactions involved in drug metabolism and synthesis of cholesterol, steroids and other lipids. This protein localizes to the endoplasmic reticulum and its expression is induced by rifampin. The enzyme is known to metabolize many xenobiotics, including phenytoin, tolbutamide, ibuprofen and S-warfarin.

References

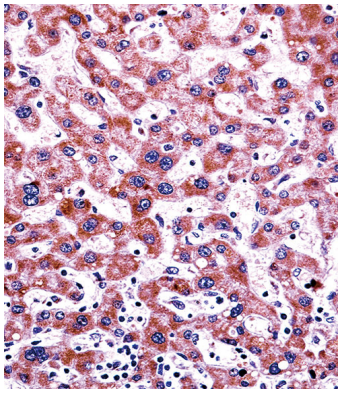
Matimba,A., Hum. Genomics 3 (2), 169-190 (2009)
Nelson,D.R., Pharmacogenetics 14 (1), 1-18 (2004)

Images



Western blot analysis of anti-CYP2C9 Antibody (N-term) (Cat.#AP7874a) in Jurkat cell line lysates (35ug/lane). CYP2C9(arrow) was detected using the purified Pab.

CYP2C9 Antibody (N-term)
(AP7874a)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 CYP2C9 Antibody (N-term) for immunohistochemistry. Clinical relevance has not been evaluated.