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CYP2C9 Antibody (N-term) (Ascites)

Mouse Monoclonal Antibody (Mab)
Catalog # AM2172a

Product Information

Application	WB, E
Primary Accession	P11712
Other Accession	NP_000762
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	IgM
Clone Names	682CT5.6.2
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 mice immunized with a KLH conjugated synthetic peptide between 82-110 amino acids from the N-terminal region of human CYP2C9.
Dilution	WB~~1:100~1600 E~~Use at an assay dependent concentration.
Format	Mouse monoclonal antibody supplied in crude ascites with 0.09% (W/V) sodium azide.
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) (Ascites) 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

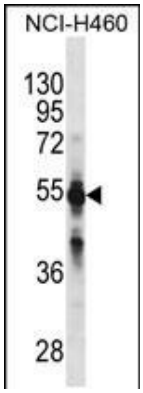
This gene encodes a member of the cytochrome P450 superfamily of enzymes. The cytochrome P450 proteins are monooxygenases which catalyze many reactions involved in drug metabolism and synthesis of cholesterol, steroids and other lipids. This protein localizes to the endoplasmic reticulum and its expression is induced by rifampin. The enzyme is known to metabolize many xenobiotics, including phenytoin, tolbutamide, ibuprofen and S-warfarin. Studies identifying individuals who are poor metabolizers of phenytoin and tolbutamide suggest that this gene is polymorphic. The gene is located within a cluster of cytochrome P450 genes on chromosome 10q24.

References

Ikejiri, M., et al. Int. J. Hematol. 92(2):302-305(2010)
Schelleman, H., et al. Br J Clin Pharmacol 70(3):393-399(2010)
Yang, Z.F., et al. Genet. Mol. Res. 9(3):1844-1851(2010)
Durrmeyer, X., et al. PLoS ONE 5 (8), E12329 (2010) :
Lefferts, J.A., et al. Am J Transl Res 2(4):441-446(2010)

Images

CYP2C9 Antibody (N-term)(Ascites)(Cat. #AM2172a) western blot analysis in NCI-H460 cell line lysates (35µg/lane).This demonstrates the CYP2C9 antibody detected the CYP2C9 protein (arrow).



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