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CYP2C19 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP6710a

Product Information

Application	WB, IHC-P, IF, E
Primary Accession	P33261
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB16999
Calculated MW	55945
Antigen Region	82-108

Additional Information

Gene ID	1557
Other Names	Cytochrome P450 2C19, 11413-, (R)-limonene 6-monooxygenase, (S)-limonene 6-monooxygenase, (S)-limonene 7-monooxygenase, CYPIIC17, CYPIIC19, Cytochrome P450-11A, Cytochrome P450-254C, Mephenytoin 4-hydroxylase, CYP2C19
Target/Specificity	This CYP2C19 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 82-108 amino acids from the N-terminal region of human CYP2C19.
Dilution	WB~~1:1000 IHC-P~~1:100~500 IF~~1:10~50 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	CYP2C19 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CYP2C19
Function	A cytochrome P450 monooxygenase involved in the metabolism of

polyunsaturated fatty acids (PUFA) (PubMed:18577768, PubMed:19965576, PubMed:20972997). 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:18577768, PubMed:19965576, PubMed:20972997). Catalyzes the hydroxylation of carbon-hydrogen bonds. Hydroxylates PUFA specifically at the omega-1 position (PubMed:18577768). Catalyzes the epoxidation of double bonds of PUFA (PubMed:19965576, PubMed:20972997). Also metabolizes plant monoterpenes such as limonene. Oxygenates (R)- and (S)-limonene to produce carveol and perillyl alcohol (PubMed:11950794). Responsible for the metabolism of a number of therapeutic agents such as the anticonvulsant drug S-mephenytoin, omeprazole, proguanil, certain barbiturates, diazepam, propranolol, citalopram and imipramine. Hydroxylates fenbendazole at the 4' position (PubMed:23959307).

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

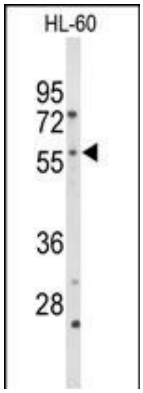
Background

CYP2C19 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 is known to metabolize many xenobiotics, including the anticonvulsive drug mephenytoin, omeprazole, diazepam and some barbiturates. Polymorphism within its gene is associated with variable ability to metabolize mephenytoin, known as the poor metabolizer and extensive metabolizer phenotypes.

References

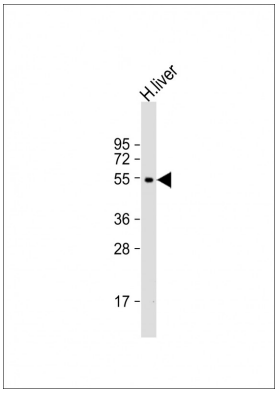
Shuldiner,A.R., JAMA 302 (8), 849-857 (2009) Nelson,D.R., Pharmacogenetics 14 (1), 1-18 (2004)

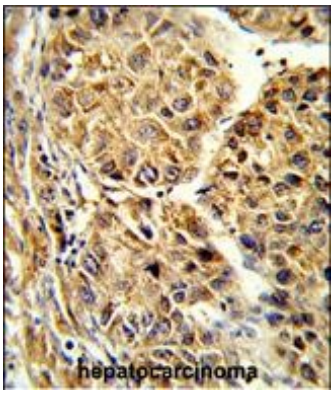
Images



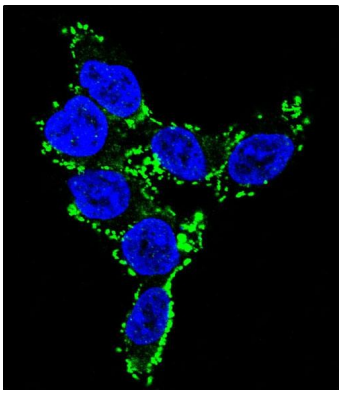
Western blot analysis of CYP2C19 Antibody (N-term) (Cat. #AP6710a) in HL-60 cell line lysates (35ug/lane). CYP2C19 (arrow) was detected using the purified Pab.

Anti-CYP2C19 Antibody (N-term) at 1:1000 dilution + human liver lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 56 kDa Blocking/Dilution buffer: 5% NFDM/TBST.





Formalin-fixed and paraffin-embedded human hepatocarcinoma reacted with CYP2C19 Antibody (N-term),which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.



Confocal immunofluorescent analysis of CYP2C19 Antibody (N-term)(Cat#AP6710a) with 293 cell followed by Alexa Fluor 488-conjugated goat anti-rabbit lgG (green).DAPI was used to stain the cell nuclear (blue).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.