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CYP7A1 Rabbit pAb

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Catalog # AP52166

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	P22680
Reactivity	Human
Predicted	Rat, Pig, Mouse, Rabbit
Host	Rabbit
Clonality	Polyclonal
Calculated MW	57661
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human CYP7A1
Epitope Specificity	351-400/504
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Endoplasmic reticulum membrane; Peripheral membrane protein. Microsome membrane; Peripheral membrane protein.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	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 endoplasmic reticulum membrane protein catalyzes the first reaction in the cholesterol catabolic pathway in the liver, which converts cholesterol to bile acids. This reaction is the rate limiting step and the major site of regulation of bile acid synthesis, which is the primary mechanism for the removal of cholesterol from the body. Polymorphisms in the promoter of this gene are associated with defects in bile acid synthesis. [provided by RefSeq, Feb 2010].

Additional Information

Gene ID	1581
Other Names	Cytochrome P450 7A1, 24-hydroxycholesterol 7-alpha-hydroxylase, 1.14.14.26, CYPVII, Cholesterol 7-alpha-hydroxylase, Cholesterol 7-alpha-monooxygenase, 1.14.14.23, CYP7A1 {ECO:0000303|PubMed:12077124, ECO:0000312|HGNC:HGNC:2651}
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody

is stable for at least two weeks at 2-4 °C.

Protein Information

Name	CYP7A1 {ECO:0000303|PubMed:12077124, ECO:0000312|HGNC:HGNC:2651}
Function	A cytochrome P450 monooxygenase involved in the metabolism of endogenous cholesterol and its oxygenated derivatives (oxysterols) (PubMed:11013305, PubMed:12077124, PubMed:19965590, PubMed:21813643, PubMed:2384150). 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 (CPR; NADPH-ferrihemoprotein reductase) (PubMed:11013305, PubMed:12077124, PubMed:19965590, PubMed:21813643, PubMed:2384150). Functions as a critical regulatory enzyme of bile acid biosynthesis and cholesterol homeostasis. Catalyzes the hydroxylation of carbon hydrogen bond at 7-alpha position of cholesterol, a rate-limiting step in cholesterol catabolism and bile acid biosynthesis (PubMed:12077124, PubMed:19965590, PubMed:2384150). 7-alpha hydroxylates several oxysterols, including 4beta-hydroxycholesterol and 24-hydroxycholesterol (PubMed:11013305, PubMed:12077124). Catalyzes the oxidation of the 7,8 double bond of 7-dehydrocholesterol and lathosterol with direct and predominant formation of the 7-keto derivatives (PubMed:21813643).
Cellular Location	Endoplasmic reticulum membrane; Single-pass membrane protein. Microsome membrane; Single-pass membrane protein
Tissue Location	Detected in liver..

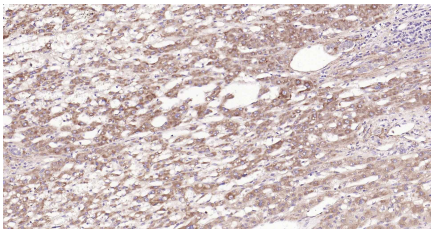
Background

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References

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Noshiro M.,et al.FEBS Lett. 268:137-140(1990).
Karam W.G.,et al.Biochem. Biophys. Res. Commun. 185:588-595(1992).
Wang D.P.,et al.Genomics 20:320-323(1994).
Molowa D.T.,et al.Biochemistry 31:2539-2544(1992).

Images



Paraformaldehyde-fixed, paraffin embedded Human Liver Cancer; Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15 min; Antibody incubation with CYP7A1 Polyclonal Antibody, Unconjugated (AP52166) at 1:200 overnight at 4°C, followed by conjugation to the SP Kit (Rabbit, SP-0023) and DAB (C-0010) staining.

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