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CYP7A1 Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7996A

Product Information

Application	WB, E
Primary Accession	P22680
Other Accession	P51542
Reactivity	Human
Predicted	Rabbit, Mouse, Rat, Canine
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	57661
Antigen Region	476-504

Additional Information

Gene ID	1581
Other Names	Cholesterol 7-alpha-monooxygenase, CYPVII, Cholesterol 7-alpha-hydroxylase, Cytochrome P450 7A1, CYP7A1, CYP7
Target/Specificity	This CYP7A1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 476-504 amino acids from the C-terminal region of human CYP7A1.
Dilution	WB~~1:1000 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	CYP7A1 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

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..

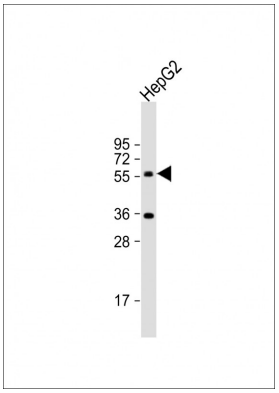
Background

CYP7A1 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 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.

References

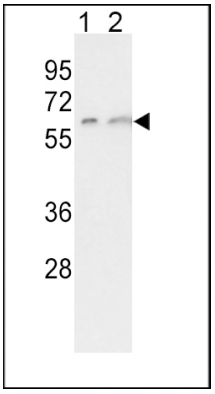
Lenicek,M., J. Lipid Res. 49 (12), 2664-2667 (2008)
Nelson,D.R., Pharmacogenetics 14 (1), 1-18 (2004)

Images



Anti-CYP7A1 Antibody (C-term) at 1:1000 dilution + HepG2 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 58 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

Western blot analysis of CYP7A1 Antibody (C-term) (Cat.#AP7996a) in K562(lane 1), HepG2(lane 2) cell line lysates (35ug/lane). CYP7A1 (arrow) was detected using the purified Pab.



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