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Anti-CYP7A1 Antibody

Catalog # ABO12757

Product Information

Application	WB
Primary Accession	P22680
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Cholesterol 7-alpha-monooxygenase(CYP7A1) detection. Tested with WB in Human;Mouse;Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	1581
Other Names	Cholesterol 7-alpha-monooxygenase, 1.14.14.23, CYPVII, Cholesterol 7-alpha-hydroxylase, Cytochrome P450 7A1, CYP7A1, CYP7
Calculated MW	57661
Application Details	Western blot, 0.1-0.5 □g/ml, Mouse, Rat, Human
Subcellular Localization	Endoplasmic reticulum membrane; Peripheral membrane protein. Microsome membrane; Peripheral membrane protein.
Tissue Specificity	Detected in liver. .
Source	Eukaryota
Protein Name	Cholesterol 7-alpha-monooxygenase
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
Immunogen	E.coli-derived human CYP7A1 recombinant protein (Position: M301-L504). Human CYP7A1 shares 85.2 % and 83.3% amino acid (aa) sequence identity with mouse and rat CYP7A1, respectively.
Purification	Immunogen affinity purified.
Cross Reactivity	No cross reactivity with other proteins
Storage	At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also

	be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.
Sequence Similarities	Belongs to the cytochrome P450 family.

Protein Information

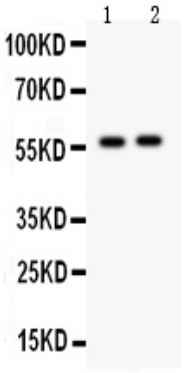
Name	CYP7A1 {ECO:0000303|PubMed:12077124, ECO:0000312|HGNC:HGNC:2651}
Function	A cytochrome P450 monooxygenase involved in the metabolism of endogenous cholesterol and its oxygenated derivatives (oxysterols) (PubMed:11013305, PubMed:12077124, PubMed:19965590, PubMed:21813643, PubMed:2384150). Mechanistically, 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 (Cytochrome P450 Subfamily VIIA Polypeptide 1), also called CYP7 or CHOLESTEROL 7-ALPHA -HYDROXYLASE, is an enzyme that in humans is encoded by the CYP7A1 gene. Using both mouse-human somatic cell hybrids and in situ chromosomal hybridization, Cohen et al. (1992) mapped the CYP7 gene to 8q11-q12. By transfection of reporter constructs, mutation analysis, and DNase footprinting, Molowa et al. (1992) identified areas of the CYP7A1 promoter region that showed hepatocyte-specific activation. They found HNF3 to be an activator of CYP7A1 activity. Agellon et al. (2002) found that wildtype mice and mice transgenic for human CYP7A1 respond differently to cholesterol feeding. Cholesterol feeding stimulated Cyp7a1 mRNA abundance and enzymatic activity in wildtype mice, but repressed human CYP7A1 mRNA and activity in transgenic mice.

Images

Anti- CYP7A1 antibody, ABO12757, Western blottingAll lanes: Anti CYP7A1 (ABO12757) at 0.5ug/mlLane 1: Rat Liver Tissue Lysate at 50ugLane 2: Mouse Liver Tissue Lysate at 50ugPredicted bind size: 58KDObserved bind size: 58KD



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