10320 Camino Santa Fe, Suite G
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Anti-CYP7A1 Antibody
Catalog # ABO12757

Specification

Anti-CYP7A1 Antibody - 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.

Anti-CYP7A1 Antibody - 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 MW KDa

Application Details
Western blot, 0.1-0.5 µg/ml, Mouse, Rat, Human

Subcellular Localization
Endoplasmic reticulum membrane; Peripheral membrane protein. Microsome membrane; Peripheral membrane protein.

Tissue Specificity
Detected in liver. .

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.

Anti-CYP7A1 Antibody - 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..

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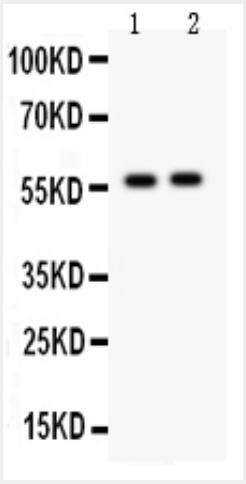
Anti-CYP7A1 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-CYP7A1 Antibody - 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

Anti-CYP7A1 Antibody - 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.