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CYP7A1 Antibody (N-term) Blocking Peptide

Synthetic peptide
Catalog # BP7996b

Specification

CYP7A1 Antibody (N-term) Blocking Peptide - Product Information

Primary Accession P22680

CYP7A1 Antibody (N-term) Blocking Peptide - Additional Information

Gene ID 1581

Other Names
Cholesterol 7-alpha-monooxygenase, CYPVII, Cholesterol 7-alpha-hydroxylase, Cytochrome P450 7A1, CYP7A1, CYP7

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP7996b was selected from the N-term region of human CYP7A1. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

CYP7A1 Antibody (N-term) Blocking Peptide - 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:2384150, PubMed:21813643). 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:2384150, PubMed:<a

href="http://www.uniprot.org/citations/11013305" target="_blank">11013305, PubMed:12077124, PubMed:19965590, PubMed:21813643). 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..

CYP7A1 Antibody (N-term) Blocking Peptide - Protocols

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

- Blocking Peptides

CYP7A1 Antibody (N-term) Blocking Peptide - Images

CYP7A1 Antibody (N-term) Blocking Peptide - 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.

CYP7A1 Antibody (N-term) Blocking Peptide - References

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