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CYP7B1 Antibody (Center) Blocking Peptide

Synthetic peptide
Catalog # BP8786c

Specification

CYP7B1 Antibody (Center) Blocking Peptide - Product Information

Primary Accession O75881

CYP7B1 Antibody (Center) Blocking Peptide - Additional Information

Gene ID 9420

Other Names
25-hydroxycholesterol 7-alpha-hydroxylase, Cytochrome P450 7B1, Oxysterol 7-alpha-hydroxylase, CYP7B1

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP8786c was selected from the Center region of human CYP7B1. 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.

CYP7B1 Antibody (Center) Blocking Peptide - Protein Information

Name CYP7B1 {ECO:0000303|PubMed:24491228, ECO:0000312|HGNC:HGNC:2652}

Function
A cytochrome P450 monooxygenase involved in the metabolism of endogenous oxysterols and steroid hormones, including neurosteroids (PubMed:10588945, PubMed:24491228). 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:10588945, PubMed:24491228). Catalyzes the hydroxylation of carbon hydrogen bonds of steroids with a preference for 7-alpha position (PubMed:10588945,

PubMed:24491228). Usually metabolizes steroids carrying a hydroxy group at position 3, functioning as a 3- hydroxy steroid 7-alpha hydroxylase (PubMed:24491228). Hydroxylates oxysterols, including 25-hydroxycholesterol and (25R)-cholest-5-ene- 3beta,26-diol toward 7-alpha hydroxy derivatives, which may be transported to the liver and converted to bile acids (PubMed:9802883, PubMed:10588945). Via its product 7-alpha,25-dihydroxycholesterol, a ligand for the chemotactic G protein-coupled receptor GPR183/EBI2, regulates B cell migration in germinal centers of lymphoid organs, thus guiding efficient maturation of plasma B cells and overall antigen- specific humoral immune response (By similarity). 7-alpha hydroxylates neurosteroids, including 3beta-hydroxyandrost-5-en-17-one (dehydroepiandrosterone) and pregnenolone, both involved in hippocampus-associated memory and learning (PubMed:24491228). Metabolizes androstanoids toward 6- or 7-alpha hydroxy derivatives (PubMed:24491228).

Cellular Location
Endoplasmic reticulum membrane; Multi-pass membrane protein. Microsome membrane; Multi-pass membrane protein

Tissue Location
Widely expressed. Expressed in brain, testis, ovary, prostate, liver, colon, kidney, small intestine, thymus and spleen.

CYP7B1 Antibody (Center) Blocking Peptide - Protocols

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

- Blocking Peptides

CYP7B1 Antibody (Center) Blocking Peptide - Images

CYP7B1 Antibody (Center) Blocking Peptide - Background

CYP7B1 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 of extrahepatic tissues, which converts cholesterol to bile acids. This enzyme likely plays a minor role in total bile acid synthesis, but may also be involved in the development of atherosclerosis, neurosteroid metabolism and sex hormone synthesis.

CYP7B1 Antibody (Center) Blocking Peptide - References

Schwarz,M., et.al., Curr. Opin. Lipidol. 9 (2), 113-118 (1998)