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CYP51A1 Antibody (Center) Blocking Peptide

Synthetic peptide
Catalog # BP8874c

Specification

CYP51A1 Antibody (Center) Blocking Peptide - Product Information

Primary Accession Q16850

CYP51A1 Antibody (Center) Blocking Peptide - Additional Information

Gene ID 1595

Other Names
Lanosterol 14-alpha demethylase, LDM, CYPLI, Cytochrome P450 51A1, Cytochrome P450-14DM, Cytochrome P45014DM, Cytochrome P450LI, Sterol 14-alpha demethylase, CYP51A1, CYP51

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP8874c was selected from the Center region of human CYP51A1. 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.

CYP51A1 Antibody (Center) Blocking Peptide - Protein Information

Name CYP51A1 (HGNC:2649)

Synonyms CYP51

Function
Sterol 14alpha-demethylase that plays a critical role in the cholesterol biosynthesis pathway, being cholesterol the major sterol component in mammalian membranes as well as a precursor for bile acid and steroid hormone synthesis (PubMed:20149798, PubMed:8619637, PubMed:9559662). Cytochrome P450 monooxygenase that catalyzes the three-step oxidative removal of the 14alpha-methyl group (C-32) of sterols such as lanosterol (lanosta-8,24-dien-3beta-ol) and 24,25-dihydrolanosterol (DHL) in the form of formate, and converts the sterols to

4,4-dimethyl-5alpha-cholesta-8,14,24-trien-3beta-ol and 4,4- dimethyl-8,14-cholestadien-3beta-ol, respectively, which are intermediates of cholesterol biosynthesis (PubMed:20149798, PubMed:8619637, PubMed:9559662). Can also demethylate substrates not intrinsic to mammals, such as eburicol (24-methylene-24,25-dihydrolanosterol), but at a lower rate than DHL (PubMed:9559662).

Cellular Location
Endoplasmic reticulum membrane {ECO:0000250|UniProtKB:Q64654}; Single-pass membrane protein. Microsome membrane {ECO:0000250|UniProtKB:Q64654}; Single-pass membrane protein

Tissue Location
Ubiquitously expressed with highest levels in testis, ovary, adrenal, prostate, liver, kidney and lung

CYP51A1 Antibody (Center) Blocking Peptide - Protocols

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

- Blocking Peptides

CYP51A1 Antibody (Center) Blocking Peptide - Images

CYP51A1 Antibody (Center) Blocking Peptide - Background

CYP51A1 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 protein participates in the synthesis of cholesterol by catalyzing the removal of the 14alpha-methyl group from lanosterol.

CYP51A1 Antibody (Center) Blocking Peptide - References

Matsuura,K., et.al., J. Biol. Chem. 280 (10), 9088-9096 (2005)Wang,Y.,et.al., J. Biol. Chem. 283 (39), 26332-26339 (2008)