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CYP46A1 Antibody (N-term) Blocking Peptide
Synthetic peptide
Catalog # BP8726a

Specification

CYP46A1 Antibody (N-term) Blocking Peptide - Product Information

Primary Accession Q9Y6A2

CYP46A1 Antibody (N-term) Blocking Peptide - Additional Information

Gene ID 10858

Other Names
Cholesterol 24-hydroxylase, CH24H, Cytochrome P450 46A1, CYP46A1, CYP46

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP8726a was selected from the N-term region of human CYP46A1. 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.

CYP46A1 Antibody (N-term) Blocking Peptide - Protein Information

Name CYP46A1 {ECO:0000303|PubMed:20667828, ECO:0000312|HGNC:HGNC:2641}

Function
P450 monooxygenase that plays a major role in cholesterol homeostasis in the brain. Primarily catalyzes the hydroxylation (with S stereochemistry) at C-24 of cholesterol side chain, triggering cholesterol diffusion out of neurons and its further degradation (PubMed:10377398, PubMed:14640697, PubMed:18621681, PubMed:25017465). By promoting constant cholesterol elimination in neurons, may activate the mevalonate pathway and coordinate the synthesis of new cholesterol and nonsterol isoprenoids involved in synaptic activity and learning (By similarity). Further hydroxylates cholesterol derivatives and hormone steroids on both the ring and side chain of these molecules, converting them into active oxysterols involved in lipid signaling and biosynthesis (PubMed:<a href="http://www.uniprot.org/citations/12077124"

target="_blank">12077124, PubMed:14640697, PubMed:28190002). Acts as an epoxidase converting cholesta-5,24-dien-3beta-ol/desmosterol into (24S),25-epoxycholesterol, an abundant lipid ligand of nuclear NR1H2 and NR1H3 receptors shown to promote neurogenesis in developing brain (PubMed:25017465). May also catalyze the oxidative metabolism of xenobiotics, such as clotrimazole (PubMed:20667828).

Cellular Location
Endoplasmic reticulum membrane {ECO:0000250|UniProtKB:Q9WVK8}; Single-pass membrane protein {ECO:0000250|UniProtKB:Q9WVK8}. Microsome membrane {ECO:0000250|UniProtKB:Q9WVK8}; Single-pass membrane protein {ECO:0000250|UniProtKB:Q9WVK8}. Postsynapse {ECO:0000250|UniProtKB:Q9WVK8}. Presynapse {ECO:0000250|UniProtKB:Q9WVK8}. Cell projection, dendrite {ECO:0000250|UniProtKB:Q9WVK8}

Tissue Location
Expressed in brain. The mRNA was broadly distributed with higher levels in gray matter zones and lower levels in regions rich in white matter. Not detected in fetal sample but its expression increases linearly with age.

CYP46A1 Antibody (N-term) Blocking Peptide - Protocols

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

- Blocking Peptides

CYP46A1 Antibody (N-term) Blocking Peptide - Images

CYP46A1 Antibody (N-term) Blocking Peptide - Background

CYP46A1 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 is expressed in the brain, where it converts cholesterol to 24S-hydroxycholesterol. While cholesterol cannot pass the blood-brain barrier, 24S-hydroxycholesterol can be secreted in the brain into the circulation to be returned to the liver for catabolism.

CYP46A1 Antibody (N-term) Blocking Peptide - References

Bogdanovic,N., et.al., Neurosci. Lett. 314 (1-2), 45-48 (2001)Bjorkhem,I., et.al., J. Lipid Res. 39 (8), 1594-1600 (1998)