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CYP24A1 Antibody (C-term) Blocking Peptide
Synthetic peptide
Catalog # BP8648b

Specification

CYP24A1 Antibody (C-term) Blocking Peptide - Product Information

Primary Accession Q07973

CYP24A1 Antibody (C-term) Blocking Peptide - Additional Information

Gene ID 1591

Other Names
25-dihydroxyvitamin D(3) 24-hydroxylase, mitochondrial, 24-OHase, Vitamin D(3) 24-hydroxylase, Cytochrome P450 24A1, Cytochrome P450-CC24, CYP24A1, CYP24

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP8648b was selected from the C-term region of human CYP24A1. 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.

CYP24A1 Antibody (C-term) Blocking Peptide - Protein Information

Name CYP24A1 (HGNC:2602)

Synonyms CYP24

Function
A cytochrome P450 monooxygenase with a key role in vitamin D catabolism and calcium homeostasis. Via C24- and C23-oxidation pathways, catalyzes the inactivation of both the vitamin D precursor calcidiol (25-hydroxyvitamin D(3)) and the active hormone calcitriol (1-alpha,25-dihydroxyvitamin D(3)) (PubMed:11012668, PubMed:15574355, PubMed:16617161, PubMed:24893882, PubMed:29461981, PubMed:<a href="http://www.uniprot.org/citations/8679605"

target="_blank">8679605). With initial hydroxylation at C-24 (via C24-oxidation pathway), performs a sequential 6-step oxidation of calcitriol leading to the formation of the biliary metabolite calcitroic acid (PubMed:15574355, PubMed:24893882). With initial hydroxylation at C-23 (via C23-oxidation pathway), catalyzes sequential oxidation of calcidiol leading to the formation of 25(OH)D3-26,23-lactone as end product (PubMed:11012668, PubMed:8679605). Preferentially hydroxylates at C-25 other vitamin D active metabolites, such as CYP11A1-derived secosteroids 20S- hydroxycholecalciferol and 20S,23-dihydroxycholecalciferol (PubMed:25727742). 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 FDXR/adrenodoxin reductase and FDX1/adrenodoxin (PubMed:8679605).

Cellular Location
Mitochondrion {ECO:0000250|UniProtKB:Q09128}.

CYP24A1 Antibody (C-term) Blocking Peptide - Protocols

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

- Blocking Peptides

CYP24A1 Antibody (C-term) Blocking Peptide - Images

CYP24A1 Antibody (C-term) Blocking Peptide - Background

CYP24A1 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 mitochondrial protein initiates the degradation of 1,25-dihydroxyvitamin D3, the physiologically active form of vitamin D3, by hydroxylation of the side chain. In regulating the level of vitamin D3, this enzyme plays a role in calcium homeostasis and the vitamin D endocrine system.

CYP24A1 Antibody (C-term) Blocking Peptide - References

Okuda,K., et.al., J. Lipid Res. 36 (8), 1641-1652 (1995)Bosse,Y., et.al., Respir. Res. 10, 98 (2009)