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CYP24A1 Blocking Peptide (C-term)

Synthetic peptide
Catalog # BP21361b

Specification

CYP24A1 Blocking Peptide (C-term) - Product Information

Primary Accession Q07973

CYP24A1 Blocking Peptide (C-term) - 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 is selected from aa 480-494 of HUMAN CYP24A1

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 Blocking Peptide (C-term) - 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:24893882, PubMed:15574355, PubMed:8679605, PubMed:11012668, PubMed:16617161, PubMed:29461981). 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:<a href="http://www.uniprot.org/citations/24893882"

target="_blank">24893882, PubMed:15574355). 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 Blocking Peptide (C-term) - Protocols

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

- Blocking Peptides

CYP24A1 Blocking Peptide (C-term) - Images

CYP24A1 Blocking Peptide (C-term) - Background

Has a role in maintaining calcium homeostasis. Catalyzes the NADPH-dependent 24-hydroxylation of calcidiol (25- hydroxyvitamin D(3)) and calcitriol (1-alpha,25-dihydroxyvitamin D(3)). The enzyme can perform up to 6 rounds of hydroxylation of calcitriol leading to calcitroic acid. It also shows 23-hydroxylating activity leading to 1-alpha,25-dihydroxyvitamin D(3)-26,23-lactone as end product.

CYP24A1 Blocking Peptide (C-term) - References

Chen K.-S.,et al.Proc. Natl. Acad. Sci. U.S.A. 90:4543-4547(1993).
Ren S.,et al.J. Biol. Chem. 280:20604-20611(2005).
Deloukas P.,et al.Nature 414:865-871(2001).
Chen K.-S.,et al.Biochim. Biophys. Acta 1263:1-9(1995).
Labuda M.,et al.J. Bone Miner. Res. 8:1397-1406(1993).