

CYP24A1 Blocking Peptide (N-term)
Synthetic peptide
Catalog # BP21358a**Specification**

CYP24A1 Blocking Peptide (N-term) - Product InformationPrimary Accession [Q07973](#)**CYP24A1 Blocking Peptide (N-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 34-44 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 (N-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- α ,25-dihydroxyvitamin D(3)) (PubMed: [11012668](http://www.uniprot.org/citations/11012668), PubMed: [15574355](http://www.uniprot.org/citations/15574355), PubMed: [16617161](http://www.uniprot.org/citations/16617161), PubMed: [24893882](http://www.uniprot.org/citations/24893882), PubMed: [29461981](http://www.uniprot.org/citations/29461981), PubMed: [8679605](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/15574355))

target="_blank">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 Blocking Peptide (N-term) - Protocols

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

- [Blocking Peptides](#)

CYP24A1 Blocking Peptide (N-term) - Images

CYP24A1 Blocking Peptide (N-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 (N-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).