

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

**Specification**

**CYP24A1 Blocking Peptide (N-term) - Product Information**

Primary 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-alpha,25-dihydroxyvitamin D(3)) (PubMed:<a href="http://www.uniprot.org/citations/11012668" target="\_blank">11012668</a>, PubMed:<a href="http://www.uniprot.org/citations/15574355" target="\_blank">15574355</a>, PubMed:<a href="http://www.uniprot.org/citations/16617161" target="\_blank">16617161</a>, PubMed:<a href="http://www.uniprot.org/citations/24893882" target="\_blank">24893882</a>, PubMed:<a href="http://www.uniprot.org/citations/29461981" target="\_blank">29461981</a>, PubMed:<a href="http://www.uniprot.org/citations/8679605" target="\_blank">8679605</a>). 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/15574355"

target="\_blank">>15574355</a>, PubMed:<a href="http://www.uniprot.org/citations/24893882" target="\_blank">24893882</a>). With initial hydroxylation at C-23 (via C23-oxidation pathway), catalyzes sequential oxidation of calcidiol leading to the formation of 25(OH)D<sub>3</sub>-26,23-lactone as end product (PubMed:<a href="http://www.uniprot.org/citations/11012668" target="\_blank">11012668</a>, PubMed:<a href="http://www.uniprot.org/citations/8679605" target="\_blank">8679605</a>). Preferentially hydroxylates at C-25 other vitamin D active metabolites, such as CYP11A1-derived secosteroids 20S-hydroxycholecalciferol and 20S,23-dihydroxycholecalciferol (PubMed:<a href="http://www.uniprot.org/citations/25727742" target="\_blank">25727742</a>). 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:<a href="http://www.uniprot.org/citations/8679605" target="\_blank">8679605</a>).

#### **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).