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CYP27B1 Blocking Peptide (C-term)

Synthetic peptide
Catalog # BP21674b

Specification

CYP27B1 Blocking Peptide (C-term) - Product Information

Primary Accession O15528

CYP27B1 Blocking Peptide (C-term) - Additional Information

Gene ID 1594

Other Names
25-hydroxyvitamin D-1 alpha hydroxylase, mitochondrial, 25-OHD-1 alpha-hydroxylase, 25-hydroxyvitamin D(3) 1-alpha-hydroxylase, VD3 1A hydroxylase, Calcidiol 1-monooxygenase, Cytochrome P450 subfamily XXVIIB polypeptide 1, Cytochrome P450C1 alpha, Cytochrome P450VD1-alpha, Cytochrome p450 27B1, CYP27B1, CYP1ALPHA, CYP27B

Target/Specificity
The synthetic peptide sequence is selected from aa 415-429 of HUMAN CYP27B1

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.

CYP27B1 Blocking Peptide (C-term) - Protein Information

Name CYP27B1

Synonyms CYP1ALPHA, CYP27B

Function
A cytochrome P450 monooxygenase involved in vitamin D metabolism and in calcium and phosphorus homeostasis. Catalyzes the rate-limiting step in the activation of vitamin D in the kidney, namely the hydroxylation of 25-hydroxyvitamin D3/calcidiol at the C1alpha- position to form the hormonally active form of vitamin D3, 1alpha,25- dihydroxyvitamin D3/calcitriol that acts via the vitamin D receptor (VDR) (PubMed:10518789, PubMed:9486994, PubMed:22862690, PubMed:10566658, PubMed:12050193). Has 1alpha-hydroxylase activity on vitamin D intermediates of

the CYP24A1-mediated inactivation pathway (PubMed:10518789, PubMed:22862690). Converts 24R,25-dihydroxyvitamin D3/secalciferol to 1-alpha,24,25-trihydroxyvitamin D3, an active ligand of VDR. Also active on 25-hydroxyvitamin D2 (PubMed:10518789). 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:22862690).

Cellular Location
Mitochondrion membrane.

Tissue Location
Kidney.

CYP27B1 Blocking Peptide (C-term) - Protocols

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

- Blocking Peptides

CYP27B1 Blocking Peptide (C-term) - Images

CYP27B1 Blocking Peptide (C-term) - Background

Catalyzes the conversion of 25-hydroxyvitamin D3 (25(OH)D) to 1-alpha,25-dihydroxyvitamin D3 (1,25(OH)2D) plays an important role in normal bone growth, calcium metabolism, and tissue differentiation.

CYP27B1 Blocking Peptide (C-term) - References

Fu G.K.,et al.DNA Cell Biol. 16:1499-1507(1997).
Monkawa T.,et al.Biochem. Biophys. Res. Commun. 239:527-533(1997).
Fu G.K.,et al.Mol. Endocrinol. 11:1961-1970(1997).
Huang D.C.,et al.Mol. Cancer Res. 1:56-67(2002).
Huang D.C.,et al.Submitted (MAR-2000) to the EMBL/GenBank/DDBJ databases.