

**CYP4F2 Antibody (N-term) Blocking Peptide**  
**Synthetic peptide**  
**Catalog # BP9059a****Specification**

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**CYP4F2 Antibody (N-term) Blocking Peptide - Product Information**Primary Accession [P78329](#)**CYP4F2 Antibody (N-term) Blocking Peptide - Additional Information****Gene ID** 8529**Other Names**

Phylloquinone omega-hydroxylase CYP4F2, 20-hydroxyeicosatetraenoic acid synthase, 20-HETE synthase, 11413-, Arachidonic acid omega-hydroxylase, CYP4F2, Cytochrome P450 4F2, Cytochrome P450-LTB-omega, Leukotriene-B(4) 20-monooxygenase 1, Leukotriene-B(4) omega-hydroxylase 1, CYP4F2 ([http://www.genenames.org/cgi-bin/gene\\_symbol\\_report?hgnc\\_id=2645](http://www.genenames.org/cgi-bin/gene_symbol_report?hgnc_id=2645))  
HGNC:2645

**Target/Specificity**

The synthetic peptide sequence used to generate the antibody [AP9059a](/products/AP9059a) was selected from the N-term region of human CYP4F2. 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.

**CYP4F2 Antibody (N-term) Blocking Peptide - Protein Information****Name** CYP4F2 {ECO:0000303|PubMed:10492403, ECO:0000312|HGNC:HGNC:2645}**Function**

A cytochrome P450 monooxygenase involved in the metabolism of various endogenous substrates, including fatty acids, eicosanoids and vitamins (PubMed:[18577768](http://www.uniprot.org/citations/18577768), PubMed:[10833273](http://www.uniprot.org/citations/10833273), PubMed:[10660572](http://www.uniprot.org/citations/10660572), PubMed:[11997390](http://www.uniprot.org/citations/11997390), PubMed:[17341693](http://www.uniprot.org/citations/17341693), PubMed:

href="http://www.uniprot.org/citations/18574070" target="\_blank">18574070</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 cytochrome P450 reductase (CPR; NADPH-ferrihemoprotein reductase). Catalyzes predominantly the oxidation of the terminal carbon (omega-oxidation) of long- and very long-chain fatty acids. Displays high omega-hydroxylase activity toward polyunsaturated fatty acids (PUFAs) (PubMed:<a href="http://www.uniprot.org/citations/18577768" target="\_blank">18577768</a>). Participates in the conversion of arachidonic acid to omega-hydroxyeicosatetraenoic acid (20-HETE), a signaling molecule acting both as vasoconstrictive and natriuretic with overall effect on arterial blood pressure (PubMed:<a href="http://www.uniprot.org/citations/10660572" target="\_blank">10660572</a>, PubMed:<a href="http://www.uniprot.org/citations/17341693" target="\_blank">17341693</a>, PubMed:<a href="http://www.uniprot.org/citations/18574070" target="\_blank">18574070</a>). Plays a role in the oxidative inactivation of eicosanoids, including both pro-inflammatory and anti-inflammatory mediators such as leukotriene B4 (LTB4), lipoxin A4 (LXA4), and several HETEs (PubMed:<a href="http://www.uniprot.org/citations/8026587" target="\_blank">8026587</a>, PubMed:<a href="http://www.uniprot.org/citations/9799565" target="\_blank">9799565</a>, PubMed:<a href="http://www.uniprot.org/citations/10833273" target="\_blank">10833273</a>, PubMed:<a href="http://www.uniprot.org/citations/10660572" target="\_blank">10660572</a>, PubMed:<a href="http://www.uniprot.org/citations/17341693" target="\_blank">17341693</a>, PubMed:<a href="http://www.uniprot.org/citations/18574070" target="\_blank">18574070</a>, PubMed:<a href="http://www.uniprot.org/citations/18577768" target="\_blank">18577768</a>). Catalyzes omega-hydroxylation of 3-hydroxy fatty acids (PubMed:<a href="http://www.uniprot.org/citations/18065749" target="\_blank">18065749</a>). Converts monoepoxides of linoleic acid leukotoxin and isoleukotoxin to omega-hydroxylated metabolites (PubMed:<a href="http://www.uniprot.org/citations/15145985" target="\_blank">15145985</a>). Contributes to the degradation of very long-chain fatty acids (VLCFAs) by catalyzing successive omega-oxidations and chain shortening (PubMed:<a href="http://www.uniprot.org/citations/16547005" target="\_blank">16547005</a>, PubMed:<a href="http://www.uniprot.org/citations/18182499" target="\_blank">18182499</a>). Plays an important role in vitamin metabolism by chain shortening. Catalyzes omega-hydroxylation of the phytol chain of tocopherols (forms of vitamin E), with preference for gamma-tocopherols over alpha-tocopherols, thus promoting retention of alpha-tocopherols in tissues (PubMed:<a href="http://www.uniprot.org/citations/11997390" target="\_blank">11997390</a>). Omega-hydroxylates and inactivates phyloquinone (vitamin K1), and menaquinone-4 (MK-4, a form of vitamin K2), both acting as cofactors in blood coagulation (PubMed:<a href="http://www.uniprot.org/citations/19297519" target="\_blank">19297519</a>, PubMed:<a href="http://www.uniprot.org/citations/24138531" target="\_blank">24138531</a>).

### Cellular Location

Microsome membrane; Peripheral membrane protein. Endoplasmic reticulum membrane; Peripheral membrane protein

### Tissue Location

Liver. Also present in kidney: specifically expressed in the S2 and S3 segments of proximal tubules in cortex and outer medulla (PubMed:10660572).

## CYP4F2 Antibody (N-term) Blocking Peptide - Protocols

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

- [Blocking Peptides](#)

## CYP4F2 Antibody (N-term) Blocking Peptide - Images

## CYP4F2 Antibody (N-term) Blocking Peptide - Background

CYP4F2 encodes 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 protein localizes to the endoplasmic reticulum. The enzyme starts the process of inactivating and degrading leukotriene B<sub>4</sub>, a potent mediator of inflammation. This protein is part of a cluster of cytochrome P450 genes on chromosome 19. Another member of this family, CYP4F11, is approximately 16 kb away.

#### **CYP4F2 Antibody (N-term) Blocking Peptide - References**

Perini,J.A., et.al., Clin. Pharmacol. Ther. 87 (4), 417-420 (2010)Cavallari,L.H., et.al., Clin. Pharmacol. Ther. 87 (4), 459-464 (2010)