

CYP27A1 Antibody (N-term) Blocking Peptide
Synthetic peptide
Catalog # BP2853a**Specification**

CYP27A1 Antibody (N-term) Blocking Peptide - Product InformationPrimary Accession [Q02318](#)**CYP27A1 Antibody (N-term) Blocking Peptide - Additional Information****Gene ID** 1593**Other Names**

Sterol 26-hydroxylase, mitochondrial, 5-beta-cholestane-3-alpha, 7-alpha, 12-alpha-triol 27-hydroxylase, Cytochrome P-450C27/25, Cytochrome P450 27, Sterol 27-hydroxylase, Vitamin D(3) 25-hydroxylase, CYP27A1, CYP27

Target/Specificity

The synthetic peptide sequence used to generate the antibody [AP2853a](/products/AP2853a) was selected from the N-term region of human CYP27A1. 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.

CYP27A1 Antibody (N-term) Blocking Peptide - Protein Information**Name** CYP27A1 {ECO:0000303|PubMed:21411718, ECO:0000312|HGNC:HGNC:2605}**Function**

Cytochrome P450 monooxygenase that catalyzes regio- and stereospecific hydroxylation of cholesterol and its derivatives. Hydroxylates (with R stereochemistry) the terminal methyl group of cholesterol side-chain in a three step reaction to yield at first a C26 alcohol, then a C26 aldehyde and finally a C26 acid (PubMed:[9660774](http://www.uniprot.org/citations/9660774), PubMed:[12077124](http://www.uniprot.org/citations/12077124), PubMed:[21411718](http://www.uniprot.org/citations/21411718), PubMed:[28190002](http://www.uniprot.org/citations/28190002)). Regulates cholesterol homeostasis by catalyzing the conversion of excess cholesterol to bile acids via both the 'neutral' (classic) and the 'acid' (alternative) pathways (PubMed:[9660774](http://www.uniprot.org/citations/9660774))

target="_blank">9660774, PubMed:1708392, PubMed:11412116, PubMed:2019602, PubMed:7915755, PubMed:9186905, PubMed:9790667). May also regulate cholesterol homeostasis via generation of active oxysterols, which act as ligands for NR1H2 and NR1H3 nuclear receptors, modulating the transcription of genes involved in lipid metabolism (PubMed:9660774, PubMed:12077124). Plays a role in cholestanol metabolism in the cerebellum. Similarly to cholesterol, hydroxylates cholestanol and may facilitate sterol diffusion through the blood-brain barrier to the systemic circulation for further degradation (PubMed:28190002). Also hydroxylates retinal 7- ketocholesterol, a noxious oxysterol with pro-inflammatory and pro- apoptotic effects, and may play a role in its elimination from the retinal pigment epithelium (PubMed:21411718). May play a redundant role in vitamin D biosynthesis. Catalyzes 25-hydroxylation of vitamin D3 that is required for its conversion to a functionally active form (PubMed:15465040).

Cellular Location

Mitochondrion inner membrane {ECO:0000250|UniProtKB:P17178}; Peripheral membrane protein {ECO:0000250|UniProtKB:P17178}. Note=Post-translationally targeted to mitochondria. All three of the receptor proteins in the TOM complex, TOMM70, TOMM20 and TOMM22 are required for the translocation across the mitochondrial outer membrane. After translocation into the matrix, associates with the inner membrane as a membrane extrinsic protein {ECO:0000250|UniProtKB:P17178}

Tissue Location

Expressed in the neural retina and underlying retinal pigment epithelium (at protein level) (PubMed:21411718) Expressed in the gray and white matter of cerebellum (at protein level) (PubMed:28190002).

CYP27A1 Antibody (N-term) Blocking Peptide - Protocols

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

- [Blocking Peptides](#)

CYP27A1 Antibody (N-term) Blocking Peptide - Images

CYP27A1 Antibody (N-term) Blocking Peptide - Background

CYP27A1 is 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 mitochondrial protein oxidizes cholesterol intermediates as part of the bile synthesis pathway. Since the conversion of cholesterol to bile acids is the major route for removing cholesterol from the body, this protein is important for overall cholesterol homeostasis. Mutations in CYP27A1 gene cause cerebrotendinous xanthomatosis, a rare autosomal recessive lipid storage disease.

CYP27A1 Antibody (N-term) Blocking Peptide - References

Cali J.J., Russell D.W.J. Biol. Chem. 266:7774-7778(1991)Guo Y.-D., Strugnelli S., Back D.W., Jones G.Proc. Natl. Acad. Sci. U.S.A. 90:8668-8672(1993)Chen W., Kubota S., Kim K.-S., Cheng J.,

Kuriyama M.,J. Lipid Res. 38:870-879(1997) Chen W., Kubota S., Ujike H., Ishihara T.Biochemistry
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