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Cytochrome P450 27A1 Antibody
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP50757

Specification

Cytochrome P450 27A1 Antibody - Product Information

Application	**WB**
Primary Accession	Q02318
Reactivity	**Human**
Host	**Rabbit**
Clonality	**Polyclonal**
Calculated MW	**60 KDa**
Antigen Region	**123-151**

Cytochrome P450 27A1 Antibody - 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

Dilution
WB~~1:500

Format
Rabbit IgG in phosphate buffered saline (without Mg2+ and Ca2+), pH 7.4, 150mM NaCl, 0.09% (W/V) sodium azide and 50% glycerol.

Storage Conditions
-20℃

Cytochrome P450 27A1 Antibody - 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, PubMed:12077124, PubMed:21411718, PubMed: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:<a href="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).

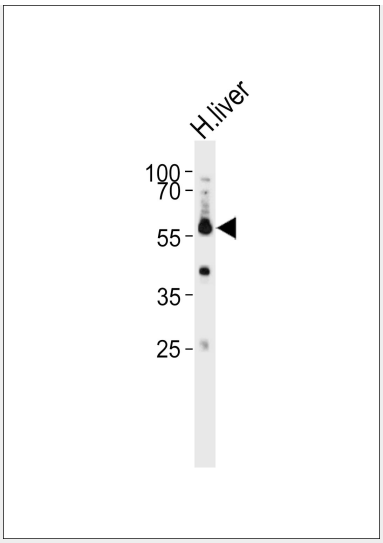
Cytochrome P450 27A1 Antibody - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Cytochrome P450 27A1 Antibody - Images

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Western blot analysis of lysate from human liver tissue lysate,using Cytochrome P450 27A1 Antibody(AP50757). AP50757 was diluted at 1:1000. A goat anti-rabbit IgG H&L(HRP) at 1:5000 dilution was used as the secondary antibody.Lysate at 35ug.

Cytochrome P450 27A1 Antibody - Background

Catalyzes the first step in the oxidation of the side chain of sterol intermediates; the 27-hydroxylation of 5-beta- cholestane-3-alpha,7-alpha,12-alpha-triol. Has also a vitamin D3-25-hydroxylase activity.

Cytochrome P450 27A1 Antibody - References

Cali J.J.,et al.J. Biol. Chem. 266:7774-7778(1991).
Guo Y.-D.,et al.Proc. Natl. Acad. Sci. U.S.A. 90:8668-8672(1993).
Zhang H.T.,et al.Submitted (NOV-2002) to the EMBL/GenBank/DDBJ databases.
Ota T.,et al.Nat. Genet. 36:40-45(2004).
Mural R.J.,et al.Submitted (JUL-2005) to the EMBL/GenBank/DDBJ databases.