

**Anti-Cytochrome P450 27A1 Antibody**  
Rabbit polyclonal antibody to Cytochrome P450 27A1  
Catalog # AP59532

## Specification

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### Anti-Cytochrome P450 27A1 Antibody - Product Information

Application	WB, IF
Primary Accession	<a href="#">Q02318</a>
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	60235

### Anti-Cytochrome P450 27A1 Antibody - Additional Information

Gene ID 1593

#### Other Names

CYP27; 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

#### Target/Specificity

Recognizes endogenous levels of Cytochrome P450 27A1 protein.

#### Dilution

WB~~WB (1/500 - 1/1000), IH (1/100 - 1/200), IF/IC (1/100 - 1/500)  
IF~~WB (1/500 - 1/1000), IH (1/100 - 1/200), IF/IC (1/100 - 1/500)

#### Format

Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.09% (W/V) sodium azide.

#### Storage

Store at -20 °C. Stable for 12 months from date of receipt

### Anti-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: [12077124](http://www.uniprot.org/citations/12077124) target="\_blank">12077124</a>, PubMed: [21411718](http://www.uniprot.org/citations/21411718) target="\_blank">21411718</a>, PubMed: [28190002](http://www.uniprot.org/citations/28190002) target="\_blank">28190002</a>, PubMed: [9660774](http://www.uniprot.org/citations/9660774) target="\_blank">9660774</a>)

target="\_blank">9660774</a>). 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/11412116" target="\_blank">11412116</a>, PubMed:<a href="http://www.uniprot.org/citations/1708392" target="\_blank">1708392</a>, PubMed:<a href="http://www.uniprot.org/citations/2019602" target="\_blank">2019602</a>, PubMed:<a href="http://www.uniprot.org/citations/7915755" target="\_blank">7915755</a>, PubMed:<a href="http://www.uniprot.org/citations/9186905" target="\_blank">9186905</a>, PubMed:<a href="http://www.uniprot.org/citations/9660774" target="\_blank">9660774</a>, PubMed:<a href="http://www.uniprot.org/citations/9790667" target="\_blank">9790667</a>). 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:<a href="http://www.uniprot.org/citations/12077124" target="\_blank">12077124</a>, PubMed:<a href="http://www.uniprot.org/citations/9660774" target="\_blank">9660774</a>). Plays a role in cholesterol 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:<a href="http://www.uniprot.org/citations/28190002" target="\_blank">28190002</a>). 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:<a href="http://www.uniprot.org/citations/21411718" target="\_blank">21411718</a>). 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:<a href="http://www.uniprot.org/citations/15465040" target="\_blank">15465040</a>).

#### 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).

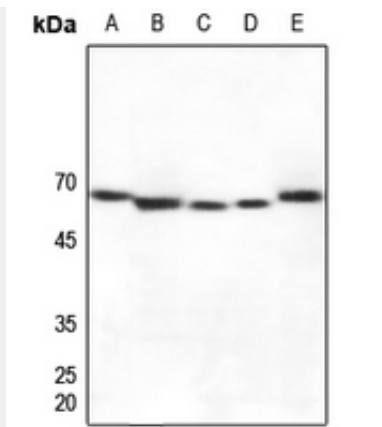
### Anti-Cytochrome P450 27A1 Antibody - Protocols

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

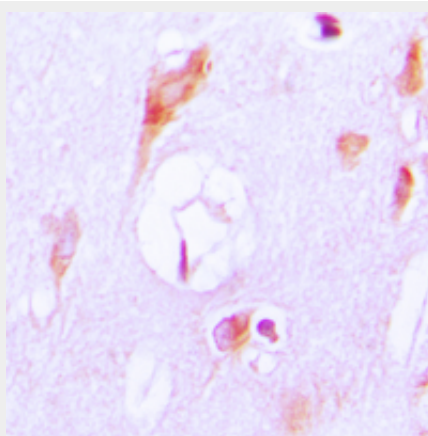
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### Anti-Cytochrome P450 27A1 Antibody - Images

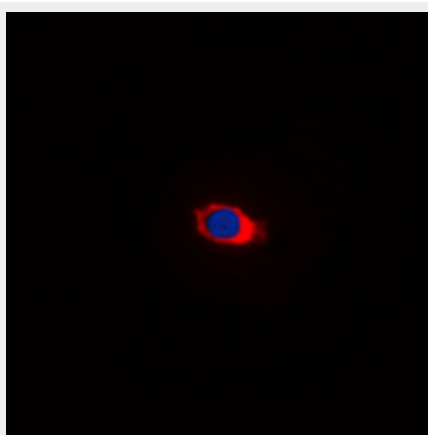




Western blot analysis of Cytochrome P450 27A1 expression in Hela (A), mouse lung (B), mouse kidney (C), mouse liver (D), rat kidney (E) whole cell lysates.



Immunohistochemical analysis of Cytochrome P450 27A1 staining in human brain formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.



Immunofluorescent analysis of Cytochrome P450 27A1 staining in HepG2 cells. Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with the primary antibody in 3% BSA-PBS and incubated overnight at 4 °C in a humidified chamber. Cells were washed with PBST and incubated with a DyLight 594-conjugated secondary antibody (red) in PBS at room

temperature in the dark. DAPI was used to stain the cell nuclei (blue).

### **Anti-Cytochrome P450 27A1 Antibody - Background**

KLH-conjugated synthetic peptide encompassing a sequence within the center region of human Cytochrome P450 27A1. The exact sequence is proprietary.