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Cytochrome P450 27A1 Rabbit mAb

Catalog # AP77081

Product Information

Application	WB, IHC-P, IF, FC, ICC
Primary Accession	Q02318
Reactivity	Rat, Human, Mouse
Host	Rabbit
Clonality	Monoclonal Antibody
Isotype	IgG
Conjugate	Unconjugated
Immunogen	A synthesized peptide derived from human CYP27A1
Purification	Affinity Chromatography
Calculated MW	60235

Additional Information

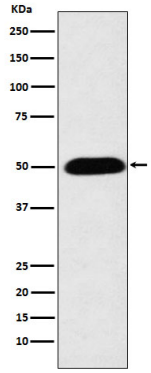
Gene ID	1593
Other Names	CYP27A1
Dilution	WB~~1/500-1/1000 IHC-P~~N/A IF~~1:50~200 FC~~1:10~50 ICC~~N/A
Format	Liquid in 10mM PBS, pH 7.4, 150mM sodium chloride, 0.05% BSA, 0.02% sodium azide and 50% glycerol.
Storage	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.

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, PubMed:21411718, PubMed:28190002, PubMed:9660774). Regulates cholesterol homeostasis by catalyzing the conversion of excess cholesterol to bile acids via both the 'neutral' (classic) and the 'acid' (alternative) pathways (PubMed:11412116, PubMed:1708392, PubMed:2019602, PubMed:7915755, PubMed:9186905, PubMed:9660774, 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:12077124, PubMed:9660774). Catalyzes the conversion of

	7-ketocholesterol (7-oxocholesterol) into 7-keto,27- hydroxycholesterol, a precursor of 7-keto,27-hydroxycholesterol, an active oxysterol that activates smoothened (SMO) and the smoothened signaling pathway (By similarity). 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).

Images



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