

Cytochrome P450 4A Rabbit mAb

Catalog # AP78098

Product Information

Application	WB, IHC-P, IP
Primary Accession	Q02928
Reactivity	Rat, Human, Mouse
Host	Rabbit
Clonality	Monoclonal Antibody
Isotype	IgG
Conjugate	Unconjugated
Immunogen	A synthesized peptide derived from human Cytochrome P450 4A
Purification	Affinity Chromatography
Calculated MW	59348

Additional Information

Gene ID	1579
Other Names	CYP4A11
Dilution	WB~~1/500-1/1000 IHC-P~~N/A IP~~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	CYP4A11 {ECO:0000303 PubMed:8274222, ECO:0000312 HGNC:HGNC:2642}
Function	A cytochrome P450 monooxygenase involved in the metabolism of fatty acids and their oxygenated derivatives (oxylipins) (PubMed: 10553002 , PubMed: 10660572 , PubMed: 15611369 , PubMed: 1739747 , PubMed: 7679927 , PubMed: 8914854). 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) (PubMed: 10553002 , PubMed: 10660572 , PubMed: 15611369 , PubMed: 1739747 , PubMed: 7679927 , PubMed: 8914854). Catalyzes predominantly the oxidation of the terminal carbon (omega-oxidation) of saturated and unsaturated fatty acids, the catalytic efficiency decreasing in the following order: dodecanoic > tetradecanoic > (9Z)-octadecenoic > (9Z,12Z)- octadecadienoic > hexadecanoic acid (PubMed: 10553002 , PubMed: 10660572). Acts as a major omega-hydroxylase

for dodecanoic (lauric) acid in liver (PubMed:[15611369](#), PubMed:[1739747](#), PubMed:[7679927](#), PubMed:[8914854](#)). Participates in omega-hydroxylation of (5Z,8Z,11Z,14Z)-eicosatetraenoic acid (arachidonate) to 20-hydroxyeicosatetraenoic acid (20-HETE), a signaling molecule acting both as vasoconstrictive and natriuretic with overall effect on arterial blood pressure (PubMed:[10620324](#), PubMed:[10660572](#), PubMed:[15611369](#)). Can also catalyze the oxidation of the penultimate carbon (omega-1 oxidation) of fatty acids with lower efficiency (PubMed:[7679927](#)). May contribute to the degradation of saturated very long-chain fatty acids (VLCFAs) such as docosanoic acid, by catalyzing successive omega-oxidations to the corresponding dicarboxylic acid, thereby initiating chain shortening (PubMed:[18182499](#)). Omega-hydroxylates (9R,10S)-epoxy-octadecanoate stereoisomer (PubMed:[15145985](#)). Plays a minor role in omega-oxidation of long-chain 3-hydroxy fatty acids (PubMed:[18065749](#)). Has little activity toward prostaglandins A1 and E1 (PubMed:[7679927](#)).

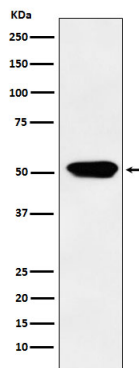
Cellular Location

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

Tissue Location

Expressed in liver (PubMed:[7679927](#)). Expressed in S2 and S3 segments of proximal tubules in cortex and outer medulla of kidney (PubMed:[10660572](#), PubMed:[7679927](#)).

Images



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