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CYP4V2 Rabbit pAb

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Catalog # AP55441

Product Information

Application	IHC-P, IHC-F, IF, E
Primary Accession	Q6ZWL3
Predicted	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	60724
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human CYP4V2
Epitope Specificity	431-525/525
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Endoplasmic reticulum membrane.
SIMILARITY	Belongs to the cytochrome P450 family.
DISEASE	Bietti crystalline corneoretinal dystrophy (BCD) [MIM:210370]: An autosomal recessive ocular disease characterized by retinal degeneration and marginal corneal dystrophy. Typical features include multiple glistening intraretinal crystals scattered over the fundus, a characteristic degeneration of the retina, and sclerosis of the choroidal vessels, ultimately resulting in progressive night blindness and constriction of the visual field. Most patients have similar crystals at the corneoscleral limbus. Patients develop decreased vision, nyctalopia, and paracentral scotomata between the 2nd and 4th decade of life. Later, they develop peripheral visual field loss and marked visual impairment, usually progressing to legal blindness by the 5th or 6th decade of life. Note=The disease is caused by mutations affecting the gene represented in this entry.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	This gene encodes a member of the cytochrome P450 hemethiolate protein superfamily which are involved in oxidizing various substrates in the metabolic pathway. It is implicated in the metabolism of fatty acid precursors into n-3 polyunsaturated fatty acids. Mutations in this gene result in Bietti crystalline corneoretinal dystrophy. [provided by RefSeq, Jul 2008]

Additional Information

Gene ID	285440
Other Names	Cytochrome P450 4V2, Docosahexaenoic acid omega-hydroxylase CYP4V2, 1.14.14.79, Long-chain fatty acid omega-monooxygenase, 1.14.14.80, CYP4V2

Target/Specificity	Broadly expressed. Detected in heart, brain, placenta, lung, liver, skeletal muscle, kidney, pancreas, retina, retinal pigment epithelium (RPE) and lymphocytes.
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500,ELISA=1:5000-10000
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	CYP4V2
Function	A cytochrome P450 monooxygenase involved in fatty acid metabolism in the eye. Catalyzes the omega-hydroxylation of polyunsaturated fatty acids (PUFAs) docosahexaenoate (DHA) and its precursor eicosapentaenoate (EPA), and may contribute to the homeostasis of these retinal PUFAs (PubMed:22772592). Omega hydroxylates saturated fatty acids such as laurate, myristate and palmitate, the catalytic efficiency decreasing in the following order: myristate > laurate > palmitate (C14>C12>C16) (PubMed:19661213). 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).
Cellular Location	Endoplasmic reticulum membrane; Single-pass membrane protein
Tissue Location	Broadly expressed. Detected in heart, brain, placenta, lung, liver, skeletal muscle, kidney, pancreas, retina, retinal pigment epithelium (RPE) and lymphocytes

Background

This gene encodes a member of the cytochrome P450 hemethiolate protein superfamily which are involved in oxidizing various substrates in the metabolic pathway. It is implicated in the metabolism of fatty acid precursors into n-3 polyunsaturated fatty acids. Mutations in this gene result in Bietti crystalline corneoretinal dystrophy. [provided by RefSeq, Jul 2008]