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LCAT Rabbit pAb

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Catalog # AP57642

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	P04180
Reactivity	Pig, Mouse, Dog, Horse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	49578
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human LCAT
Epitope Specificity	151-250/440
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	Secreted. Note=Secreted into blood plasma. Produced in astrocytes and secreted into cerebral spinal fluid (CSF).
SIMILARITY	Belongs to the AB hydrolase superfamily. Lipase family.
Post-translational modifications	O- and N-glycosylated. O-glycosylation on Thr-431 and Ser-433 consists of sialylated galactose beta 1-->3N-acetylgalactosamine structures. N-glycosylated sites contain sialylated triantennary and/or biantennary complex structures.
DISEASE	Lecithin-cholesterol acyltransferase deficiency (LCATD) [MIM:245900]: A disorder of lipoprotein metabolism characterized by inadequate esterification of plasmatic cholesterol. Two clinical forms are recognized: complete LCAT deficiency and fish-eye disease. LCATD is generally referred to the complete form which is associated with absence of both alpha and beta LCAT activities resulting in esterification anomalies involving both HDL (alpha-LCAT activity) and LDL (beta-LCAT activity). It causes a typical triad of diffuse corneal opacities, target cell hemolytic anemia, and proteinuria with renal failure. Note=The disease is caused by mutations affecting the gene represented in this entry.Fish-eye disease (FED) [MIM:136120]: A disorder of lipoprotein metabolism due to partial lecithin-cholesterol acyltransferase deficiency that affects only alpha-LCAT activity. FED is characterized by low plasma HDL and corneal opacities due to accumulation of cholesterol deposits in the cornea ('fish-eye'). 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 the extracellular cholesterol esterifying enzyme, lecithin-cholesterol acyltransferase. The esterification of cholesterol is required for cholesterol transport. Mutations in this gene have been found to cause fish-eye disease as well as LCAT deficiency. [provided by RefSeq, Jul 2008]

Additional Information

Gene ID	3931
Other Names	Phosphatidylcholine-sterol acyltransferase, 2.3.1.43, 1-alkyl-2-acetylglycerophosphocholine esterase, 3.1.1.47, Lecithin-cholesterol acyltransferase, Phospholipid-cholesterol acyltransferase, Platelet-activating factor acetylhydrolase, PAF acetylhydrolase, LCAT
Target/Specificity	Expressed mainly in brain, liver and testes. Secreted into plasma and cerebral spinal fluid. Expressed in Hep-G2 cell line.
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
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.

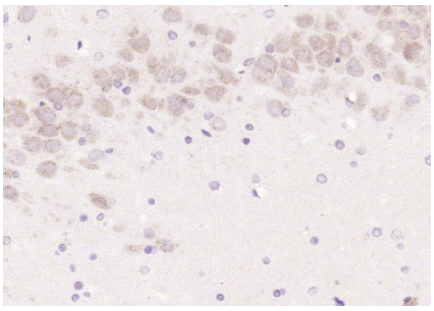
Protein Information

Name	LCAT
Function	Central enzyme in the extracellular metabolism of plasma lipoproteins. Synthesized mainly in the liver and secreted into plasma where it converts cholesterol and phosphatidylcholines (lecithins) to cholesteryl esters and lysophosphatidylcholines on the surface of high and low density lipoproteins (HDLs and LDLs) (PubMed:10329423, PubMed:19065001, PubMed:26195816). The cholesterol ester is then transported back to the liver. Has a preference for plasma 16:0-18:2 or 18:O-18:2 phosphatidylcholines (PubMed:8820107). Also produced in the brain by primary astrocytes, and esterifies free cholesterol on nascent APOE-containing lipoproteins secreted from glia and influences cerebral spinal fluid (CSF) APOE- and APOA1 levels. Together with APOE and the cholesterol transporter ABCA1, plays a key role in the maturation of glial-derived, nascent lipoproteins. Required for remodeling high- density lipoprotein particles into their spherical forms (PubMed:10722751). Catalyzes the hydrolysis of 1-O-alkyl-2-acetyl-sn-glycero-3-phosphocholine (platelet-activating factor or PAF) to 1-O-alkyl-sn-glycero-3-phosphocholine (lyso-PAF) (PubMed:8016111). Also catalyzes the transfer of the acetate group from PAF to 1-hexadecanoyl-sn-glycero-3-phosphocholine forming lyso-PAF (PubMed:8016111). Catalyzes the esterification of (24S)-hydroxycholesterol (24(S)OH-C), also known as cerebrosterol to produce 24(S)OH-C monoesters (PubMed:24620755).
Cellular Location	Secreted. Note=Secreted into blood plasma (PubMed:10222237, PubMed:3458198, PubMed:8820107) Produced in astrocytes and secreted into cerebral spinal fluid (CSF) (PubMed:10222237).
Tissue Location	Detected in blood plasma (PubMed:10222237, PubMed:3458198, PubMed:8820107). Detected in cerebral spinal fluid (at protein level) (PubMed:10222237). Detected in liver (PubMed:3458198, PubMed:3797244). Expressed mainly in brain, liver and testes

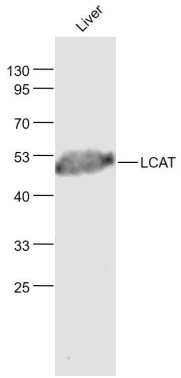
Background

This gene encodes the extracellular cholesterol esterifying enzyme, lecithin-cholesterol acyltransferase. The esterification of cholesterol is required for cholesterol transport. Mutations in this gene have been found to cause fish-eye disease as well as LCAT deficiency. [provided by RefSeq, Jul 2008]

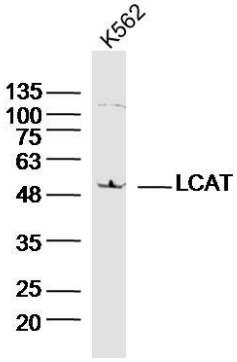
Images



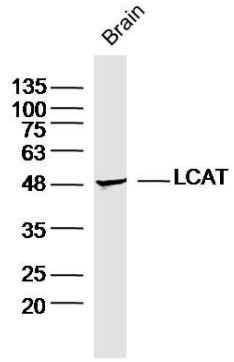
Paraformaldehyde-fixed, paraffin embedded (Rat brain); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (LCAT) Polyclonal Antibody, Unconjugated (AP57642) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining.



Sample:
Liver (Mouse) Lysate at 40 ug
Primary: Anti- LCAT (AP57642) at 1/1000 dilution
Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution
Predicted band size: 47 kD
Observed band size: 49kD



Sample: K562 (human)Cell Lysate at 40 ug
Primary: Anti- LCAT(AP57642)at 1/300 dilution
Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution
Predicted band size: 47kD
Observed band size: 47/52 kD



Sample: brain (mouse) Lysate at 40 ug
Primary: Anti- LCAT(AP57642)at 1/300 dilution
Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution
Predicted band size: 47kD
Observed band size: 48kD