abcam

Product datasheet

Anti-LCAT antibody [EPR1384Y] ab51060

Recombinant RabMAb

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Overview

Product name	Anti-LCAT antibody [EPR1384Y]
Description	Rabbit monoclonal [EPR1384Y] to LCAT
Host species	Rabbit
Tested applications	**Suitable for:** IP, WB, IHC-P
Species reactivity	**Reacts with:** Human
Immunogen	Synthetic peptide within Human LCAT (C terminal). The exact sequence is proprietary. Database link: **P04180**
Positive control	WB: Human serum and plasma lysates IHC-P: Human brain and liver tissue IP: Human plasma
General notes	This product is a recombinant monoclonal antibody, which offers several advantages including: - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production For more information **see here**. Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to **RabMAb® patents**. Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.2 Preservative: 0.01% Sodium azide Constituents: 0.05% BSA, 40% Glycerol (glycerin, glycerine), 59% PBS
Purity	Protein A purified
Clonality	Monoclonal

Clone number	EPR1384Y
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab51060 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
IP		1/20. **For unpurified use at 1/100.**
WB		1/10000. Detects a band of approximately 62 kDa (predicted molecular weight: 50 kDa).
IHC-P		1/100 - 1/250. Perform heat mediated antigen retrieval before commencing with IHC staining protocol. See **IHC antigen retrieval protocols**. The immunostaining was performed on a Leica Biosystems BOND® RX instrument.

Target

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). 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. 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.

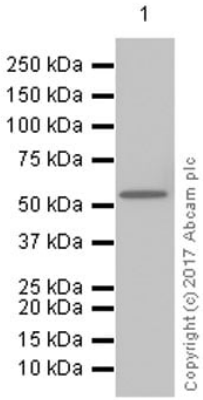
Tissue specificity Expressed mainly in brain, liver and testes. Secreted into plasma and cerebral spinal fluid. In liver, expressed in HEPG2 hepatocytes.

Involvement in disease Defects in LCAT are the cause of lecithin-cholesterol acyltransferase deficiency (LCATD) [MIM:245900]; also called Norum disease. LCATD is a disorder of lipoprotein metabolism characterized by inadequate esterification of plasmatic cholesterol. Two clinical forms are recognized: familial LCAT deficiency and fish-eye disease. Familial LCAT deficiency is associated with a complete absence of alpha and beta LCAT activities and results 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.
Defects in LCAT are a cause of fish-eye disease (FED) [MIM:136120]; also known as dyslipoproteinemic corneal dystrophy or alpha-LCAT deficiency. FED is due to a partial LCAT deficiency that affects only alpha-LCAT activity. It is characterized by low plasma HDL and corneal opacities due to accumulation of cholesterol deposits in the cornea ('fish-eye').

Sequence similarities 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.
Cellular localization	Secreted. Secreted into blood plasma. Produced in astrocytes and secreted into cerebral spinal fluid.

Images



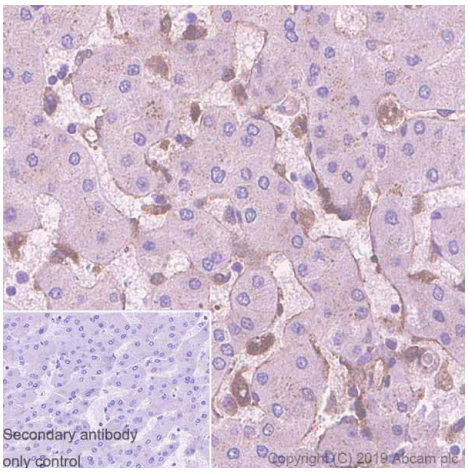
Western blot - Anti-LCAT antibody [EPR1384Y] (ab51060)

Anti-LCAT antibody [EPR1384Y] (ab51060) at 1/10000 dilution (Purified) + Human plasma lysates at 15 µg

Secondary
Goat Anti-Rabbit IgG (HRP) with minimal cross-reactivity with human IgG at 1/2000 dilution

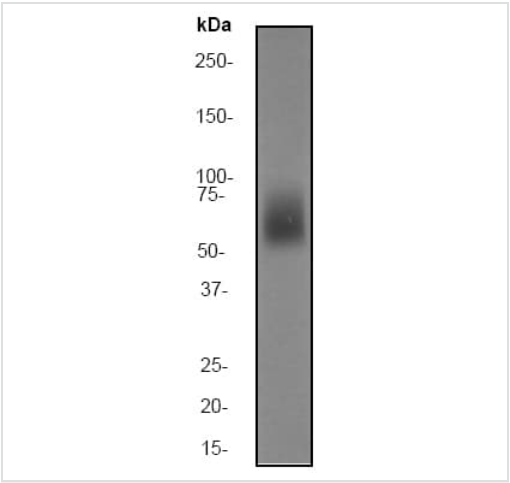
Predicted band size: 50 kDa
Observed band size: 62 kDa

Blocking/Diluting Buffer and concentration: 5% NFDM/TBST



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-LCAT antibody [EPR1384Y] (ab51060)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human liver tissue sections labeling LCAT with purified ab51060 at 1/100 dilution (1.03 µg/mL). Heat mediated antigen retrieval was performed using Bond™ Epitope Retrieval Solution 2 (pH 9.0) . Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument.



Western blot - Anti-LCAT antibody [EPR1384Y] (ab51060)

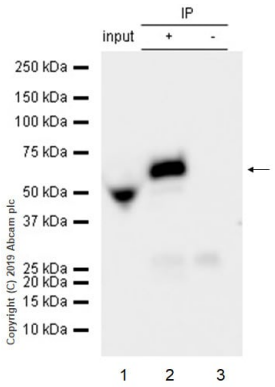
Anti-LCAT antibody [EPR1384Y] (ab51060) at 1/10000 dilution (unpurified) + Human serum at 10 µg

Secondary

Goat anti-Rabbit HRP at 1/2000 dilution

Predicted band size: 50 kDa

Observed band size: 62 kDa



Immunoprecipitation - Anti-LCAT antibody [EPR1384Y] (ab51060)

ab51060 (Purified) at 1/20 dilution (0.5ug) immunoprecipitating LCAT in Human plasma.

Lane 1 (input): Human plasma 10ug

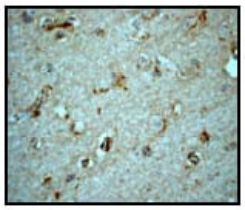
Lane 2 (+): ab51060 & Human plasma

Lane 3 (-): Rabbit monoclonal IgG (**ab172730**) instead of ab51060 in Human plasma

For western blotting, VeriBlot for IP Detection Reagent (HRP) (**ab131366**) was used at 1/1000 dilution.

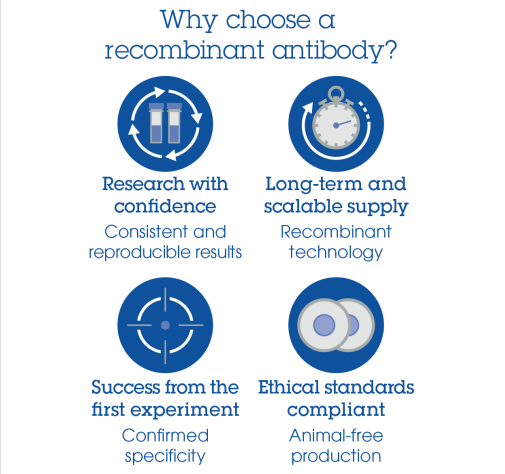
Blocking and diluting buffer: 5% NFDM/TBST.

50 kDa band in input lane should be human IgG heavy chain.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-LCAT antibody [EPR1384Y] (ab51060)

ab51060 (unpurified) at 1/100 dilution staining LCAT in paraffin embedded human brain tissue by Immunohistochemistry. Heat mediated antigen retrieval was performed before commencing with IHC staining protocol.



Anti-LCAT antibody [EPR1384Y] (ab51060)

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