abcam

ab36597

Anti-Lysosomal acid lipase/LAL antibody [9G7F12]

Key facts

Isotype	IgG2a
Host species	Mouse
Storage buffer	Preservative: 0.05% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Fragment Protein within Human LIPA. The exact immunogen used to generate this antibody is proprietary information. Database link P38571
Clone number	9G7F12
Purification technique	Affinity purification Protein G
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from tissue culture supernatant.

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	2 µg/mL
Notes	Perform heat-mediated antigen retrieval before commencing with IHC staining protocol.

Not recommended

Species	Recombinant fragment
Dilution info	-
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	0.5 µg for 10^6 Cells
Notes	ab170191 - Mouse monoclonal IgG2a, is suitable for use as an isotype control with this antibody.

Not recommended

Species	Recombinant fragment
Dilution info	-
Notes	-

WB

Tested

Species	Recombinant fragment
Dilution info	1/500 - 1/2000
Notes	-

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information LIPA

Function	Catalyzes the deacylation of cholesteryl ester core lipids of endocytosed low density lipoproteins to generate free fatty acids and cholesterol (PubMed:15269241, PubMed:1718995, PubMed:7204383, PubMed:8112342, PubMed:9633819). Hydrolyzes triglycerides (1,2,3-triacylglycerol) and diglycerides (such as 1,2-diacylglycerol and 1,3-diacylglycerol) with preference for the acyl moieties at the sn-1 or sn-3 positions (PubMed:7204383, PubMed:8112342).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Lysosomal acid lipase (LAL) also called lipase A is an essential enzyme with a mass of approximately 43 kDa. It is expressed within the lysosomes of many cell types and catalyzes the hydrolysis of cholesteryl esters and triglycerides into free cholesterol and free fatty acids. This process is important for the cellular lipid metabolism which provides essential signaling molecules and membrane components. The enzyme's activity varies across different tissue types with high expression levels observed in organs like the liver and the adrenal glands.
Biological function summary	Lysosomal acid lipase contributes to the breakdown and regulation of lipid storage within the cell. It is not known to be part of a larger protein complex but its function is critical for maintaining lipid homeostasis in the cell. Through its actions LAL supplies cholesterol and fatty acids essential for various cellular processes including membrane formation and energy production. Additionally it assists in cellular storage management by preventing the excessive accumulation of lipids.
Pathways	The enzymatic actions of lysosomal acid lipase are central to the cholesterol ester and triglyceride metabolic pathways. It plays an important role in the lysosome as part of the lipid degradation process impacting cholesterol transport pathways and maintaining lipid equilibrium. Its activities are closely related to those of other enzymes like hormone-sensitive lipase which also participate in lipid metabolism though within distinct compartments and contexts.

Associated diseases and disorders	Lysosomal acid lipase is linked to lipid storage disorders such as Wolman disease and Cholesteryl Ester Storage Disease (CESD). These conditions result from LAL deficiency leading to harmful accumulation of cholesteryl esters and triglycerides in tissues. Through disease pathways LAL becomes interconnected with proteins affected by lipid dysregulation such as low-density lipoprotein receptors which play a part in maintaining lipid balance and can contribute to more severe cardiovascular conditions when impaired by LAL deficiency.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

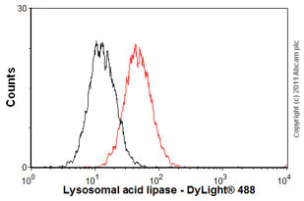
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

3 product images

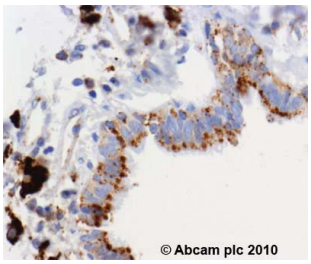


Flow Cytometry - Anti-Lysosomal acid lipase/LAL antibody [9G7F12] (ab36597)

Lysosomal acid lipase/LAL Flow Cytometry staining using mouse Anti-Lysosomal acid lipase/LAL antibody

Overlay histogram showing HepG2 cells stained with ab36597 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab36597, 0.5µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG2a [ICIGG2A] (ab91361,

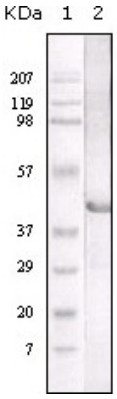
1µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Lysosomal acid lipase/LAL antibody [9G7F12] (ab36597)

Lysosomal acid lipase/LAL Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-Lysosomal acid lipase/LAL antibody

ab36597 (2 µg/ml) staining Lysosomal acid lipase/LAL in human lung using an automated system (DAKO Autostainer Plus). Using this protocol there is lysosomal staining in the bronchiolar epithelium and resident macrophages .
Sections were rehydrated and antigen retrieved with the Dako 3 in 1 AR buffer citrate pH 6.0 in a DAKO PT link. Slides were peroxidase blocked in 3% H2O2 in methanol for 10 mins. They were then blocked with Dako Protein block for 10 minutes (containing casein 0.25% in PBS) then incubated with primary antibody for 20 min and detected with Dako envision flex amplification kit for 30 minutes. Colorimetric detection was completed with Diaminobenzidine for 5 minutes. Slides were counterstained with Haematoxylin and coverslipped under DePeX. Please note that, for manual staining, optimization of primary antibody concentration and incubation time is recommended. Signal amplification may be required.



Western blot - Anti-Lysosomal acid lipase/LAL antibody [9G7F12] (ab36597)

Lysosomal acid lipase/LAL Western blot staining of Truncated LAL recombinant protein using mouse Anti-Lysosomal acid lipase/LAL antibody

All lanes:
Western blot - Anti-Lysosomal acid lipase/LAL antibody [9G7F12] (ab36597)

All lanes:
Truncated LAL recombinant protein

Predicted band size: 45 kDa

Observed band size: 45 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.