

Anti-LPCAT3 Antibody [PSH10-02]

HA723171



Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Monkey
Applications:	WB, IF-Cell
Molecular Wt:	Predicted band size: 56 kDa
Clone number:	PSH10-02

Description: Lysophospholipid acyltransferase 5 is an enzyme that in humans is encoded by the LPCAT3 gene. It is homologous to other membrane-bound O-acyltransferases. Based on the crystallographic and cryo-EM studies of its homolog in chicken (cLPCAT3), humane MBOAT5 has a typical MBOAT folding as other members such as SOAT1 and DGAT1, and the transmembrane helices hold a "T"-shape reaction chamber allowing the co-occupancy of a lysophosphatidylcholine (lysoPC) and a long polyunsaturated acyl-CoA, such as arachidonic acyl CoA. With the assistance of catalytic residues H374 and N338, the acyl chain could be transferred from the acyl CoA to the sn-2 position of lysoPC, thereby generating a new, polyunsaturated phospholipid. Inhibition of LPCAT3 has been found to alter the cellular lipidome and is partially protective against ferroptosis.

Immunogen: Recombinant protein within human LPCAT3 aa 1-363.

Positive control: HT-29 cell lysate, HepG2 cell lysate, HeLa cell lysate, COS-1 cell lysate, HeLa.

Subcellular location: Endoplasmic reticulum membrane.

Database links: SwissProt: Q6P1A2 Human

Recommended Dilutions:

WB	1:2,000
IF-Cell	1:100

Storage Buffer: PBS (pH7.4), 0.1% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.

Storage Instruction: Shipped at 4°C. Store at +4°C short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20°C long term.

Purity: Protein A affinity purified.

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Orders:0086-571-88062880

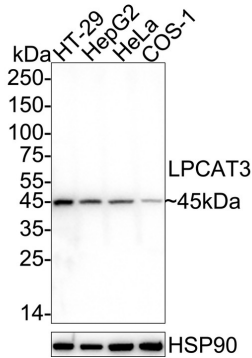
Technical:0086-571-89986345

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Images

Fig1: Western blot analysis of LPCAT3 on different lysates with Rabbit anti-LPCAT3 antibody (HA723171) at 1/2,000 dilution.



Lane 1: HT-29 cell lysate

Lane 2: HepG2 cell lysate

Lane 3: HeLa cell lysate

Lane 4: COS-1 cell lysate

Lysates/proteins at 20 µg/Lane.

Predicted band size: 56 kDa

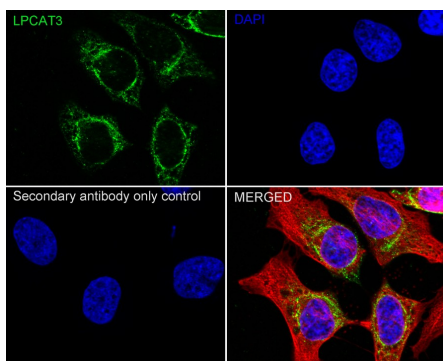
Observed band size: 45 kDa

Exposure time: 10 seconds; ECL: K1801;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDm/TBST for 1 hour at room temperature. The primary antibody (HA723171) at 1/2,000 dilution was used in 5% NFDm/TBST at 4°C overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

Fig2: Immunocytochemistry analysis of HeLa cells labeling LPCAT3 with Rabbit anti-LPCAT3 antibody (HA723171) at 1/100 dilution.



Cells were fixed in 4% paraformaldehyde for 15 minutes at room temperature, permeabilized with 0.1% Triton X-100 in PBS for 15 minutes at room temperature, then blocked with 1% BSA in 10% negative goat serum for 1 hour at room temperature. Cells were then incubated with Rabbit anti-LPCAT3 antibody (HA723171) at 1/100 dilution in 1% BSA in PBST overnight at 4 °C. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. PBS instead of the primary antibody was used as the secondary antibody only control. Nuclear DNA was labelled in blue with DAPI.

Beta tubulin (HA601187, red) was stained at 1/100 dilution overnight at +4°C. Goat Anti-Mouse IgG H&L (iFluor™ 594, HA1126) was used as the secondary antibody at 1/1,000 dilution.

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Note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

Background References

1. Cui J et al. LPCAT3 Is Transcriptionally Regulated by YAP/ZEB/EP300 and Collaborates with ACSL4 and YAP to Determine Ferroptosis Sensitivity. *Antioxid Redox Signal*. 2023 Sep
2. Tao Q et al. Mefloquine enhances the efficacy of anti-PD-1 immunotherapy via IFN-gamma-STAT1-IRF1-LPCAT3-induced ferroptosis in tumors. *J Immunother Cancer*. 2024 Mar

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