

# LCAT (D-3): sc-377509

## BACKGROUND

The lipase gene family belongs to one of the most robust genetic superfamilies found in living organisms, which includes esterases and thioesterases. Members of the AB hydrolase subfamily include hepatic lipase (HL), endothelial lipase (EL), lipoprotein lipase (LPL), pancreatic lipase (PL), gastric lipase (GL) and the lecithin-cholesterol acyltransferase (LCAT). These family members play a crucial role in the metabolism of lipids. LCAT esterifies cholesterol, which is required for cholesterol transport. LCAT deficiency has been implicated in fish-eye disease, a rare genetic disorder of high density lipoprotein (HDL) metabolism.

## REFERENCES

- McIntyre, N. 1988. Familial LCAT deficiency and fish-eye disease. *J. Inher. Metab. Dis.* 1: 45-56.
- Teh, E.M., Chisholm, J.W., Dolphin, P.J., Pouliquen, Y., Savoldelli, M., de Gennes, J.L. and Benlian, P. 1999. Classical LCAT deficiency resulting from a novel homozygous dinucleotide deletion in exon 4 of the human lecithin: cholesterol acyltransferase gene causing a frameshift and stop codon at residue 144. *Atherosclerosis* 146: 141-151.
- Huesca-Gomez, C., Carreon-Torres, E., Nepomuceno-Mejia, T., Sanchez-Solorio, M., Galicia-Hidalgo, M., Mejia, A.M., Montano, L.F., Franco, M., Posadas-Romero, C. and Perez-Mendez, O. 2004. Contribution of cholesterol ester transfer protein and lecithin:cholesterol acyltransferase to HDL size distribution. *Endocr. Res.* 30: 403-415.
- Nakamura, Y., Kotite, L., Gan, Y., Spencer, T.A., Fielding, C.J. and Fielding, P.E. 2004. Molecular mechanism of reverse cholesterol transport: reaction of pre- $\beta$ -migrating high-density lipoprotein with plasma lecithin/cholesterol acyltransferase. *Biochemistry* 43: 14811-14820.
- Miida, T., Zhang, B., Obayashi, K., Seino, U., Zhu, Y., Ito, T., Nakamura, Y., Okada, M. and Saku, K. 2004. T13M mutation of lecithin-cholesterol acyltransferase gene causes fish-eye disease. *Clin. Chim. Acta* 343: 201-208.

## CHROMOSOMAL LOCATION

Genetic locus: LCAT (human) mapping to 16q22.1.

## SOURCE

LCAT (D-3) is a mouse monoclonal antibody raised against amino acids 283-423 mapping near the C-terminus of LCAT of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## APPLICATIONS

LCAT (D-3) is recommended for detection of precursor and mature LCAT of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for LCAT siRNA (h): sc-60926, LCAT shRNA Plasmid (h): sc-60926-SH and LCAT shRNA (h) Lentiviral Particles: sc-60926-V.

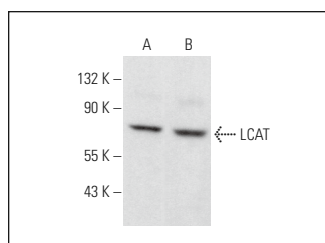
Molecular Weight of LCAT: 67 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, K-562 whole cell lysate: sc-2203 or human LCAT transfected HEK293T whole cell lysate.

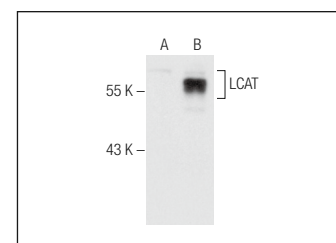
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



LCAT (D-3): sc-377509. Western blot analysis of LCAT expression in K-562 (A) and Hep G2 (B) whole cell lysates.



LCAT (D-3): sc-377509. Western blot analysis of LCAT expression in non-transfected (A) and human LCAT transfected (B) HEK293T whole cell lysates.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.