

LPD lipase (T-17): sc-54087

BACKGROUND

The Lipase family belongs to one of the most robust genetic superfamilies found in living organisms which includes esterases and thioesterases. Lipase gene products are related by tertiary structure rather than primary amino acid sequence. LPD lipase, also designated lipase member I precursor or membrane-associated phosphatidic acid-selective phospholipase A1- β (mPA-PLA1 β), functions in the hydrolysis of phosphatidic acid (PA) to produce lysophosphatidic acid (LPA), both of which are involved in lipid biosynthesis and signal transduction. LPD lipase is a secreted protein expressed in testis. Two isoforms exist for LPD lipase due to alternative splicing. The first isoform represents the major form of the protein while the second isoform contains a unique 23 amino acid sequence at the N-terminus in place of the 13 amino acid sequence of the major form. Defects in LPD lipase may cause susceptibility to familial hypertriglyceridemia, a common inherited disorder in which the concentration of very low density lipoprotein (VLDL) is elevated in the plasma. Familial hypertriglyceridemia can increase the risk of heart disease, obesity and pancreatitis.

REFERENCES

1. Chang, S.W., Lee, G.C. and Shaw, J.F. 2006. Codon optimization of *Candida rugosa* lip1 gene for improving expression in *Pichia pastoris* and biochemical characterization of the purified recombinant LIP1 lipase. *J. Agric. Food Chem.* 54: 815-822.
2. Brunke, S. and Hube, B. 2006. MfLIP1, a gene encoding an extracellular lipase of the lipid-dependent fungus *Malassezia furfur*. *Microbiology* 152: 547-554.
3. Deb, C., Daniel, J., Sirakova, T.D., Abomoelak, B., Dubey, V.S. and Kolattukudy, P.E. 2006. A novel lipase belonging to the hormone-sensitive lipase family induced under starvation to utilize stored triacylglycerol in *Mycobacterium tuberculosis*. *J. Biol. Chem.* 281: 3866-3875.

CHROMOSOMAL LOCATION

Genetic locus: LIPI (human) mapping to 21q11.2.

SOURCE

LPD lipase (T-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of LPD lipase of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-54087 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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

LPD lipase (T-17) is recommended for detection of Lipase member I precursor and mature LPD lipase of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

LPD lipase (T-17) is also recommended for detection of Lipase member I precursor and mature LPD lipase in additional species, including equine and canine.

Suitable for use as control antibody for LPD lipase siRNA (h): sc-91389, LPD lipase shRNA Plasmid (h): sc-91389-SH and LPD lipase shRNA (h) Lentiviral Particles: sc-91389-V.

Molecular Weight of LPD lipase: 53 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.