

## LPL (LPL.A4): sc-58780

### BACKGROUND

The lipase gene family belongs to one of the most robust genetic super-families found in living organisms, which includes esterases and thioesterases. Lipase gene products are related by tertiary structure rather than primary amino acid sequence. Members of the AB hydrolase subfamily include hepatic lipase (HL), endothelial lipase (EL), lipoprotein lipase (LPL) and pancreatic lipase (PL). HL balances the composition and transport of lipoproteins in human plasma. Synthesized in endothelial cells, EL hydrolyzes high density lipoproteins. LPL, a homodimer attached to the membrane by a GPI-anchor, mediates the hydrolysis of triglycerides of very low density lipoproteins and circulating chylomicrons. Defects in LPL may cause chylomicronemia syndrome or a form of lipoprotein lipase deficiency characterized by hypertriglyceridemia.

### REFERENCES

1. Wong, H., et al. 2002. The lipase gene family. *J. Lipid Res.* 43: 993-999.
2. McTernan, P.G., et al. 2002. Insulin and rosiglitazone regulation of lipolysis and lipogenesis in human adipose tissue *in vitro*. *Diabetes* 51: 1493-1498.
3. Ferreira, L.D., et al. 2002. Sciatic nerve lipoprotein lipase is reduced in streptozotocin-induced diabetes and corrected by Insulin. *Endocrinology* 143: 1213-1217.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 151670. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Tsutsumi, K., et al. 2003. Lipoprotein lipase and atherosclerosis. *Curr. Vasc. Pharmacol.* 1: 11-17.
6. Otarod, J.K., et al. 2004. Lipoprotein lipase and its role in regulation of plasma lipoproteins and cardiac risk. *Curr. Atheroscler. Rep.* 6: 335-342.
7. Zhang, L., et al. 2005. Calcium triggers folding of lipoprotein lipase to active dimers. *J. Biol. Chem.* 280: 42580-42591.
8. LocusLink Report (LocusID: 3990). <http://www.ncbi.nlm.nih.gov/LocusLink/>

### CHROMOSOMAL LOCATION

Genetic locus: LPL (human) mapping to 8p21.3; Lpl (mouse) mapping to 8 B3.3.

### SOURCE

LPL (LPL.A4) is a mouse monoclonal antibody raised against full length LPL of human origin.

### PRODUCT

Each vial contains 100 µg IgG<sub>1</sub> 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

LPL (LPL.A4) is recommended for detection of LPL of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

LPL (LPL.A4) is also recommended for detection of LPL in additional species, including bovine.

Suitable for use as control antibody for LPL siRNA (h): sc-44900, LPL siRNA (m): sc-44901, LPL shRNA Plasmid (h): sc-44900-SH, LPL shRNA Plasmid (m): sc-44901-SH, LPL shRNA (h) Lentiviral Particles: sc-44900-V and LPL shRNA (m) Lentiviral Particles: sc-44901-V.

Molecular Weight of LPL: 56 kDa.

### SELECT PRODUCT CITATIONS

1. Bouwman, F.G., et al. 2014. Increased  $\beta$ -oxidation with improved glucose uptake capacity in adipose tissue from obese after weight loss and maintenance. *Obesity* 22: 819-827.
2. Wulan, S.N., et al. 2019. Molecular adaptation in adipose tissue in response to overfeeding with a high-fat diet under sedentary conditions in South Asian and Caucasian men. *Br. J. Nutr.* 122: 241-251.

### PROTOCOLS

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



See **LPL (F-1): sc-373759** for LPL antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor<sup>®</sup> 488, 546, 594, 647, 680 and 790.