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Lipe Antibody

Catalog # ASC10471

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	Q05469
Other Accession	ABA03168, 896474
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	116598
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	Lipe antibody can be used for detection of Lipe by Western blot at 0.5 - 1 g/mL. Antibody can also be used for immunohistochemistry starting at 2.5 g/mL. For immunofluorescence start at 20 g/mL.

Additional Information

Gene ID	3991
Other Names	Lipe Antibody: HSL, LHS, Hormone-sensitive lipase, HSL, lipase, hormone-sensitive
Target/Specificity	LIPE; Multiple isoforms of Lipe are known to exist.
Reconstitution & Storage	Lipe antibody can be stored at 4°C for three months and -20°C, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	Lipe Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	LIPE
Function	Lipase with broad substrate specificity, catalyzing the hydrolysis of triacylglycerols (TAGs), diacylglycerols (DAGs), monoacylglycerols (MAGs), cholesteryl esters and retinyl esters (PubMed:15716583, PubMed:15955102, PubMed:19800417, PubMed:8812477). Shows a preferential hydrolysis of DAGs over TAGs and MAGs and preferentially hydrolyzes the fatty acid (FA) esters at the sn-3 position of the glycerol backbone in DAGs (PubMed:19800417). Preferentially hydrolyzes FA esters at the sn-1 and sn-2 positions of the glycerol backbone in TAGs (By similarity). Catalyzes the hydrolysis of 2-arachidonoylglycerol, an endocannabinoid and of 2-acetyl

	monoalkylglycerol ether, the penultimate precursor of the pathway for de novo synthesis of platelet-activating factor (By similarity). In adipose tissue and heart, it primarily hydrolyzes stored triglycerides to free fatty acids, while in steroidogenic tissues, it principally converts cholesteryl esters to free cholesterol for steroid hormone production (By similarity).
Cellular Location	Cell membrane. Membrane, caveola. Cytoplasm, cytosol. Lipid droplet {ECO:0000250|UniProtKB:P54310}. Note=Found in the high-density caveolae. Translocates to the cytoplasm from the caveolae upon insulin stimulation (PubMed:17026959). Phosphorylation by AMPK reduces its translocation towards the lipid droplets (By similarity) {ECO:0000250|UniProtKB:P54310, ECO:0000269|PubMed:17026959}
Tissue Location	Testis..

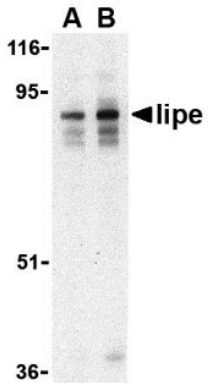
Background

Lipe Antibody: Although initially described as an adipocyte-specific triacylglycerol lipase, Lipe (also known as hormone-specific lipase or HSL) is expressed in multiple tissues and cell lines. It plays multiple roles in lipid metabolism, including hormone-stimulated lipolysis in adipose tissue and the hydrolysis of cholesterol esters. Lipe is expressed as a long and a short form, generated by use of alternative translational start codons. The long form is expressed in steroidogenic tissues such as testis, where it converts cholesterol esters to free cholesterol for steroid hormone production. The short form is expressed in adipose tissue, among others, where it hydrolyzes stored triglycerides to free fatty acids. Recently, it was observed that the lack of Lipe in genetically obese leptin-null mice inhibited obesity and adipogenesis, suggesting that Lipe plays a major role in adipocyte proliferation.

References

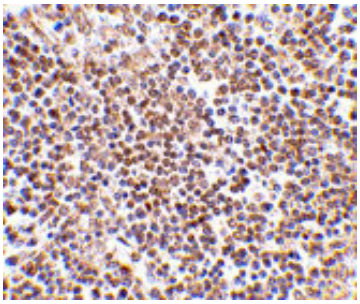
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Holst LS, Langin D, Mulder H, et al. Molecular cloning, genomic organization, and expression of a testicular isoform of hormone-sensitive lipase. Genomics 1996; 35:441-7.
Kraemer FB, Shen WJ, Harada K, et al. Hormone-sensitive lipase is required for high-density lipoprotein cholesterol ester-supported adrenal steroidogenesis. Mol. Endocrinol. 2004; 18:549-57.
Sekiya M, Osuga J, Okazaki H, et al. Absence of hormone-sensitive lipase inhibits obesity and adipogenesis in Lep ob/ob mice. J. Biol. Chem.2004; 279:15084-90.

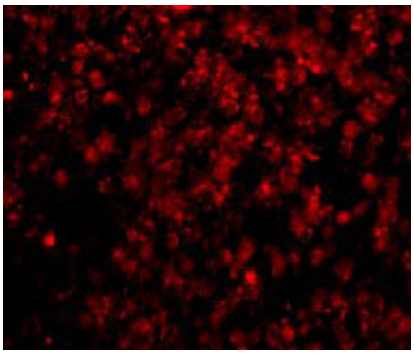
Images



Western blot analysis of Lipe in human lymph node tissue lysate with Lipe antibody at (A) 0.5 and (B) 1 µg/mL.

Immunohistochemistry of lipe in human lymph node tissue with lipe antibody at 2.5 µg/mL.





Immunofluorescence of Lipe in Human Lymph Node cells with Lipe antibody at 20 µg/mL.

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