



Lipin-3 (M-135): sc-98452

BACKGROUND

The Lipin family of nuclear proteins contains three members: Lipin-1, Lipin-2 and Lipin-3, all of which contain a nuclear signal sequence, a highly conserved amino-terminal (NLIP) domain and a carboxy-terminal (CLIP) domain. Lipin-1 is crucial for normal adipose tissue development and metabolism. Lipin-1 selectively activates a subset of PGC-1 α target pathways, including fatty acid oxidation and mitochondrial oxidative phosphorylation, by inducing expression of the nuclear receptor PPAR α . Lipin-1 also inactivates the lipogenic program and suppresses circulating lipid levels. Lipin-2 is linked to Majeeed syndrome, an autosomal recessive, autoinflammatory disorder. Lipin-3 is an 851 amino acid protein that localizes to the nucleus. Lipin-3 observations are useful in studies related to adipose tissue development in the context of obesity, fatty liver dystrophy, lipodystrophy, insulin resistance and type 2 diabetes.

REFERENCES

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3. Reitman, M.L. 2005. The fat and thin of Lipin. *Cell Metab.* 1: 5-6.
4. Phan, J., et al. 2005. Lipin, a lipodystrophy and obesity gene. *Cell Metab.* 1: 73-83.
5. Scavallo, G.S., et al. 2005. Genomic structure and organization of the high grade Myopia-2 locus (MYP2) critical region: mutation screening of nine positional candidate genes. *Mol. Vis.* 11: 97-110.
6. Han, G.S., et al. 2006. The *Saccharomyces cerevisiae* Lipin homolog is a Mg²⁺-dependent phosphatidate phosphatase enzyme. *J. Biol. Chem.* 281: 9210-9218.
7. Parsons, T.R. 2006. Studies on Lipin-protein complexes: lecithin-caseinogen complexes. *Biochem. J.* 22: 800-810.
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CHROMOSOMAL LOCATION

Genetic locus: Lpin3 (mouse) mapping to 2 H2.

SOURCE

Lipin-3 (M-135) is a rabbit polyclonal antibody raised against amino acids 241-375 mapping within an internal region of Lipin-3 of mouse origin.

STORAGE

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

PROTOCOLS

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

PRODUCT

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

APPLICATIONS

Lipin-3 (M-135) is recommended for detection of Lipin-3 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ 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 Lipin-3 siRNA (m): sc-60945, Lipin-3 shRNA Plasmid (m): sc-60945-SH and Lipin-3 shRNA (m) Lentiviral Particles: sc-60945-V.

Molecular Weight of Lipin-3: 94 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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