

# Lipin-1 (H-120): sc-98450

## 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 $\alpha$  target pathways, including fatty acid oxidation and mitochondrial oxidative phosphorylation by inducing expression of the nuclear receptor PPAR $\alpha$ . Lipin-1 also inactivates the lipogenic program and suppresses circulating lipid levels. An abundance of Lipin-1 promotes fat accumulation and Insulin sensitivity, whereas a deficiency in Lipin-1 may deter normal adipose tissue development, resulting in Insulin resistance and lipodystrophy, a heterogeneous group of disorders characterized by loss of body fat, fatty liver, hypertriglyceridemia and Insulin resistance.

## CHROMOSOMAL LOCATION

Genetic locus: LPIN1 (human) mapping to 2p25.1; Lpin1 (mouse) mapping to 12 A1.1.

## SOURCE

Lipin-1 (H-120) is a rabbit polyclonal antibody raised against amino acids 261-380 mapping within an internal region of Lipin-1 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG 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

Lipin-1 (H-120) is recommended for detection of Lipin-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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), immunohistochemistry (including paraffin-embedded sections) (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-1 siRNA (h): sc-60940, Lipin-1 siRNA (m): sc-60941, Lipin-1 shRNA Plasmid (h): sc-60940-SH, Lipin-1 shRNA Plasmid (m): sc-60941-SH, Lipin-1 shRNA (h) Lentiviral Particles: sc-60940-V and Lipin-1 shRNA (m) Lentiviral Particles: sc-60941-V.

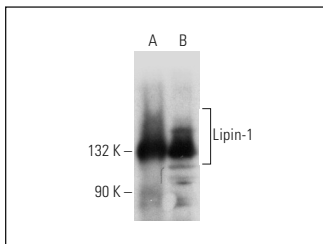
Molecular Weight of Lipin-1: 102 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, NTERA-2 cl.D1 whole cell lysate: sc-364181 or HuT 78 whole cell lysate: sc-2208.

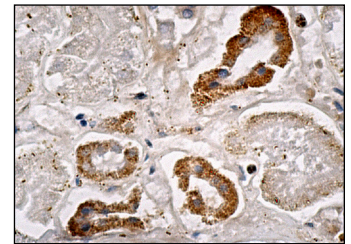
## RECOMMENDED SECONDARY REAGENTS

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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

## DATA



Lipin-1 (H-120): sc-98450. Western blot analysis of Lipin-1 expression in NTERA-2 cl.D1 (A) and HuT 78 (B) whole cell lysates.



Lipin-1 (H-120): sc-98450. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules.

## SELECT PRODUCT CITATIONS

- Vasiljevic, A., et al. 2013. Enhanced prereceptor glucocorticoid metabolism and lipogenesis impair Insulin signaling in the liver of fructose-fed rats. *J. Nutr. Biochem.* 24: 1790-1797.
- Bursac, B.N., et al. 2014. High-fructose diet leads to visceral adiposity and hypothalamic leptin resistance in male rats—do glucocorticoids play a role? *J. Nutr. Biochem.* 25: 446-455.
- Romic, S., et al. 2014. Gender differences in the expression and cellular localization of lipin 1 in the hearts of fructose-fed rats. *Lipids* 49: 655-663.
- Nikoli, M., et al. 2015. Possible involvement of glucocorticoids in 5 $\alpha$ -dihydrotestosterone-induced PCOS-like metabolic disturbances in the rat visceral adipose tissue. *Mol. Cell. Endocrinol.* 399: 22-31.

## PROTOCOLS

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



Try **Lipin-1 (B-12): sc-376874**, our highly recommended monoclonal alternative to Lipin-1 (H-120).