

#5195 Store at -20C

# Lipin 1 Antibody



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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB, IP, IF-IC	H M	Endogenous	130	Rabbit	#Q14693	23175

## Product Usage Information

### Application

Western Blotting  
Immunoprecipitation  
Immunofluorescence (Immunocytochemistry)

### Dilution

1:1000  
1:50  
1:50

## Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

## Specificity / Sensitivity

Lipin 1 Antibody detects endogenous levels of total Lipin 1 protein.

## Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Gln883 of human Lipin 1 protein. Antibodies are purified by protein A and peptide affinity chromatography.

## Background

Lipin 1 was identified as a nuclear protein required for adipose tissue development (1). The expression of Lipin 1 is induced during adipocyte differentiation (1). The abnormal development of adipose tissues caused by mutations in the lipin 1 gene results in lipodystrophy, a condition associated with low body fat, fatty liver, hypertriglyceridemia, and insulin resistance (1). Lipin 1 plays a role in lipid metabolism in various tissues and cell types including liver, muscle, adipose tissues, and neuronal cell lines (2-4). It has dual functions at the molecular level: Lipin 1 serves as a transcriptional coactivator in liver, and a phosphatidate phosphatase in triglyceride and phospholipid biosynthesis pathways (5). Lipin 1 is regulated by mTOR, illustrating a connection between adipocyte development and nutrient-sensing pathways (6). It also mediates hepatic insulin signaling by TORC2/CRTC2 (7).

## Background References

1. Péterfy, M. et al. (2001) *Nat Genet* 27, 121-4.
2. Finck, B.N. et al. (2006) *Cell Metab* 4, 199-210.
3. Phan, J. and Reue, K. (2005) *Cell Metab* 1, 73-83.
4. Verheijen, M.H. et al. (2003) *Genes Dev* 17, 2450-64.
5. Reue, K. and Zhang, P. (2008) *FEBS Lett* 582, 90-6.
6. Huffman, T.A. et al. (2002) *Proc Natl Acad Sci U S A* 99, 1047-52.
7. Ryu, D. et al. (2009) *Cell Metab* 9, 240-51.

## Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

## Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

## Applications Key

**WB:** Western Blotting **IP:** Immunoprecipitation **IF-IC:** Immunofluorescence (Immunocytochemistry)

## Cross-Reactivity Key

**H:** human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster **X:** Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse **GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

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