Store at -20°C

#14906

Lipin 1 (D2W9G) Rabbit mAb

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New 03/15

Entrez-Gene ID #23175
UniProt ID #Q14693

For Research Use Only. Not For Use In Diagnostic Procedures.

Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W, IP, IF-IC	H, M	130 kDa	Rabbit IgG**
Endogenous			

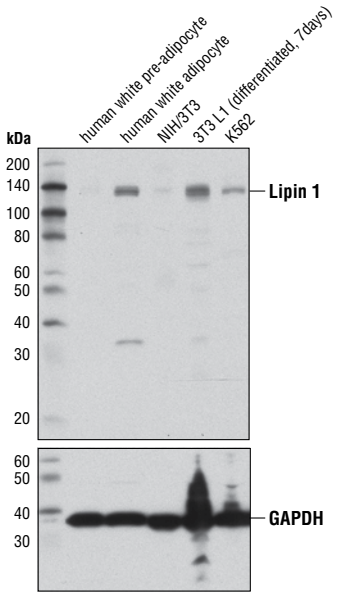
Background: Lipin 1 was identified as a nuclear protein required for adipose tissue development (1). The expression of Lipin 1 is induced during adipocyte differentiation (1). The abnormal development of adipose tissues caused by mutations in the lipin 1 gene results in lipodystrophy, a condition associated 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).

Specificity/Sensitivity: Lipin 1 (D2W9G) Rabbit mAb recognizes endogenous levels of total lipin 1 protein. This antibody may also cross-react with an unidentified protein of 35 kDa.

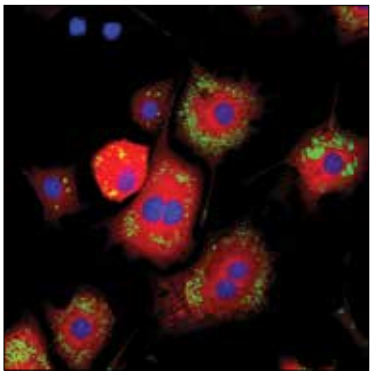
Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of human lipin 1 protein.

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 USA* 99, 1047-52.
(7) Ryu, D. et al. (2009) *Cell Metab* 9, 240-51.



Western blot analysis of extracts from various cell lines using Lipin 1 (D2W9G) Rabbit mAb (upper) and GAPDH (D16H11) XP® Rabbit mAb #5174 (lower).



Confocal immunofluorescent analysis of 3T3-L1 adipocytes (differentiated, 7 days) using Lipin 1 (D2W9G) Rabbit mAb (red). Lipid droplets were labeled with BODIPY® 493/503 (green). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. *Do not aliquot the antibody.*

***Species cross-reactivity is determined by western blot.**

****Anti-rabbit secondary antibodies must be used to detect this antibody.**

Recommended Antibody Dilutions:

Western blotting	1:1000
Immunoprecipitation	1:100
Immunofluorescence (IF-IC)	1:800

For product specific protocols and a complete listing of recommended companion products please see the product web page at www.cellsignal.com

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

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