Revision 1

Store at -20C

#9874

Phospho-SREBP-1c (Ser372) Antibody

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H	Transfected Only	150	Rabbit	#P36956-3	6720

Product Usage Information

Application	Dilution
Western Blotting	1:1000

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

Phospho-SREBP-1c (Ser372) Antibody recognizes transfected levels of SREBP-1c protein only when phosphorylated at Ser372.

Species predicted to react based on 100% sequence homology

Mouse, Rat

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ser372 of human SREBP-1c protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Sterol regulatory element–binding proteins (SREBPs) are basic helix-loop-helix–leucine zipper transcription factors (1,2). Inactive precursor forms of SREBPs are bound to endoplasmic reticulum (ER) membranes (1,2). When cells are starved for cholesterol, SREBPs move from the ER to the Golgi apparatus with the help of SREBP cleavage–activating protein (SCAP) (1,2). In the Golgi apparatus, precursor SREBPs are then cleaved by two proteases, Site-1 protease (S1P) and Site-2 protease (S2P) (1,2). The released N-terminal domains enter the nucleus and bind to sterol response elements in the promoters of a variety of genes responsible for the synthesis of cholesterol (1,2). SREBPs also activate the expression of genes involved in the synthesis of fatty acids and lipids (1,2). Among the isoforms of SREBPs, SREBP-1c activates all lipogenic genes in the liver (3). SREBP-1c has been implicated to contribute to the development of hepatic steatosis in the rodent model of insulin resistance and obesity (3). Recent studies have shown that AMPK interacts with and directly phosphorylates SREBP-1c and SREBP-2 (4). Phosphorylation of SREBP-1c at Ser372 by AMPK, which is stimulated by polyphenols and metformin, inhibits the proteolytic cleavage of SREBP-1c and therefore suppresses the expression of its target genes in the liver (4). This process leads to the reduction of lipid synthesis and accumulation in the liver (4).

Background References

1. Brown, M.S. and Goldstein, J.L. (1997) *Cell* 89, 331-40.
2. Horton, J.D. et al. (2002) *J Clin Invest* 109, 1125-31.
3. Browning, J.D. and Horton, J.D. (2004) *J Clin Invest* 114, 147-52.
4. Li, Y. et al. (2011) *Cell Metab* 13, 376-88.

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

W: Western Blotting

Cross-Reactivity Key

H: Human

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Limited Uses

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