

SirT1 Antibody (Mouse Specific)

✓ 100 µl
(10 western blots)

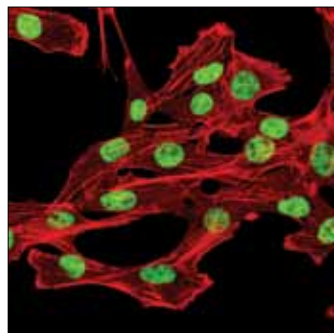
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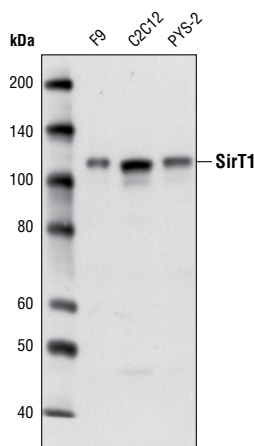
This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W, IP, IF-IC Endogenous	M	120 kDa	Rabbit**

Background: The Silent Information Regulator (SIR2) family of genes is a highly conserved group of genes that encode nicotinamide adenine dinucleotide (NAD)-dependent protein deacetylases, also known as Class III histone deacetylases. The first discovered and best characterized of these genes is *Saccharomyces cerevisiae* SIR2, which is involved in silencing of mating type loci, telomere maintenance, DNA damage response and cell aging (1). SirT1, the mammalian ortholog of Sir, is a nuclear protein implicated in the regulation of many cellular processes, including apoptosis, cellular senescence, endocrine signaling, glucose homeostasis, aging and longevity. Targets of SirT1 include acetylated p53 (2,3), p300 (4), Ku70 (5), forkhead (FoxO) transcription factors (5,6), PPARγ (7) and the PPARγ coactivator-1α (PGC-1α) protein (8). Deacetylation of p53 and FoxO transcription factors represses apoptosis and increases cell survival (2,3,5,6). Deacetylation of PPARγ and PGC-1α regulates the gluconeogenic/glycolytic pathways in the liver and fat mobilization in white adipocytes in response to fasting (7,8). SirT1 deacetylase activity is inhibited by nicotinamide and activated by resveratrol. In addition, SirT1 activity may be regulated by phosphorylation, since it is phosphorylated on Ser27 and Ser47 *in vivo*, however, the function of these phosphorylation sites has not yet been determined (9).



Confocal immunofluorescent analysis of C2C12 cells using SirT1 Antibody (Mouse Specific) (green). Actin filaments have been labeled with DY-554 phalloidin (red).



Western blot analysis of extracts from F9, C2C12 and PYS-2 cells using SirT1 Antibody (Mouse Specific).

Specificity/Sensitivity: SirT1 Antibody (Mouse Specific) detects endogenous levels of total SirT1 protein. This antibody does not cross-react with other sirtuin proteins.

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic peptide (KLH-coupled) corresponding to the carboxy terminus of mouse SirT1. Antibodies are purified by protein A and peptide affinity chromatography.

Background References:

- (1) Guarente, L. (1999) *Nat. Genet.* 23, 281–285.
- (2) Vaziri, H. et al. (2001) *Cell* 107, 149–159.
- (3) Luo, J. et al. (2001) *Cell* 107, 137–148.
- (4) Bouras, T. et al. (2005) *J. Biol. Chem.* 280, 10264–10276.
- (5) Brunet, A. et al. (2004) *Science* 303, 2011–2015.
- (6) Motta, M.C. et al. (2004) *Cell* 116, 551–563.
- (7) Picard, F. et al. (2004) *Nature* 429, 771–776.
- (8) Rodgers, J.T. et al. (2005) *Nature* 434, 113–118.
- (9) Beausoleil, S.A. et al. (2004) *Proc. Natl. Acad. Sci. USA* 101, 12130–12135.

Entrez-Gene ID #93759
Swiss-Prot Acc. #Q923E4

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.

*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	1:50
Immunofluorescence (IF-IC)	1:100

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

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.