



**Orders:** 877-616-CELL (2355)  
orders@cellsignal.com

**Support:** 877-678-TECH (8324)

**Web:** info@cellsignal.com  
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

#9475 Store at -20C

## SirT1 (D1D7) Rabbit mAb

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

<b>Applications:</b> W, W-S	<b>Reactivity:</b> H M R Mk	<b>Sensitivity:</b> Endogenous	<b>MW (kDa):</b> 120	<b>Source/Isotype:</b> Rabbit IgG	<b>UniProt ID:</b> #Q96EB6	<b>Entrez-Gene Id:</b> 23411
--------------------------------	--------------------------------	-----------------------------------	-------------------------	--------------------------------------	-------------------------------	---------------------------------

### Product Usage Information

#### Application

Western Blotting  
Simple Western™

#### Dilution

1:1000  
1:10 - 1:50

### 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.

### Specificity/Sensitivity

SirT1 (D1D7) Rabbit mAb recognizes endogenous levels of total SirT1 protein. This antibody does not cross-react with other sirtuin proteins.

### Species predicted to react based on 100% sequence homology

Chicken, Bovine, Pig, Horse, Rabbit

### Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Phe297 of human SirT1 protein.

### 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 Sir2, 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, as it is phosphorylated at Ser27 and Ser47 *in vivo*; however, the function of these phosphorylation sites has not yet been determined (9).

### Background References

- Guarente, L. (1999) *Nat. Genet.* 23, 281-285.
- Vaziri, H. et al. (2001) *Cell* 107, 149-159.
- Luo, J. et al. (2001) *Cell* 107, 137-148.
- Bouras, T. et al. (2005) *J. Biol. Chem.* 280, 10264-10276.
- Brunet, A. et al. (2004) *Science* 303, 2011-2015.
- Motta, M.C. et al. (2004) *Cell* 116, 551-563.
- Picard, F. et al. (2004) *Nature* 429, 771-776.
- Rodgers, J.T. et al. (2005) *Nature* 434, 113-118.
- Beausoleil, S.A. et al. (2004) *Proc. Natl. Acad. Sci. USA* 101, 12130-12135.
- Bennett, B.T. et al. (2013) *PLoS One* 8, e83518.

### 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 **W-S:** Simple Western™

### Cross-Reactivity Key

**H:** Human **M:** Mouse **R:** Rat **Mk:** Monkey

## Trademarks and Patents

Cell Signaling Technology is a trademark of Cell Signaling Technology, Inc.

All other trademarks are the property of their respective owners. Visit [cellsignal.com/trademarks](http://cellsignal.com/trademarks) for more information.

## Limited Uses

Except as otherwise expressly agreed in a writing signed by a legally authorized representative of CST, the following terms apply to Products provided by CST, its affiliates or its distributors. Any Customer's terms and conditions that are in addition to, or different from, those contained herein, unless separately accepted in writing by a legally authorized representative of CST, are rejected and are of no force or effect.

Products are labeled with For Research Use Only or a similar labeling statement and have not been approved, cleared, or licensed by the FDA or other regulatory foreign or domestic entity, for any purpose. Customer shall not use any Product for any diagnostic or therapeutic purpose, or otherwise in any manner that conflicts with its labeling statement. Products sold or licensed by CST are provided for Customer as the end-user and solely for research and development uses. Any use of Product for diagnostic, prophylactic or therapeutic purposes, or any purchase of Product for resale (alone or as a component) or other commercial purpose, requires a separate license from CST. Customer shall (a) not sell, license, loan, donate or otherwise transfer or make available any Product to any third party, whether alone or in combination with other materials, or use the Products to manufacture any commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.

**Orders: 877-616-CELL (2355) • [orders@cellsignal.com](mailto:orders@cellsignal.com) • Support: 877-678-TECH (8324) • [info@cellsignal.com](mailto:info@cellsignal.com) • Web: [cellsignal.com](http://cellsignal.com)**  
For Research Use Only. Not for Use in Diagnostic Procedures.