

Store at  
-20C  
#12650**SirT2 (D4050) Rabbit mAb**

**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

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M R Mk	Endogenous	39, 43	Rabbit IgG	#Q8IXJ6	22933

**Product Usage Information****Application**

Western Blotting

**Dilution**

1:1000

**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**

SirT2 (D4050) Rabbit mAb recognizes endogenous levels of total SirT2 protein. This antibody does not cross-react with other sirtuin proteins.

**Source / Purification**

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Pro205 of human SirT2 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). SirT2, a mammalian homolog of Sir2, deacetylates α-tubulin at Lys40 and histone H4 at Lys16 and has been implicated in cytoskeletal regulation and progression through mitosis (2,3). SirT2 protein is mainly cytoplasmic and is associated with microtubules and HDAC6, another tubulin deacetylase (2). Deacetylation of α-tubulin decreases its stability and may be required for proper regulation of cell shape, intracellular transport, cell motility, and cell division (2,4). The abundance and phosphorylation state of SirT2 increase at the G2/M transition of the cell cycle, and SirT2 relocalizes to chromatin during mitosis when histone H4 Lys16 acetylation levels decrease (3,5). Overexpression of SirT2 prolongs mitosis, while overexpression of the CDC14B phosphatase results in both decreased phosphorylation and abundance of SirT2, allowing for proper mitotic exit (5). Thus, the deacetylation of both histone H4 and α-tubulin by SirT2 may be critical for proper chromatin and cytoskeletal dynamics required for completion of mitosis.

**Background References**

- Guarente, L. (1999) *Nat. Genet.* 23, 281-285.
- North, B.J. et al. (2003) *Mol. Cell* 11, 437-444.
- Vaquero, A. et al. (2006) *Genes Dev.* 20, 1256-1261.
- Nogales, E. (2000) *Annu. Rev. Biochem.* 69, 277-302.
- Dryden, S.C. et al. (2003) *Mol. Cell Biol.* 23, 3173-3185.

**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 **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.