

SIRT3 (H-40): sc-99143

BACKGROUND

The silent information regulator (SIR2) family of genes are highly conserved from prokaryotes to eukaryotes and are involved in diverse processes including transcriptional regulation, cell cycle progression, DNA-damage repair and aging. In *S. cerevisiae*, Sir2p deacetylates histones in a NAD-dependent manner, which regulates silencing at the telomeric, rDNA and silent mating-type loci. Sir2p is the founding member of a large family, designated sirtuins, which contain a conserved catalytic domain. The human homologs, which include SIRT1-7, are divided into four main branches: SIRT1-3 are class I, SIRT4 is class II, SIRT5 is class III and SIRT6-7 are class IV. SIRT3 is a NAD-dependent deacetylase that contains one deacetylase sirtuin-type domain. The SIRT3 protein is widely expressed and localizes to the mitochondria where it is processed by mitochondrial processing peptidase (MPP) to yield a final product. This processing is most likely necessary for its enzymatic activity.

CHROMOSOMAL LOCATION

Genetic locus: SIRT3 (human) mapping to 11p15.5; Sirt3 (mouse) mapping to 7 F5.

SOURCE

SIRT3 (H-40) is a rabbit polyclonal antibody raised against amino acids 251-290 mapping within an internal region of SIRT3 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

SIRT3 (H-40) is recommended for detection of SIRT3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for SIRT3 siRNA (h): sc-61555, SIRT3 siRNA (m): sc-61556, SIRT3 shRNA Plasmid (h): sc-61555-SH, SIRT3 shRNA Plasmid (m): sc-61556-SH, SIRT3 shRNA (h) Lentiviral Particles: sc-61555-V and SIRT3 shRNA (m) Lentiviral Particles: sc-61556-V.

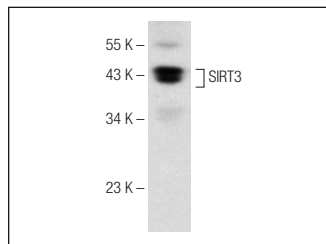
Molecular Weight of SIRT3: 28 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

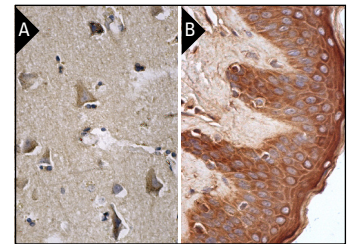
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



SIRT3 (H-40): sc-99143. Western blot analysis of SIRT3 expression in Hep G2 whole cell lysate.



SIRT3 (H-40): sc-99143. Immunoperoxidase staining of formalin fixed, paraffin-embedded human brain tissue showing cytoplasmic staining of neuronal cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing cytoplasmic staining of epidermal cells (B).

SELECT PRODUCT CITATIONS

- Zhang, B., et al. 2013. SIRT3 overexpression antagonizes high glucose accelerated cellular senescence in human diploid fibroblasts via the SIRT3-FOXO1 signaling pathway. *Age* 35: 2237-2253.
- Dirks-Naylor, A.J., et al. 2013. The effects of acute doxorubicin treatment on proteome lysine acetylation status and apical caspases in skeletal muscle of fasted animals. *J. Cachexia Sarcopenia Muscle* 4: 239-243.
- Dirks-Naylor, A.J., et al. 2014. Effects of acute doxorubicin treatment on hepatic proteome lysine acetylation status and the apoptotic environment. *World J. Biol. Chem.* 5: 377-386.
- Di Loreto, S., et al. 2014. Regular and moderate exercise initiated in middle age prevents age-related amyloidogenesis and preserves synaptic and neuroprotective signaling in mouse brain cortex. *Exp. Gerontol.* 57: 57-65.


 MONOS
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Try **SIRT3 (F-10): sc-365175** or **SIRT3 (14.45): sc-135796**, our highly recommended monoclonal alternatives to SIRT3 (H-40). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **SIRT3 (F-10): sc-365175**.