

SIRT3 (P-19): sc-49744

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 an 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 (P-19) is an affinity purified goat polyclonal antibody raised against a peptide 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.

Blocking peptide available for competition studies, sc-49744 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

SIRT3 (P-19) 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) 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.

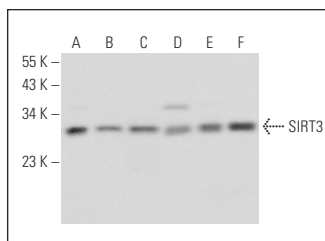
Molecular Weight of SIRT3: 28 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, HeLa whole cell lysate: sc-2200 or SW480 cell lysate: sc-2219.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



SIRT3 (P-19): sc-49744. Western blot analysis of SIRT3 expression in HeLa (A), Y79 (B), Hep G2 (C), HEK293 (D), HT-29 (E) and SW480 (F) whole cell lysates.

SELECT PRODUCT CITATIONS

- Sundaresan, N.R., et al. 2008. SIRT3 is a stress-responsive deacetylase in cardiomyocytes that protects cells from stress-mediated cell death by deacetylation of Ku-70. *Mol. Cell. Biol.* 28: 6384-6401.
- Cooper, H.M., et al. 2008. The human SIRT3 protein deacetylase is exclusively mitochondrial. *Biochem. J.* 411: 279-285.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.



Try **SIRT3 (F-10): sc-365175** or **SIRT3 (14.45): sc-135796**, our highly recommended monoclonal alternatives to SIRT3 (P-19). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **SIRT3 (F-10): sc-365175**.