

SIRT1 (P-20): sc-19857

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. SIRT1 has the closest homology to the yeast Sir2p and is widely expressed in fetal and adult tissues with high expression in heart, brain and skeletal muscle and low expression in lung and placenta. SIRT1 regulates the p53-dependent DNA damage response pathway by binding to and deacetylating p53, specifically at lysine 382.

CHROMOSOMAL LOCATION

Genetic locus: SIRT1 (human) mapping to 10q21.3; Sirt1 (mouse) mapping to 10 B4.

SOURCE

SIRT1 (P-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of SIRT1 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-19857 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SIRT1 (P-20) is recommended for detection of SIRT1 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).

SIRT1 (P-20) is also recommended for detection of SIRT1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for SIRT1 siRNA (h): sc-40986, SIRT1 siRNA (m): sc-40987, SIRT1 shRNA Plasmid (h): sc-40986-SH, SIRT1 shRNA Plasmid (m): sc-40987-SH, SIRT1 shRNA (h) Lentiviral Particles: sc-40986-V and SIRT1 shRNA (m) Lentiviral Particles: sc-40987-V.

Molecular Weight of SIRT1: 120 kDa.

Positive Controls: SIRT1 (h): 293T Lysate: sc-113797, F9 cell lysate: sc-2245 or rat testis extract: sc-2400.

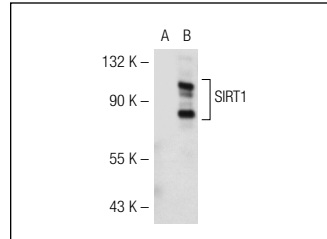
RESEARCH USE

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

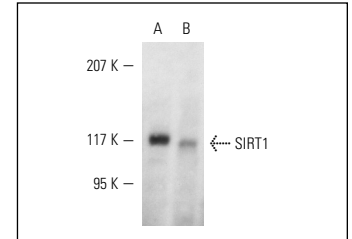
STORAGE

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

DATA



SIRT1 (P-20): sc-19857. Western blot analysis of SIRT1 expression in non-transfected: sc-117752 (A) and human SIRT1 transfected: sc-113797 (B) 293T whole cell lysates.



SIRT1 (P-20): sc-19857. Western blot analysis of SIRT1 expression in F9 whole cell lysate (A) and rat testis tissue extract (B).

SELECT PRODUCT CITATIONS

- Chang, H.M., et al. 2009. Melatonin preserves longevity protein (sirtuin 1) expression in the hippocampus of total sleep-deprived rats. *J. Pineal Res.* 47: 211-220.
- Byles, V., et al. 2010. Aberrant cytoplasm localization and protein stability of SIRT1 is regulated by PI3K/IGF-1R signaling in human cancer cells. *Int. J. Biol. Sci.* 6: 599-612.
- Ogawa, T., et al. 2010. Distribution of the longevity gene product, SIRT1, in developing mouse organs. *Congenit. Anom.* 51: 70-79.
- Shan, T., et al. 2010. Breed difference and regulation of the porcine Sirtuin 1 by Insulin. *J. Anim. Sci.* 88: 3909-3917.
- Uittenbogaard, M., et al. 2010. The neurogenic basic helix-loop-helix transcription factor NeuroD6 confers tolerance to oxidative stress by triggering an antioxidant response and sustaining the mitochondrial biomass. *ASN Neuro* 2: e00034.
- Zhao, G., et al. 2011. SIRT1 RNAi knockdown induces apoptosis and senescence, inhibits invasion and enhances chemosensitivity in pancreatic cancer cells. *Gene Ther.* 18: 920-928.
- Shan, T., et al. 2013. Fatty acid binding protein 4 expression marks a population of adipocyte progenitors in white and brown adipose tissues. *FASEB J.* 27: 277-287.
- Xia, N., et al. 2013. Role of SIRT1 and FOXO factors in eNOS transcriptional activation by resveratrol. *Nitric Oxide* 32C: 29-35.



Try **SIRT1 (B-10): sc-74504** or **SIRT1 (B-7): sc-74465**, our highly recommended monoclonal alternatives to SIRT1 (P-20). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **SIRT1 (B-10): sc-74504**.