

SIRT1 (C-20): sc-19858

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.

REFERENCES

1. Frye, R.A. 1999. Characterization of five human cDNAs with homology to the yeast SIR2 gene: Sir2-like proteins (sirtuins) metabolize NAD and may have protein ADP-ribosyltransferase activity. *Biochem. Biophys. Res. Commun.* 260: 273-279.
2. Afshar, G., et al. 1999. Characterization of a human gene with sequence homology to *Saccharomyces cerevisiae* Sir2. *Gene* 234: 161-168.
3. Sherman, J.M., et al. 1999. The conserved core of a human SIR2 homologue functions in yeast silencing. *Mol. Biol. Cell* 10: 3045-3059.
4. Frye, R.A. 2000. Phylogenetic classification of prokaryotic and eukaryotic Sir2-like proteins. *Biochem. Biophys. Res. Commun.* 273: 793-798.

CHROMOSOMAL LOCATION

Genetic locus: SIRT1 (human) mapping to 10q21.3.

SOURCE

SIRT1 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus 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-19858 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.

PROTOCOLS

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

APPLICATIONS

SIRT1 (C-20) is recommended for detection of SIRT1 of 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 SIRT1 siRNA (h): sc-40986, SIRT1 shRNA Plasmid (h): sc-40986-SH and SIRT1 shRNA (h) Lentiviral Particles: sc-40986-V.

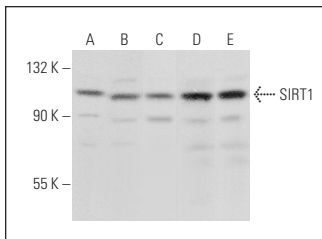
Molecular Weight of SIRT1: 120 kDa.

Positive Controls: K-562 nuclear extract: sc-2130, SIRT1 (h): 293T Lysate: sc-113797 or HeLa whole cell lysate: sc-2200.

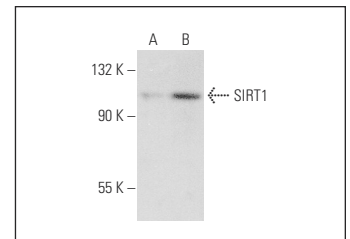
RECOMMENDED SECONDARY REAGENTS

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



SIRT1 (C-20): sc-19858. Western blot analysis of SIRT1 expression in MCF7 (A), HeLa (B) and HEK293 (C) whole cell lysates and K-562 (D) and HeLa (E) nuclear extracts.



SIRT1 (C-20): sc-19858. Western blot analysis of SIRT1 expression in non-transfected: sc-117750 (A) and human SIRT1 transfected: sc-113797 (B) whole cell lysates.

RESEARCH USE

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



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