

SIRT1 (11.69): sc-135791

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 Lys 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. Sherman, J.M., et al. 1999. The conserved core of a human SIR2 homologue functions in yeast silencing. *Mol. Biol. Cell* 10: 3045-3059.

CHROMOSOMAL LOCATION

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

SOURCE

SIRT1 (11.69) is a mouse monoclonal antibody raised against recombinant SIRT1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

SIRT1 (11.69) 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)] 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 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.

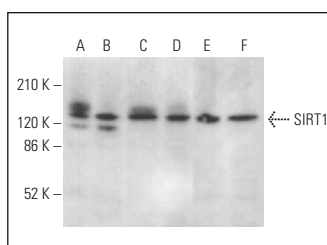
Molecular Weight of SIRT1: 120 kDa.

Positive Controls: NTERA-2 cl.D1 whole cell lysate: sc-364181, BJAB whole cell lysate: sc-2207 or A549 cell lysate: sc-2413.

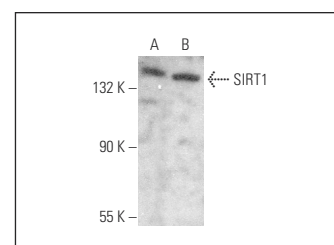
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



SIRT1 (11.69): sc-135791. Western blot analysis of SIRT1 expression in NTERA-2 cl.D1 (A), U-698-M (B), A549 (C), SUP-T1 (D), JM1 (E) and AN3 CA (F) whole cell lysates.



SIRT1 (11.69): sc-135791. Western blot analysis of SIRT1 expression in NTERA-2 cl.D1 (A) and BJAB (B) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Chen, G.D., et al. 2016. SIRT1 activator represses the transcription of TNF-α in THP-1 cells of a sepsis model via deacetylation of H4K16. *Mol. Med. Rep.* 14: 5544-5550.
2. Wang, F., et al. 2018. A SIRT1 agonist reduces cognitive decline in type 2 diabetic rats through antioxidative and anti-inflammatory mechanisms. *Mol. Med. Rep.* 19: 1040-1048.
3. Wang, H., et al. 2018. MiR-6835-3p regulates the function of pancreatic islet cells by modulating the expression of AdipoR1. *Int. J. Mol. Med.* 42: 1317-1326.

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. Not for resale.

PROTOCOLS

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

CONJUGATES

See **SIRT1 (B-7): sc-74465** for SIRT1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.