

SIRT1 (33.36): sc-135792

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. SIRT1 is highly expressed in heart, brain and skeletal muscle, with 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.

CHROMOSOMAL LOCATION

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

SOURCE

SIRT1 (33.36) is a mouse monoclonal antibody raised against recombinant SIRT1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

SIRT1 (33.36) 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), 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 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, K-562 whole cell lysate: sc-2203 or BJAB whole cell lysate: sc-2207.

RESEARCH USE

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

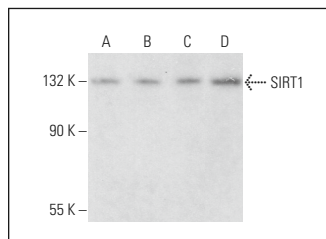
PROTOCOLS

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

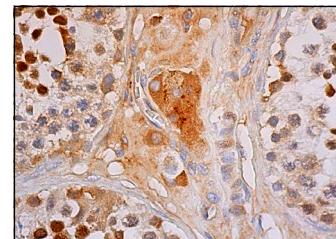
STORAGE

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

DATA



SIRT1 (33.36): sc-135792. Western blot analysis of SIRT1 expression in NTERA-2 cl.D1 (A), K-562 (B), BJAB (C) and SUP-T1 (D) whole cell lysates.



SIRT1 (33.36): sc-135792. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing nuclear or cytoplasmic staining of cells in seminiferous ducts and cytoplasmic staining of Leydig cells.

SELECT PRODUCT CITATIONS

- 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.
- Xu, Y., et al. 2018. Long non-coding RNA TUG1 protects renal tubular epithelial cells against injury induced by lipopolysaccharide via regulating microRNA-223. *Biomed. Pharmacother.* 104: 509-519.
- Tan, F., et al. 2018. Attenuated SUMOylation of sirtuin 1 in premature neonates with bronchopulmonary dysplasia. *Mol. Med. Rep.* 17: 1283-1288.
- Ye, G., et al. 2019. Puerarin in inducing apoptosis of bladder cancer cells through inhibiting SIRT1/p53 pathway. *Oncol. Lett.* 17: 195-200.
- Yu, X., et al. 2019. SIRT1 inhibits apoptosis *in vivo* and *in vitro* models of spinal cord injury via microRNA-494. *Int. J. Mol. Med.* 43: 1758-1768.
- He, W., et al. 2020. Role of liraglutide in brain repair promotion through SIRT1-mediated mitochondrial improvement in stroke. *J. Cell. Physiol.* 235: 2986-3001.
- Qiao, P.F., et al. 2020. Catalpol-mediated microRNA-34a suppresses autophagy and malignancy by regulating SIRT1 in colorectal cancer. *Oncol. Rep.* 43: 1053-1066.
- Li, H., et al. 2020. PGRN exerts inflammatory effects via SIRT1-NF κ B in adipose Insulin resistance. *J. Mol. Endocrinol.* 64: 181-193.
- Zhang, H.G., et al. 2021. lncRNA GAS5 inhibits malignant progression by regulating macroautophagy and forms a negative feedback regulatory loop with the miR-34a/mTOR/SIRT1 pathway in colorectal cancer. *Oncol. Rep.* 45: 202-216.



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.