

SIRT1 (H-300): sc-15404

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 (H-300) is a rabbit polyclonal antibody raised against amino acids 448-747 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.

APPLICATIONS

SIRT1 (H-300) 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).

SIRT1 (H-300) is also recommended for detection of SIRT1 in additional species, including equine, canine, bovine and porcine.

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: K-562 nuclear extract: sc-2130, F9 cell lysate: sc-2245 or MES-SA/Dx5 cell lysate: sc-2284.

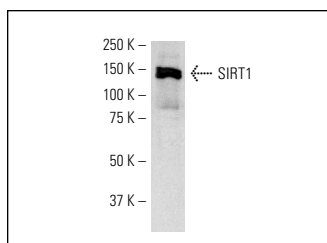
STORAGE

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

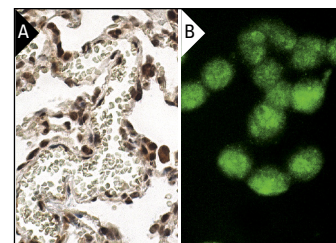
RESEARCH USE

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

DATA



SIRT1 (H-300): sc-15404. Western blot analysis of SIRT1 expression in MES-SA/Dx5 whole cell lysate.



SIRT1 (H-300): sc-15404. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lung tissue showing nuclear staining of pneumocytes (A). Immunofluorescence staining of methanol-fixed MES-SA/Dx5 cells showing nuclear localization (B).

SELECT PRODUCT CITATIONS

- Ford, J., et al. 2005. Cancer-specific functions of SIRT1 enable human epithelial cancer cell growth and survival. *Cancer Res.* 65: 10457-10463.
- Vila-Brau, A., et al. 2011. Human HMGC2 regulates mitochondrial fatty acid oxidation and FGF21 expression in HepG2 cell line. *J. Biol. Chem.* 286: 20423-20430.
- Fusco, S., et al. 2011. A role for neuronal cAMP responsive-element binding (CREB)-1 in brain responses to calorie restriction. *Proc. Natl. Acad. Sci. USA* 109: 621-626.
- Li, L., et al. 2011. SIRT1 acts as a modulator of neointima formation following vascular injury in mice. *Circ. Res.* 108: 1180-1189.
- Lu, L., et al. 2011. Modulations of hMOF autoacetylation by SIRT1 regulate hMOF recruitment and activities on the chromatin. *Cell Res.* 21: 1182-1195.
- Zhang, X.Y., et al. 2011. Litter size variation in hypothalamic gene expression determines adult metabolic phenotype in Brandt's voles (*Lasiopodomys brandtii*). *PLoS ONE* 6: e19913.
- He, H., et al. 2011. CBP/p300 and SIRT1 are involved in transcriptional regulation of S-phase specific histone genes. *PLoS ONE* 6: e22088.
- Orecchia, A., et al. 2011. Sirtinol treatment reduces inflammation in human dermal microvascular endothelial cells. *PLoS ONE* 6: e24307.
- Lee, J., et al. 2012. Exendin-4 improves steatohepatitis by increasing Sirt1 expression in high-fat diet-induced obese C57BL/6J mice. *PLoS ONE* 7: e31394.



Try **SIRT1 (B-10): sc-74504** or **SIRT1 (B-7): sc-74465**, our highly recommended monoclonal alternatives to SIRT1 (H-300). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **SIRT1 (B-10): sc-74504**.