**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.

**SOURCE**

SIRT1 (B-10) is a mouse monoclonal antibody raised against amino acids 448-747 of SIRT1 of human origin.

**PRODUCT**

Each vial contains 200 µg IgG2b, kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SIRT1 (B-10) is available conjugated to agarose (sc-74504 AC), 500 µg/0.25 ml agarose in 1 ml, for IF, to HRP (sc-74504 HRP), 200 µg/ml, for WB, HRP(l) and ELISA; to either phycoerythrin (sc-74504 PE), fluorescein (sc-74504 FITC), Alexa Fluor® 488 (sc-74504 AF488), Alexa Fluor® 546 (sc-74504 AF546), Alexa Fluor® 594 (sc-74504 AF594) or Alexa Fluor® 647 (sc-74504 AF647), 200 µg/ml, for WB (RGB), IF, HRP(l) and FCM; and to either Alexa Fluor® 680 (sc-74504 AF680) or Alexa Fluor® 790 (sc-74504 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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**APPLICATIONS**

SIRT1 (B-10) is recommended for detection of SIRT1 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:1000), 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 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 whole cell lysate: sc-2203, MES-SA/Dx5 cell lysate: sc-2284 or BJAB whole cell lysate: sc-2207.

**SELECT PRODUCT CITATIONS**

1. Byles, V., et al. 2010. Aberrant cytoplasm localization and protein stability of kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

**STORAGE**

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

**DATA**

![SIRT1 (B-10) sc-74504 Western blot analysis of SIRT1 expression in K-562 (A), MES-SA/Dx5 (B), BJAB (C), NTERA-2 cl.D1 (D), HeLa (E) and Hep G2 (F) whole cell lysates. Detection reagent used: m-IgG with BP-HP. sc-516102.](image)

![SIRT1 (B-10) sc-74504 Immunofluorescence staining of formalin-fixed Hep G2 cells showing nuclear and cytoplasmic localization (A). Immunoperoxidase staining of formalin-fixed, paraffin-embedded human testis tissue showing nuclear or cytoplasmic staining of subsets of cells in seminiferous ducts and cytoplasmic staining of Leydig cells (B).](image)

**RESEARCH USE**

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