

SIRT5 (D-16): sc-66272

BACKGROUND

Sirtuins (SIRT1-7) are human homologs of the yeast Sir2 (silent information regulator-2) protein and are divided into four main classes: SIRT1-3 are class I, SIRT4 is class II, SIRT5 is class III and SIRT6-7 are class IV. In *S. cerevisiae*, Sir2 deacetylates histones in a NAD-dependent manner, which regulates silencing at the telomeric, rDNA (ribosomal RNA) and silent mating-type loci. The human SIRT proteins are NAD-dependent deacetylases that act as intracellular regulators and are thought to have ribosyltransferase activity. SIRT5 (NAD-dependent deacetylase sirtuin-5), also known as SIR2L5, is a 310 amino acid member of the class III sirtuins. Localized to mitochondria and expressed throughout the body, SIRT5 is a NAD-dependent deacetylase that may link metabolic aging processes in humans. SIRT5 contains one deacetylase-sirtuin-type domain and can be deactivated by suramin, a drug that blocks the binding of various growth factors. Two isoforms of SIRT5 exist due to alternative splicing events.

REFERENCES

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2. Frye, R.A. 2000. Phylogenetic classification of prokaryotic and eukaryotic Sir2-like proteins. *Biochem. Biophys. Res. Commun.* 273: 793-798.
3. Kyrylenko, S., et al. 2003. Differential regulation of the Sir2 histone deacetylase gene family by inhibitors of class I and II histone deacetylases. *Cell. Mol. Life Sci.* 60: 1990-1997.
4. Michishita, E., et al. 2005. Evolutionarily conserved and nonconserved cellular localizations and functions of human SIRT proteins. *Mol. Biol. Cell* 16: 4623-4635.
5. Mahlknecht, U., et al. 2006. Assignment of the NAD-dependent deacetylase sirtuin 5 gene (SIRT5) to human chromosome band 6p23 by *in situ* hybridization. *Cytogenet. Genome Res.* 112: 208-212.
6. Chowdari, K.V., et al. 2007. DNA pooling: a comprehensive, multi-stage association analysis of ACSL6 and SIRT5 polymorphisms in schizophrenia. *Genes Brain Behav.* 6: 229-239.
7. Schuetz, A., et al. 2007. Structural basis of inhibition of the human NAD⁺-dependent deacetylase SIRT5 by suramin. *Structure* 15: 377-389.
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CHROMOSOMAL LOCATION

Genetic locus: SIRT5 (human) mapping to 6p23; Sirt5 (mouse) mapping to 13 A4.

SOURCE

SIRT5 (D-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of SIRT5 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-66272 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SIRT5 (D-16) is recommended for detection of SIRT5 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

SIRT5 (D-16) is also recommended for detection of SIRT5 in additional species, including bovine and porcine.

Suitable for use as control antibody for SIRT5 siRNA (h): sc-63026, SIRT5 siRNA (m): sc-63027, SIRT5 shRNA Plasmid (h): sc-63026-SH, SIRT5 shRNA Plasmid (m): sc-63027-SH, SIRT5 shRNA (h) Lentiviral Particles: sc-63026-V and SIRT5 shRNA (m) Lentiviral Particles: sc-63027-V.

Molecular Weight of SIRT5 isoform 1: 34 kDa.

Molecular Weight of SIRT5 isoform 2: 33 kDa.

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) 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.

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.

PROTOCOLS

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



Try **SIRT5 (G-2): sc-271635**, our highly recommended monoclonal alternative to SIRT5 (D-16). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **SIRT5 (G-2): sc-271635**.