

SIRT5 (K-15): sc-66273

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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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 (K-15) 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-66273 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SIRT5 (K-15) 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), 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

SIRT5 (K-15) is also recommended for detection of SIRT5 in additional species, including canine, bovine, porcine and avian.

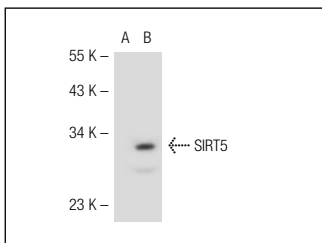
Suitable for use as control antibody for SIRT5 siRNA (h): sc-63026, SIRT5 siRNA (m): sc-63027, SIRT5 shRNA Plasmid (h): sc-63026-SH, SIRT5 shRNA Plasmid (m): sc-63027-SH, SIRT5 shRNA (h) Lentiviral Particles: sc-63026-V and SIRT5 shRNA (m) Lentiviral Particles: sc-63027-V.

Molecular Weight of SIRT5 isoform 1: 34 kDa.

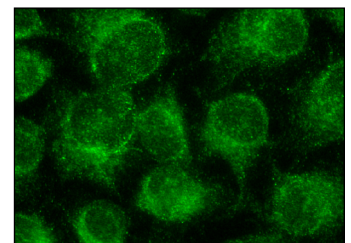
Molecular Weight of SIRT5 isoform 2: 33 kDa.

Positive Controls: SIRT5 (m): 293T Lysate: sc-123559.

DATA



SIRT5 (K-15): sc-66273. Western blot analysis of SIRT5 expression in non-transfected: sc-117752 (A) and mouse SIRT5 transfected: sc-123559 (B) 293T whole cell lysates.



SIRT5 (K-15): sc-66273. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

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.


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Try **SIRT5 (G-2): sc-271635**, our highly recommended monoclonal alternative to SIRT5 (K-15). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **SIRT5 (G-2): sc-271635**.