

SIRT5 (m): 293T Lysate: sc-123559

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

1. Frye, R.A. 1999. Characterization of five human cDNAs with homology to the yeast SIR2 gene: Sir2-like proteins (sirtuins) metabolize NAD and may have protein ADP-ribosyltransferase activity. *Biochem. Biophys. Res. Commun.* 260: 273-279.
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. Mählknecht, 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.
8. Nakamura, Y., et al. 2008. Localization of mouse mitochondrial SIRT proteins: shift of SIRT3 to nucleus by coexpression with SIRT5. *Biochem. Biophys. Res. Commun.* 366: 174-179.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: Sirt5 (mouse) mapping to 13 A4.

PRODUCT

SIRT5 (m): 293T Lysate represents a lysate of mouse SIRT5 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

SIRT5 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive SIRT5 antibodies. Recommended use: 10-20 µl per lane.

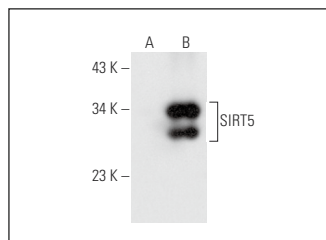
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

SIRT5 (G-2): sc-271635 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse SIRT5 expression in SIRT5 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

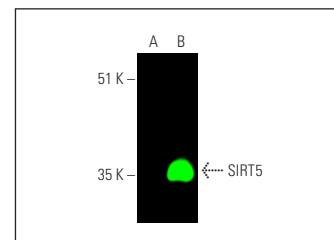
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



SIRT5 (G-2): sc-271635. Western blot analysis of SIRT5 expression in non-transfected: sc-117752 (A) and mouse SIRT5 transfected: sc-123559 (B) 293T whole cell lysates.



SIRT5 (G-2): sc-271635. Near-infrared western blot analysis of SIRT5 expression in non-transfected: sc-117752 (A) and mouse SIRT5 transfected: sc-123559 (B) 293T whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.

RESEARCH USE

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