

SIRT4 (H-234): sc-135053

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 an NAD-dependent manner, which regulates silencing at the telomeric, rDNA (ribosomal DNA) 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. SIRT4 (Sir2-like protein 4), also known as SIR2L4 or sirtuin 4, belongs to the class II family of sirtuins and localizes to the mitochondrial matrix. Expressed throughout the body, SIRT4 interacts with Insulin-degrading enzymes and, through its ADP-ribosyltransferase activity, functions to negatively regulate Insulin secretion from pancreatic β cells. SIRT4 contains one deacetylase sirtuin-type domain and can bind zinc as a catalytic cofactor.

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. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 604482. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Kyrilenko, 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.
5. Michishita, E., et al. 2005. Evolutionarily conserved and nonconserved cellular localizations and functions of human SIRT proteins. *Mol. Biol. Cell* 16: 4623-4635.
6. Bradbury, C.A., et al. 2005. Histone deacetylases in acute myeloid leukaemia show a distinctive pattern of expression that changes selectively in response to deacetylase inhibitors. *Leukemia* 19: 1751-1759.

CHROMOSOMAL LOCATION

Genetic locus: SIRT4 (human) mapping to 12q24.31; Sirt4 (mouse) mapping to 5 F.

SOURCE

SIRT4 (H-234) is a rabbit polyclonal antibody raised against amino acids 81-314 mapping at the C-terminus of SIRT4 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

SIRT4 (H-234) is recommended for detection of SIRT4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

SIRT4 (H-234) is also recommended for detection of SIRT4 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for SIRT4 siRNA (h): sc-63024, SIRT4 siRNA (m): sc-63025, SIRT4 shRNA Plasmid (h): sc-63024-SH, SIRT4 shRNA Plasmid (m): sc-63025-SH, SIRT4 shRNA (h) Lentiviral Particles: sc-63024-V and SIRT4 shRNA (m) Lentiviral Particles: sc-63025-V.

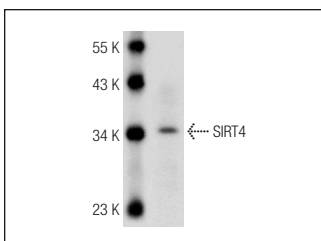
Molecular Weight of SIRT4: 35 kDa.

Positive Controls: mouse liver extract: sc-2256.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



SIRT4 (H-234): sc-135053. Western blot analysis of SIRT4 expression in mouse liver tissue extract.

STORAGE

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



Try **SIRT4 (95.1): sc-135797** or **SIRT4 (95.61): sc-135798**, our highly recommended monoclonal alternatives to SIRT4 (H-234).