

SIR2 (dF-16): sc-27476

BACKGROUND

Control of chromosome structure plays a role in the regulation of gene expression, recombination, DNA repair, and chromosome stability. *Drosophila* SIR2, a NAD⁺-dependent histone deacetylase, influences euchromatic repression and heterochromatic silencing at telomeres, rDNA, and mating-type loci mediated by the Polycomb group of proteins and by physically associating with a complex containing the E(Z) histone methyltransferase. Deacetylation by SIR2 causes rearrangement of histones into a transcriptionally repressive chromatin structure. SIR2 has also been shown to be directly involved in the calorie-restriction life-span-extending pathway in *Drosophila*.

REFERENCES

- Rosenberg, M.I., et al. 2002. *Drosophila* Sir2 is required for heterochromatic silencing and by euchromatic Hairy/E(Spl) bHLH repressors in segmentation and sex determination. *Cell* 109: 447-458.
- Parsons, X.H., et al. 2003. Histone deacetylation by Sir2 generates a transcriptionally repressed nucleoprotein complex. *Proc. Natl. Acad. Sci. USA* 100: 1609-1614.
- Furuyama, T., et al. 2004. SIR2 is required for polycomb silencing and is associated with an E(Z) histone methyltransferase complex. *Curr. Biol* 14: 1812-1821.
- Rogina, B., et al. 2004. Sir2 mediates longevity in the fly through a pathway related to calorie restriction. *Proc. Natl. Acad. Sci. USA* 101: 15998-16003.
- Chopra, V.S., et al. 2005. To SIR with Polycomb: linking silencing mechanisms. *Bioessays* 27: 119-121.
- Guarente, L., et al. 2005. Calorie restriction the SIR2 connection. *Cell* 120: 473-482.
- LocusLink Report (LocusID: 34708). <http://www.ncbi.nlm.nih.gov/LocusLink/>

SOURCE

SIR2 (dF-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of SIR2 of *Drosophila melanogaster* 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-27476 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

SIR2 (dF-16) is recommended for detection of SIR2 of *Drosophila melanogaster* 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).

Molecular Weight of SIR2: 70 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.

SELECT PRODUCT CITATIONS

- Zhao, Y., et al. 2009. Corepressive action of CBP on androgen receptor transactivation in pericentric heterochromatin in a *Drosophila* experimental model system. *Mol. Cell. Biol.* 29: 1017-1034.

PROTOCOLS

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