SANTA CRUZ BIOTECHNOLOGY, INC.

SCP-3 (G-3): sc-74568

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Synaptonemal complexes are meiosis-specific nuclear organelles that are involved in chromosome rearrangements, such as chromosome pairing and recombination during meiotic prophase. SCP-2 and SCP-3 are major components of the lateral elements of synaptonemal complexes. SCP-3 is a sister chromatid arm cohesin during mammalian meiosis I. It has a C-terminal coiled-coil domain that promotes homotypic interactions *in vitro*. SCP-3 is expressed in testicular meiotic prophase cells and primordial germ cells. SCP-2 and SCP-3 first appear in leptotene-stage spermatocytes and disappear in late meiotic cells.

REFERENCES

1. Schalk, J., et al. 1998. Localization of SCP-2 and SCP-3 protein molecules within synaptonemal complexes of the rat. Chromosoma 107: 540-548.
2. Offenberg, H., et al. 1998. SCP-2: a major protein component of the axial elements of synaptonemal complexes of the rat. Nucleic Acids Res. 26: 2572-2579.
3. Online Mendelian Inheritance in Man, OMIM™. 1998. Johns Hopkins University, Baltimore, MD. MIM Number: 602162. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: Sycp3 (mouse) mapping to 10 C1.

SOURCE

SCP-3 (G-3) is a mouse monoclonal antibody raised against amino acids 1-254 representing full length SCP-3 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

SCP-3 (G-3) is recommended for detection of SCP-3 of mouse and rat origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for SCP-3 siRNA (m): sc-37646, SCP-3 shRNA Plasmid (m): sc-37646-SH and SCP-3 shRNA (m) Lentiviral Particles: sc-37646-V.

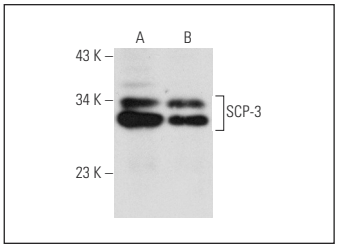
Molecular Weight of SCP-3 isoforms: 30/33 kDa.

Positive Controls: mouse testis extract: sc-2405, rat testis extract: sc-2400 or mouse embryo extract: sc-364239.

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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



SCP-3 (G-3): sc-74568. Western blot analysis of SCP-3 expression in mouse testis (**A**) and rat testis (**B**) tissue extracts.

SELECT PRODUCT CITATIONS

1. Qiao, H., et al. 2012. Interplay between synaptonemal complex, homologous recombination, and centromeres during mammalian meiosis. PLoS Genet. 8: e1002790.
2. Reynolds, A., et al. 2013. RNF212 is a dosage-sensitive regulator of crossing-over during mammalian meiosis. Nat. Genet. 45: 269-278.
3. Qiao, H., et al. 2014. Antagonistic roles of ubiquitin ligase HEI10 and SUMO ligase RNF212 regulate meiotic recombination. Nat. Genet. 46: 194-199.
4. Zhou, L., et al. 2017. BTBD18 regulates a subset of piRNA-generating loci through transcription elongation in mice. Dev. Cell 40: 453-466.e5.
5. Qiao, H., et al. 2018. Impeding DNA break repair enables oocyte quality control. Mol. Cell 72: 211-221.e3.
6. Mishra, A.P., et al. 2022. BRCA2-DSS1 interaction is dispensable for Rad51 recruitment at replication-induced and meiotic DNA double strand breaks. Nat. Commun. 13: 1751.

RESEARCH USE

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

CONJUGATES

See **SCP-3 (D-1): sc-74569** for SCP-3 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.