

SCP-3 (D-1): sc-74569



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.

CHROMOSOMAL LOCATION

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

SOURCE

SCP-3 (D-1) 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 IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SCP-3 (D-1) is available conjugated to agarose (sc-74569 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-74569 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-74569 PE), fluorescein (sc-74569 FITC), Alexa Fluor® 488 (sc-74569 AF488), Alexa Fluor® 546 (sc-74569 AF546), Alexa Fluor® 594 (sc-74569 AF594) or Alexa Fluor® 647 (sc-74569 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-74569 AF680) or Alexa Fluor® 790 (sc-74569 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

SCP-3 (D-1) 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), immunohistochemistry (including paraffin-embedded sections) (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: rat testis extract: sc-2400, mouse embryo extract: sc-364239 or mouse testis extract: sc-2405.

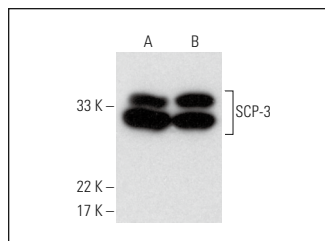
STORAGE

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

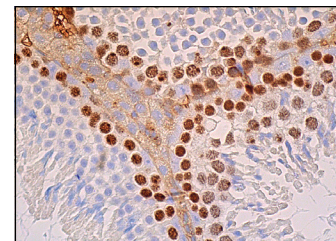
RESEARCH USE

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

DATA



SCP-3 (D-1) HRP: sc-74569 HRP. Direct western blot analysis of SCP-3 expression in mouse testis (A) and rat testis (B) tissue extracts.



SCP-3 (D-1): sc-74569. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse testis tissue showing nuclear staining of cells in seminiferous ducts.

SELECT PRODUCT CITATIONS

- Herrán, Y., et al. 2011. The cohesin subunit RAD21L functions in meiotic synapsis and exhibits sexual dimorphism in fertility. *EMBO J.* 30: 3091-3105.
- Fukuda, T., et al. 2012. Phosphorylation of chromosome core components may serve as axis marks for the status of chromosomal events during mammalian meiosis. *PLoS Genet.* 8: e1002485.
- Dowdle, J.A., et al. 2013. Mouse BAZ1A (ACF1) is dispensable for double-strand break repair but is essential for averting improper gene expression during spermatogenesis. *PLoS Genet.* 9: e1003945.
- Ontoso, D., et al. 2014. Dynamics of DOT1L localization and H3K79 methylation during meiotic prophase I in mouse spermatocytes. *Chromosoma* 123: 147-164.
- Tassinari, V., et al. 2015. Fgf9 inhibition of meiotic differentiation in spermatogonia is mediated by Erk-dependent activation of Nodal-Smad2/3 signaling and is antagonized by Kit ligand. *Cell Death Dis.* 6: e1688.
- Mak, W., et al. 2016. An important role of Pumilio 1 in regulating the development of the mammalian female germline. *Biol. Reprod.* 94: 134.
- Hwang, G., et al. 2017. SMC5/6 is required for the formation of segregation-competent bivalent chromosomes during meiosis I in mouse oocytes. *Development* 144: 1648-1660.
- Gregorova, S., et al. 2018. Modulation of Prdm9-controlled meiotic chromosome asynapsis overrides hybrid sterility in mice. *Elife* 7: e34282.
- Testa, E., et al. 2018. H2AFX and MDC1 promote maintenance of genomic integrity in male germ cells. *J. Cell Sci.* 131: jcs214411.
- Wang, L., et al. 2018. Cisplatin-induced DNA double-strand breaks promote meiotic chromosome synapsis in PRDM9-controlled mouse hybrid sterility. *Elife* 7: e42511.

PROTOCOLS

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