

# coilin (B-7): sc-55595

## BACKGROUND

Coilin is the primary protein of nuclear coiled (Cajal) bodies. Cajal bodies are small nuclear organelles and contain many proteins involved in RNA transcription and processing. Coilin is a self-associating protein with a nucleolar localization signal. It is essential for the proper formation of Cajal bodies and for the recruitment of snRNP and survival motor neuron (SMN) complex proteins to Cajal bodies. Coilin directly binds SMN proteins in the recruitment process and competes with SmB' for SMN interactions. In the developing organism, Cajal bodies play a role in the assembly of the nucleolus. While the N-terminus of coilin contains the self-associating domain, the C-terminus of coilin regulates the number of Cajal bodies present in the cell.

## REFERENCES

1. Andrade, L.E., et al. 1991. Human autoantibody to a novel protein of the nuclear coiled body: immunological characterization and cDNA cloning of p80-coilin. *J. Exp. Med.* 173: 1407-1419.
2. Chan, E.K., et al. 1994. Structure, expression and chromosomal localization of human p80-coilin gene. *Nucleic Acids Res.* 22: 4462-4469.
3. Gall, J.G. 2000. Cajal bodies: the first 100 years. *Annu. Rev. Cell Dev. Biol.* 16: 273-300.
4. Hebert, M.D., et al. 2000. Self-association of coilin reveals a common theme in nuclear body localization. *Mol. Biol. Cell* 11: 4159-4171.
5. Tucker, K.E., et al. 2001. Residual Cajal bodies in coilin knockout mice fail to recruit Sm snRNPs and SMN, the spinal muscular atrophy gene product. *J. Cell Biol.* 154: 293-307.
6. Hebert, M.D., et al. 2001. Coilin forms the bridge between Cajal bodies and SMN, the spinal muscular atrophy protein. *Genes Dev.* 15: 2720-2729.
7. Zatselina, O., et al. 2004. The step-wise assembly of a functional nucleolus in preimplantation mouse embryos involves the Cajal (coiled) body. *Dev. Biol.* 253: 66-83.
8. Shpargel, K.B., et al. 2004. Control of Cajal body number is mediated by the coilin C-terminus. *J. Cell Sci.* 116: 303-312.

## CHROMOSOMAL LOCATION

Genetic locus: COIL (human) mapping to 17q22; Coil (mouse) mapping to 11 C.

## SOURCE

coilin (B-7) is a mouse monoclonal antibody raised against amino acids 277-576 mapping at the C-terminus of coilin of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> 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

coilin (B-7) is recommended for detection of coilin of mouse, rat and human 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 coilin siRNA (h): sc-37570, coilin siRNA (m): sc-37571, coilin shRNA Plasmid (h): sc-37570-SH, coilin shRNA Plasmid (m): sc-37571-SH, coilin shRNA (h) Lentiviral Particles: sc-37570-V and coilin shRNA (m) Lentiviral Particles: sc-37571-V.

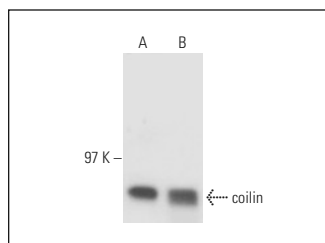
Molecular Weight of coilin: 80 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, MOLT-4 nuclear extract: sc-2151 or Jurkat nuclear extract: sc-2132.

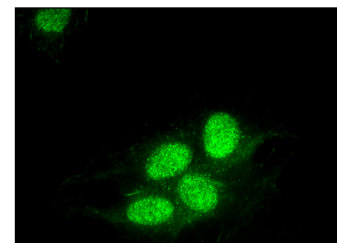
## RECOMMENDED SUPPORT REAGENTS

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



coilin (B-7): sc-55595. Western blot analysis of coilin expression in MOLT-4 (A) and Jurkat (B) nuclear extracts.



coilin (B-7): sc-55595. Immunofluorescence staining of formalin-fixed Hep G2 cells showing nuclear localization.

## SELECT PRODUCT CITATIONS

1. Huang, S., et al. 2021. A phase-separated nuclear GBPL circuit controls immunity in plants. *Nature* 594: 424-429.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.