



SAS-4 (cV-21): sc-30418

BACKGROUND

The centrosome is the primary microtubule organizing center (MTOC) in animal cells and also functions to regulate cell-cycle progression. Centrosomes are made up of a centriole pair that is encompassed by a matrix of pericentriolar material (PCM) which anchors microtubule nucleation sites and therefore controls the amount and organization of microtubules in interphase and mitotic cells. Spindle assembly abnormal proteins 4, 5 and 6 (SAS-4, -5 and -6) represent coiled-coil proteins that are essential for *Caenorhabditis elegans* centriole formation. SAS-4 is incorporated into centrioles during centriole duplication and remains there throughout the cell cycle. The amount of SAS-4 present is directly correlated with centrosome size, and in the absence of SAS-4, centriole duplication fails. Tube formation and elongation requires the presence of SAS-5 and SAS-6, while the assembly of singlet microtubules onto the central tube depends on SAS-4.

REFERENCES

1. Kirkham, M., et al. 2003. SAS-4 is a *C. elegans* centriolar protein that controls centrosome size. *Cell* 112: 575-587.
2. Leidel, S., et al. 2003. SAS-4 is essential for centrosome duplication in *C. elegans* and is recruited to daughter centrioles once per cell cycle. *Dev. Cell* 4: 431-439.
3. Wong, C., et al. 2003. Dispatch. Centrosome biology: a SAS-sy centriole in the cell cycle. *Curr. Biol.* 13: 351-352.
4. Salisbury, J.L., et al. 2003. Centrosome size is controlled by centriolar SAS-4. *Trends Cell Biol.* 13: 340-343.
5. Delattre, M., et al. 2004. The arithmetic of centrosome biogenesis. *J. Cell. Sci.* 117: 1619-1630.
6. Leidel, S., et al. 2005. Centrosome duplication and nematodes: recent insights from an old relationship. *Dev. Cell* 9: 317-325.
7. Basto, R., et al. 2006. Flies without centrioles. *Cell* 125: 1375-1386.
8. Delattre, M., et al. 2006. Sequential protein recruitment in *C. elegans* centriole formation. *Curr. Biol.* 16: 1844-1849.
9. Pelletier, L., et al. 2006. Centriole assembly in *Caenorhabditis elegans*. *Nature* 444: 619-623.

SOURCE

SAS-4 (cV-21) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of SAS-4 of *C. elegans* 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-30418 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.

APPLICATIONS

SAS-4 (cV-21) is recommended for detection of SAS-4 of *Caenorhabditis elegans* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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.

RESEARCH USE

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

PROTOCOLS

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