

## SPAG5 (C-18): sc-79093

### BACKGROUND

SPAG5 (sperm-associated antigen 5), also known as MAP126, hMAP126, DEEPEST or Astrin, is a 1,193 amino acid protein that is expressed at high levels in testis and at lower levels in liver, placenta, pancreas, colon and thymus. Localized specifically to spindle poles during prophase and throughout the spindle during metaphase and anaphase, SPAG5 is essential for proper spindle formation and is thought to be involved in the dynamic and functional regulation of mitotic spindles. Additionally, SPAG5 plays a role in sister chromatid cohesion and subsequent chromatid separation and, via its association with chromatids, is an important regulator of chromosome integrity. SPAG5 has a long stalk and a globular head domain through which it forms a homodimer that is characterized by aster-like structures. Upon DNA damage, SPAG5 may be phosphorylated by ATR or ATM.

### REFERENCES

- Chang, M.S., Huang, C.J., Chen, M.L., Chen, S.T., Fan, C.C., Chu, J.M., Lin, W.C. and Yang, Y.C. 2001. Cloning and characterization of hMAP126, a new member of mitotic spindle-associated proteins. *Biochem. Biophys. Res. Commun.* 287: 116-121.
- Shao, X., Xue, J. and van der Hoorn, F.A. 2001. Testicular protein SPAG5 has similarity to mitotic spindle protein DEEPEST and binds outer dense fiber protein Odf1. *Mol. Reprod. Dev.* 59: 410-416.
- Mack, G.J. and Compton, D.A. 2001. Analysis of mitotic microtubule-associated proteins using mass spectrometry identifies Astrin, a spindle-associated protein. *Proc. Natl. Acad. Sci. USA* 98: 14434-14439.
- Gruber, J., Harborth, J., Schnabel, J., Weber, K. and Hatzfeld, M. 2002. The mitotic spindle-associated protein Astrin is essential for progression through mitosis. *J. Cell Sci.* 115: 4053-4059.
- Yang, Y.C., Hsu, Y.T., Wu, C.C., Chen, H.T. and Chang, M.S. 2006. Silencing of Astrin induces the p53-dependent apoptosis by suppression of HPV18 E6 expression and sensitizes cells to paclitaxel treatment in HeLa cells. *Biochem. Biophys. Res. Commun.* 343: 428-434.
- Nousiainen, M., Sillje, H.H., Sauer, G., Nigg, E.A. and Körner, R. 2006. Phosphoproteome analysis of the human mitotic spindle. *Proc. Natl. Acad. Sci. USA* 103: 5391-5396.
- Thein, K.H., Kleylein-Sohn, J., Nigg, E.A. and Gruneberg, U. 2007. Astrin is required for the maintenance of sister chromatid cohesion and centrosome integrity. *J. Cell Biol.* 178: 345-354.
- Cheng, T.S., Hsiao, Y.L., Lin, C.C., Hsu, C.M., Chang, M.S., Lee, C.I., Yu, R.C., Huang, C.Y., Howng, S.L. and Hong, Y.R. 2007. hNinein is required for targeting spindle-associated protein Astrin to the centrosome during the S and G<sub>2</sub> phases. *Exp. Cell Res.* 313: 1710-1721.

### CHROMOSOMAL LOCATION

Genetic locus: SPAG5 (human) mapping to 17q11.2; Spag5 (mouse) mapping to 11 B5.

### RESEARCH USE

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

### SOURCE

SPAG5 (C-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of SPAG5 of human 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-79093 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

SPAG5 (C-18) is recommended for detection of SPAG5 of mouse, rat and human 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).

SPAG5 (C-18) is also recommended for detection of SPAG5 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for SPAG5 siRNA (h): sc-76545, SPAG5 siRNA (m): sc-76546, SPAG5 shRNA Plasmid (h): sc-76545-SH, SPAG5 shRNA Plasmid (m): sc-76546-SH, SPAG5 shRNA (h) Lentiviral Particles: sc-76545-V and SPAG5 shRNA (m) Lentiviral Particles: sc-76546-V.

Molecular Weight of SPAG5: 140 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

### 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.

### STORAGE

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



Try **SPAG5 (LX-8): sc-100885**, our highly recommended monoclonal alternative to SPAG5 (C-18).