

SPDL-1 (E-20): sc-242391

BACKGROUND

SPDL-1 (spindle apparatus coiled-coil protein 1), also known as hSpindly (Protein Spindly) or CCDC99 (coiled-coil domain-containing protein 99) is a 605 amino acid protein that belongs to the Spindly family. SPDL-1 localizes to the nucleus during interphase and the kinetochore during early prometaphase. SPDL-1 is required for the localization of dynein and dynactin to the kinetochore. Dyneins are multisubunit, high molecular weight ATPases that interact with microtubules to generate force by converting the chemical energy of ATP into the mechanical energy of movement, and are required for correct spindle orientation. SPDL-1 relocates to the mitotic spindle pole before metaphase and is removed from the spindle poles after chromosome congression is completed. Existing as two alternatively spliced isoforms, SPDL-1 is encoded by a gene that maps to human chromosome 5q35.1.

REFERENCES

1. Malikov, V., Kashina, A. and Rodionov, V. 2004. Cytoplasmic dynein nucleates microtubules to organize them into radial arrays *in vivo*. *Mol. Biol. Cell* 15: 2742-2749.
2. Mallik, R., Carter, B.C., Lex, S.A., King, S.J. and Gross, S.P. 2004. Cytoplasmic dynein functions as a gear in response to load. *Nature* 427: 649-652.
3. Griffis, E.R., Stuurman, N. and Vale, R.D. 2007. Spindly, a novel protein essential for silencing the spindle assembly checkpoint, recruits dynein to the kinetochore. *J. Cell Biol.* 177: 1005-1015.
4. Chan, Y.W., Fava, L.L., Uldschmid, A., Schmitz, M.H., Gerlich, D.W., Nigg, E.A. and Santamaria, A. 2009. Mitotic control of kinetochore-associated dynein and spindle orientation by human Spindly. *J. Cell Biol.* 185: 859-874.
5. Gassmann, R., Holland, A.J., Varma, D., Wan, X., Civril, F., Cleveland, D.W., Oegema, K., Salmon, E.D. and Desai, A. 2010. Removal of Spindly from microtubule-attached kinetochores controls spindle checkpoint silencing in human cells. *Genes Dev.* 24: 957-971.
6. Wong, K.A., Wilson, J., Russo, A., Wang, L., Okur, M.N., Wang, X., Martin, N.P., Scappini, E., Carnegie, G.K. and O'Bryan, J.P. 2012. Intersectin (ITSN) family of scaffolds function as molecular hubs in protein interaction networks. *PLoS ONE* 7: e36023.

CHROMOSOMAL LOCATION

Genetic locus: *Ccdc99* (mouse) mapping to 11 A4.

SOURCE

SPDL-1 (E-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of SPDL-1 of mouse 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-242391 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SPDL-1 (E-20) is recommended for detection of SPDL-1 of mouse and rat 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).

Suitable for use as control antibody for SPDL-1 siRNA (m): sc-142164, SPDL-1 shRNA Plasmid (m): sc-142164-SH and SPDL-1 shRNA (m) Lentiviral Particles: sc-142164-V.

Molecular Weight of SPDL-1: 70 kDa.

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.

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.