

Spc24 (T-15): sc-69243

BACKGROUND

The NDC80 complex is a multi-protein structure that exists as the center of the kinetochore and is important for spindle checkpoint signaling and chromosome congression. Spc24, also known as SPBC24, is a 197 amino acid protein that localizes to the nucleus, with specific localization to the kinetochore from late prophase to anaphase. Functioning as a component of the NDC80 complex, Spc24 plays a role in kinetochore integrity, as well as in the organization of stable microtubule binding sites in the outer plate of the kinetochore. The gene encoding Spc24 maps to human chromosome 19, which consists of over 63 million bases, houses approximately 1,400 genes and is recognized for having the greatest gene density of the human chromosomes.

REFERENCES

- McClelland, M.L., Kallio, M.J., Barrett-Wilt, G.A., Kestner, C.A., Shabanowitz, J., Hunt, D.F., Gorbsky, G.J. and Stukenberg, P.T. 2004. The vertebrate NDC80 complex contains Spc24 and Spc25 homologs, which are required to establish and maintain kinetochore-microtubule attachment. *Curr. Biol.* 14: 131-137.
- Cheeseman, I.M., Niessen, S., Anderson, S., Hyndman, F., Yates, J.R., Oegema, K. and Desai, A. 2004. A conserved protein network controls assembly of the outer kinetochore and its ability to sustain tension. *Genes Dev.* 18: 2255-2268.
- Bharadwaj, R., Qi, W. and Yu, H. 2004. Identification of two novel components of the human NDC80 kinetochore complex. *J. Biol. Chem.* 279: 13076-13085.
- Ahonen, L.J., Kallio, M.J., Daum, J.R., Bolton, M., Manke, I.A., Yaffe, M.B., Stukenberg, P.T. and Gorbsky, G.J. 2005. Polo-like kinase 1 creates the tension-sensing 3F3/2 phosphoepitope and modulates the association of spindle-checkpoint proteins at kinetochores. *Curr. Biol.* 15: 1078-1089.
- Ciferri, C., De Luca, J., Monzani, S., Ferrari, K.J., Ristic, D., Wyman, C., Stark, H., Kilmartin, J., Salmon, E.D. and Musacchio, A. 2005. Architecture of the human NDC80-HEC1 complex, a critical constituent of the outer kinetochore. *J. Biol. Chem.* 280: 29088-29095.
- Online Mendelian Inheritance in Man, OMIM™. 2005. Johns Hopkins University, Baltimore, MD. MIM Number: 609394. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Nousiainen, M., Silljé, 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.

CHROMOSOMAL LOCATION

Genetic locus: SPC24 (human) mapping to 19p13.2; Spc24 (mouse) mapping to 9 A3.

SOURCE

Spc24 (T-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Spc24 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-69243 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Spc24 (T-15) is recommended for detection of Spc24 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).

Spc24 (T-15) is also recommended for detection of Spc24 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for Spc24 siRNA (h): sc-76552, Spc24 siRNA (m): sc-76553, Spc24 shRNA Plasmid (h): sc-76552-SH, Spc24 shRNA Plasmid (m): sc-76553-SH, Spc24 shRNA (h) Lentiviral Particles: sc-76552-V and Spc24 shRNA (m) Lentiviral Particles: sc-76553-V.

Molecular Weight of Spc24: 24 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.