

Spc25 (T-15): sc-69335

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. Spc25, also known as SPBC25 or AD024, is a 224 amino acid protein that localizes to the nucleus, with specific localization to the outer plate of the kinetochore from late prophase to anaphase. Functioning as a component of the NDC80 complex, Spc25 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 Spc25 maps to human chromosome 2, which houses over 1,400 genes and comprises nearly 8% of the human genome. Harlequin ichthyosis, a rare and morbid skin deformity, is associated with mutations in the ABCA12 gene, while the lipid metabolic disorder sitosterolemia is associated with defects in the ABCG5 and ABCG8 genes. Additionally, an extremely rare recessive genetic disorder, Alström syndrome, is caused by mutations in the ALMS1 gene, which maps to chromosome 2.

REFERENCES

- Kalies, K.U., Rapoport, T.A. and Hartmann, E. 1998. The β subunit of the Sec61 complex facilitates cotranslational protein transport and interacts with the signal peptidase during translocation. *J. Cell Biol.* 141: 887-894.
- 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.
- Kittler, R., Putz, G., Pelletier, L., Poser, I., Heninger, A.K., Drechsel, D., Fischer, S., Konstantinova, I., Habermann, B., Grabner, H., Yaspo, M.L., Himmelbauer, H., Korn, B., Neugebauer, K., Pisabarro, M.T. and Buchholz, F. 2004. An endoribonuclease-prepared siRNA screen in human cells identifies genes essential for cell division. *Nature* 432: 1036-1040.
- 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: 609395. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: SPC25 (human) mapping to 2q31.1; Spc25 (mouse) mapping to 2 C2.

SOURCE

Spc25 (T-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Spc25 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-69335 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Spc25 (T-15) is recommended for detection of Spc25 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).

Spc25 (T-15) is also recommended for detection of Spc25 in additional species, including equine and canine.

Suitable for use as control antibody for Spc25 siRNA (h): sc-76554, Spc25 siRNA (m): sc-76555, Spc25 shRNA Plasmid (h): sc-76554-SH, Spc25 shRNA Plasmid (m): sc-76555-SH, Spc25 shRNA (h) Lentiviral Particles: sc-76554-V and Spc25 shRNA (m) Lentiviral Particles: sc-76555-V.

Molecular Weight of Spc25: 26 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.