



p- γ Tubulin (Tyr 445)-R: sc-25102-R

BACKGROUND

Tub4, the gene for *Saccharomyces cerevisiae* γ Tubulin, encodes a 473 amino acid structural protein that localizes to the spindle pole body. γ Tubulin, an essential protein for cell growth, organizes microtubule arrays in the nucleus and cytoplasm. γ Tubulin-depleted cells fail to form functional spindles and arrest during nuclear division. γ Tubulin associates with spindle body components Spc97 and Spc98 to form the γ Tubulin complex. The budding yeast γ Tubulin complex contains one molecule each of Spc97 and Spc98, and two molecules of γ Tubulin. In the SPB, Spc110 binds Spc97 and Spc98 of the γ Tubulin complex. 2D gel analysis indicates five isoforms of γ Tubulin. The phosphorylation of γ Tubulin at Tyr 445 plays a regulatory role in microtubule formation. The incidence rate for this phosphorylation event peaks during G₁.

REFERENCES

1. Sobel, S.G., et al. 1995. A highly divergent γ Tubulin gene is essential for cell growth and proper microtubule organization in *Saccharomyces cerevisiae*. *J. Cell Biol.* 131: 1775-1788.
2. Spang, A., et al. 1996. γ Tubulin-like Tub4p of *Saccharomyces cerevisiae* is associated with the spindle pole body substructures that organize microtubules and is required for mitotic spindle formation. *J. Cell Biol.* 134: 429-441.
3. Geissler, S., et al. 1996. The spindle pole body component Spc98p interacts with the γ Tubulin-like Tub4p of *Saccharomyces cerevisiae* at the sites of microtubule attachment. *EMBO J.* 15: 3899-3911.
4. Knop, M., et al. 1997. The spindle pole body component Spc97p interacts with the γ Tubulin of *Saccharomyces cerevisiae* and functions in microtubule organization and spindle pole body duplication. *EMBO J.* 16: 1550-1564.
5. Knop, M., et al. 1997. Spc98p and Spc97p of the yeast γ Tubulin complex mediate binding to the spindle pole body via their interaction with Spc110p. *EMBO J.* 16: 6985-6995.
6. Vogel, J., et al. 2001. Phosphorylation of γ Tubulin regulates microtubule organization in budding yeast. *Dev. Cell* 1: 621-631.
7. Vinh, D.B., et al. 2002. Reconstitution and characterization of budding yeast γ Tubulin complex. *Mol. Biol. Cell* 13: 1144-1157.

CHROMOSOMAL LOCATION

Genetic locus: TUBG1 (human) mapping to 17q21; Tubg1 (mouse) mapping to 11 D.

SOURCE

p- γ Tubulin (Tyr 445)-R is a rabbit polyclonal antibody raised against a short amino acid sequence containing phosphorylated Tyr 445 of γ Tubulin of *Saccharomyces cerevisiae* origin.

STORAGE

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

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-25102-R P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

p- γ Tubulin (Tyr 445)-R is recommended for detection of Tyr 445 phosphorylated γ Tubulin of *Saccharomyces cerevisiae* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with non-phosphorylated γ Tubulin.

Molecular Weight of p- γ Tubulin: 50 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent) and Western Blotting Luminol Reagent: sc-2048.

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.