

γ Tubulin (14C11): sc-53777

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. and Snyder, M. 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. and Schiebel, E. 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. Vinh, D.B., et al. 2002. Reconstitution and characterization of budding yeast γ Tubulin complex. *Mol. Biol. Cell* 13: 1144-1157.
7. Vogel, J., et al. 2001. Phosphorylation of γ Tubulin regulates microtubule organization in budding yeast. *Dev. Cell* 1: 621-631.

CHROMOSOMAL LOCATION

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

SOURCE

γ Tubulin (14C11) is a mouse monoclonal antibody raised against γ Tubulin of human 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 100 μ g IgG_{2b} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

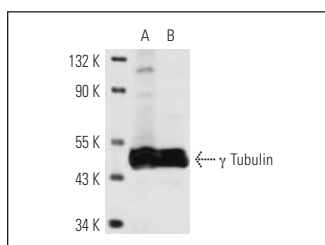
γ Tubulin (14C11) is recommended for detection of γ Tubulin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1–2 μ g per 100–500 μ g of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for γ Tubulin siRNA (h): sc-29322, γ Tubulin siRNA (m): sc-29323, γ Tubulin shRNA Plasmid (h): sc-29322-SH, γ Tubulin shRNA Plasmid (m): sc-29323-SH, γ Tubulin shRNA (h) Lentiviral Particles: sc-29322-V and γ Tubulin shRNA (m) Lentiviral Particles: sc-29323-V.

Molecular Weight of γ Tubulin: 50 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, A-431 whole cell lysate: sc-2201 or K-562 whole cell lysate: sc-2203.

DATA



γ Tubulin (14C11): sc-53777. Western blot analysis of γ Tubulin expression in HeLa (A) and Hep G2 (B) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Agapova, L.S., et al. 2008. Mitochondria-targeted plastoquinone derivatives as tools to interrupt execution of the aging program. 3. Inhibitory effect of SkQ1 on tumor development from p53-deficient cells. *Biochem. Mosc.* 73: 1300-1316.
2. Khromova, N.V., et al. 2009. p53 hot-spot mutants increase tumor vascularization via ROS-mediated activation of the HIF1/VEGF-A pathway. *Cancer Lett.* 276: 143-151.

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.