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Store at -20C
#5886

γ-Tubulin Antibody

For Research Use Only. Not for Use in Diagnostic Procedures.

Applications: W	Reactivity: H M R Mk	Sensitivity: Endogenous	MW (kDa): 50	Source/Isotype: Rabbit	UniProt ID: #P23258	Entrez-Gene Id: 7283
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Product Usage Information

Application

Western Blotting

Dilution

1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

Specificity/Sensitivity

γ-Tubulin Antibody recognizes endogenous levels of total γ-tubulin protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of human γ-tubulin protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Globular tubulin subunits comprise the microtubule building block, with α/β-tubulin heterodimers forming the tubulin subunit common to all eukaryotic cells. As a critical part of the microtubule-organizing center (MTOC), the third member of the tubulin superfamily, γ-tubulin, is required for microtubule nucleation as well as centrosome duplication and spindle assembly (1,2, reviewed in 3). γ-tubulin forms complexes of two different sizes: γ-tubulin small complex (γ-TuSC) and the larger γ-tubulin ring complex (γ-TuRC). Each complex consists of a number of γ-tubulin complex proteins (GCPs) with γ-tubulin itself being considered GCP1. GCP2-6 all share sequence similarity in 5 different regions and it is thought that these areas could play a role in the proper folding of the proteins (4). γ-TuSC is composed of two γ-tubulin molecules as well as GCP2 and GCP3. γ-TuRC is made up of a ring of multiple copies of γ-TuSC in addition to GCP4, 5, and 6. Another protein, GCP-WD/NEDD1, which lacks sequence similarity with the other GCPs, associates with the γ-TuRC. GCP-WD/NEDD1 has been shown to regulate localization of the γ-TuSC to spindles and centrosomes (5-8). In mammals, phosphorylation of γ-tubulin at Ser131 by SADB controls the activity of the γ-TuRC. The hypothesis is that this phosphorylation stabilizes the protein in a conformation that stimulates centrosome amplification (9).

Background References

1. Westermann, S. and Weber, K. (2003) *Nat Rev Mol Cell Biol* 4, 938-47.
2. Loncarek, J. and Khodjakov, A. (2009) *Mol Cells* 27, 135-42.
3. Wiese, C. and Zheng, Y. (2006) *J Cell Sci* 119, 4143-53.
4. Murphy, S.M. et al. (2001) *Mol Biol Cell* 12, 3340-52.
5. Raynaud-Messina, B. and Merdes, A. (2007) *Curr Opin Cell Biol* 19, 24-30.
6. Schiebel, E. (2000) *Curr Opin Cell Biol* 12, 113-8.
7. Lüders, J. et al. (2006) *Nat Cell Biol* 8, 137-47.
8. Haren, L. et al. (2009) *PLoS One* 4, e5976.
9. Alvarado-Kristensson, M. et al. (2009) *Nat Cell Biol* 11, 1081-92.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat **Mk:** Monkey

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