

# $\gamma$ Tubulin (D-10): sc-17788

## BACKGROUND

Tubulin is a major cytoskeleton component that has five distinct forms, designated  $\alpha$ ,  $\beta$ ,  $\gamma$ ,  $\delta$  and  $\epsilon$  Tubulin.  $\alpha$  and  $\beta$  Tubulins form heterodimers which multimerize to form a microtubule filament. Multiple  $\beta$  Tubulin isoforms ( $\beta 1$ ,  $\beta 2$ ,  $\beta 3$ ,  $\beta 4$ ,  $\beta 5$ ,  $\beta 6$  and  $\beta 8$ ) have been characterized and are expressed in mammalian tissues.  $\beta 1$  and  $\beta 4$  are present throughout the cytosol,  $\beta 2$  is present in the nuclei and nucleoplasm, and  $\beta 3$  is a neuron-specific cytoskeletal protein.  $\gamma$  Tubulin forms the gammasome, which is required for nucleating microtubule filaments at the centrosome. Both  $\delta$  Tubulin and  $\epsilon$  Tubulin are associated with the centrosome.  $\delta$  Tubulin is a homolog of the *Chlamydomonas*  $\delta$  Tubulin Uni3 and is found in association with the centrioles, whereas  $\epsilon$  Tubulin localizes to the pericentriolar material.  $\epsilon$  Tubulin exhibits a cell-cycle-specific pattern of localization, first associating with only the older of the centrosomes in a newly duplicated pair and later associating with both centrosomes.

## REFERENCES

- Weisenberg, R. 1981. Invited review: the role of nucleotide triphosphate in Actin and Tubulin assembly and function. *Cell Motil.* 1: 485-497.
- Burns, R.G. 1991.  $\alpha$ -,  $\beta$ -, and  $\gamma$ -Tubulins: sequence comparisons and structural constraints. *Cell Motil. Cytoskeleton* 20: 181-189.

## CHROMOSOMAL LOCATION

Genetic locus: TUBG1/TUBG2 (human) mapping to 17q21.2; Tubg1/Tubg2 (mouse) mapping to 11 D.

## SOURCE

$\gamma$  Tubulin (D-10) is a mouse monoclonal antibody raised against amino acids 269-451 mapping at the C-terminus of  $\gamma$  Tubulin of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

$\gamma$  Tubulin (D-10) is available conjugated to agarose (sc-17788 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-17788 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-17788 PE), fluorescein (sc-17788 FITC), Alexa Fluor<sup>®</sup> 488 (sc-17788 AF488), Alexa Fluor<sup>®</sup> 546 (sc-17788 AF546), Alexa Fluor<sup>®</sup> 594 (sc-17788 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-17788 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-17788 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-17788 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition,  $\gamma$  Tubulin (D-10) is available conjugated to Alexa Fluor<sup>®</sup> 405 (sc-17788 AF405), 100  $\mu$ g/2 ml, for IF, IHC(P) and FCM.

Alexa Fluor<sup>®</sup> is a trademark of Molecular Probes, Inc., Oregon, USA

## STORAGE

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

## APPLICATIONS

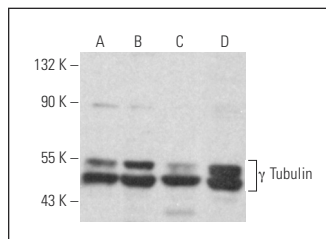
$\gamma$  Tubulin (D-10) is recommended for detection of  $\gamma$  Tubulin of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1,000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500), flow cytometry (1  $\mu$ g per 1 x 10<sup>6</sup> cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

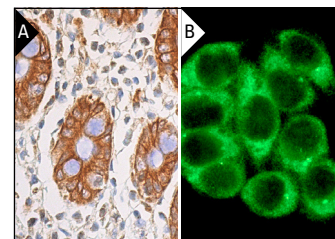
Molecular Weight of  $\gamma$  Tubulin: 50 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, A-431 whole cell lysate: sc-2201 or Hep G2 cell lysate: sc-2227.

## DATA



$\gamma$  Tubulin (D-10): sc-17788. Western blot analysis of  $\gamma$  Tubulin expression in A-431 (A), K-562 (B), U-87 MG (C) and Hep G2 (D) whole cell lysates.



$\gamma$  Tubulin (D-10): sc-17788. Immunoperoxidase staining of formalin fixed, paraffin-embedded human rectum tissue showing cytoplasmic and membrane staining of glandular cells (A).  $\gamma$  Tubulin (D-10) AF488: sc-17788 AF488. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (B).

## SELECT PRODUCT CITATIONS

- Jeong Seo, E., et al. 2004. The role of HPV oncoproteins and cellular factors in maintenance of hTERT expression in cervical carcinoma cells. *Gynecol. Oncol.* 94: 40-47.
- de Nigris, F., et al. 2006. Cooperation between Myc and YY1 provides novel silencing transcriptional targets of  $\alpha 3\beta 1$ -integrin in tumour cells. *Oncogene* 26: 382-394.
- Ohtsubo, C., et al. 2009. Cytoplasmic tethering is involved in synergistic inhibition of p53 by Mdmx and Mdm2. *Cancer Sci.* 100: 1291-1299.
- Tsutsui, T., et al. 2013. Mediator complex recruits epigenetic regulators via its two cyclin-dependent kinase subunits to repress transcription of immune response genes. *J. Biol. Chem.* 288: 20955-20965.
- Lai, F., et al. 2015. Integrator mediates the biogenesis of enhancer RNAs. *Nature* 525: 399-403.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.