

# β Tubulin (aC-18): sc-12841

## 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: TUBB (human) mapping to 6p21.33; Tubb4 (mouse) mapping to 17 D.

## SOURCE

$\beta$  Tubulin (aC-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of  $\beta$  Tubulin of *Arabidopsis thaliana* origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-12841 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

$\beta$  Tubulin (aC-18) is recommended for detection of  $\beta$  Tubulin of *Arabidopsis thaliana*, *Zea mays*, *Pisum sativum*, human and, to a lesser extent, mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

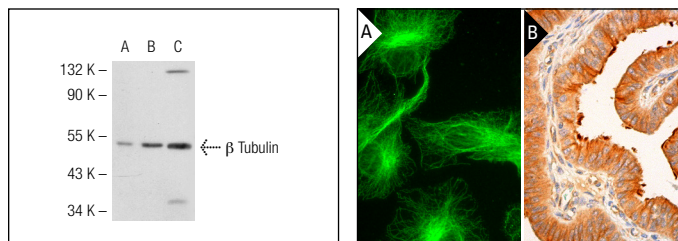
Molecular Weight of  $\beta$  Tubulin: 55 kDa.

Positive Controls:  $\beta$ 2B Tubulin (h): 293T Lysate: sc-116699, K-562 whole cell lysate: sc-2203 or Y79 cell lysate: sc-2240.

## STORAGE

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

## DATA



$\beta$  Tubulin (aC-18): sc-12841. Western blot analysis of  $\beta$ 2B Tubulin expression in non-transfected 293T: sc-117752 (A), human  $\beta$ 2B Tubulin transfected 293T: sc-116699 (B) and K-562 (C) whole cell lysates.

$\beta$  Tubulin (aC-18): sc-12841. Immunofluorescence staining of formalin-fixed HepG2 cells showing cytoskeletal localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human fallopian tube tissue showing cytoplasmic staining of glandular cells (B).

## SELECT PRODUCT CITATIONS

- Kato, Y., et al. 2007. White leaf sectors in yellow variegated2 are formed by viable cells with undifferentiated plastids. *Plant Physiol.* 144: 952-960.
- Fernandez-Sanchez, M.E., et al. 2009. S-adenosyl homocysteine hydrolase is required for Myc-induced mRNA cap methylation, protein synthesis, and cell proliferation. *Mol. Cell. Biol.* 29: 6182-6191.
- Mei, M., et al. 2010. The MLH1 -93 promoter variant influences gene expression. *Cancer Epidemiol.* 34: 93-95.
- Zhou, J., et al. 2011. Real time monitoring of biomaterial-mediated inflammatory responses via macrophage-targeting NIR nanoprobe. *Biomaterials* 32: 9383-9390.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try  **$\beta$  Tubulin (D-10): sc-5274** or  **$\beta$  Tubulin (F-1): sc-166729**, our highly recommended monoclonal alternatives to  $\beta$  Tubulin (aC-18). Also, for AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647 conjugates, see  **$\beta$  Tubulin (D-10): sc-5274**.