

# $\alpha$ 4a Tubulin (MH-17): sc-134241

## 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 gamma-some, 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

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- Leask, A. and Stearns, T. 1998. Expression of amino- and carboxyl-terminal  $\gamma$  and  $\beta$  Tubulin mutants in cultured epithelial cells. *J. Biol. Chem.* 273: 2661-2668.
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- Modig, C., et al. 1999. Identification of  $\beta$ 3 and  $\beta$ 4 Tubulin isoforms in cold-adapted microtubules from Atlantic cod (*Gadus morhua*): antibody mapping and cDNA sequencing. *Cell Motil. Cytoskeleton* 42: 315-330.
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- Chang, P. and Stearns, T. 2000.  $\delta$  Tubulin and  $\epsilon$  Tubulin: two new human centrosomal Tubulins reveal new aspects of centrosome structure and function. *Nat. Cell Biol.* 2: 30-35.

## CHROMOSOMAL LOCATION

Genetic locus: TUBA4A (human) mapping to 2q35; Tuba4a (mouse) mapping to 1 C3.

## SOURCE

$\alpha$ 4a Tubulin (MH-17) is a mouse monoclonal antibody raised against recombinant  $\alpha$ 4a Tubulin protein of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

$\alpha$ 4a Tubulin (MH-17) is recommended for detection of  $\alpha$ 4a Tubulin of mouse, rat and human 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for  $\alpha$ 4a Tubulin siRNA (h): sc-105024,  $\alpha$ 4a Tubulin shRNA Plasmid (h): sc-105024-SH and  $\alpha$ 4a Tubulin shRNA (h) Lentiviral Particles: sc-105024-V.

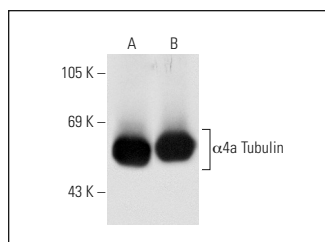
Molecular Weight of  $\alpha$ 4a Tubulin: 50 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or A-431 whole cell lysate: sc-2201.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

## DATA



$\alpha$ 4a Tubulin (MH-17): sc-134241. Western blot analysis of  $\alpha$ 4a Tubulin expression in HeLa (A) and A-431 (B) whole cell lysates.

## SELECT PRODUCT CITATIONS

- Colás-Algora, N., et al. 2019. Compensatory increase of VE-cadherin expression through ETS1 regulates endothelial barrier function in response to TNF $\alpha$ . *Cell. Mol. Life Sci.* 77: 2125-2140.

## STORAGE

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

## RESEARCH USE

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