

# $\beta$ Tubulin (F-1): sc-166729



The Power to Question

## 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.

## SOURCE

$\beta$  Tubulin (F-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 415-440 near the C-terminus of  $\beta$ -Tubulin of *Arabidopsis thaliana* origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>3</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin

$\beta$  Tubulin (F-1) is available conjugated to agarose (sc-166729 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166729 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166729 PE), fluorescein (sc-166729 FITC), Alexa Fluor<sup>®</sup> 488 (sc-166729 AF488), Alexa Fluor<sup>®</sup> 546 (sc-166729 AF546), Alexa Fluor<sup>®</sup> 594 (sc-166729 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-166729 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-166729 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-166729 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-166729 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

$\beta$  Tubulin (F-1) is recommended for detection of  $\beta$  Tubulin of mouse, rat, human, *Arabidopsis thaliana*, *Zea mays* and *Pisum sativum* origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

Positive Controls: HeLa whole cell lysate: sc-2200, K-562 whole cell lysate: sc-2203 or Jurkat whole cell lysate: sc-2204.

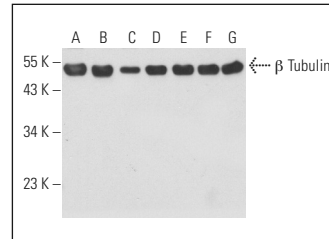
## RESEARCH USE

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

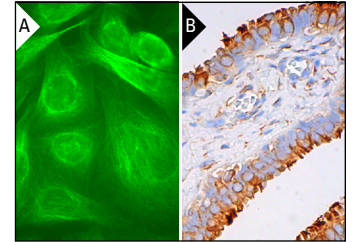
## STORAGE

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

## DATA



$\beta$  Tubulin (F-1): sc-166729. Western blot analysis of  $\beta$  Tubulin expression in K-562 (A), BJAB (B), A-431 (C), HeLa (D), Jurkat (E), NIH/3T3 (F) and KNRK (G) whole cell lysates.



$\beta$  Tubulin (F-1) Alexa Fluor<sup>®</sup> 488: sc-166729 AF488. Direct immunofluorescence staining of formalin-fixed SW480 cells showing cytoskeletal localization. Blocked with UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 (A).  $\beta$  Tubulin (F-1) HRP: sc-166729 HRP. Direct immunoperoxidase staining of formalin fixed, paraffin-embedded human fallopian tube tissue showing cytoplasmic and membrane staining of glandular cells. Blocked with 0.25X UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 (B).

## SELECT PRODUCT CITATIONS

- Wu, Z., et al. 2014. Ubiquitin-conjugating enzyme complex Uev1A-Ubc13 promotes breast cancer metastasis through nuclear factor- $\kappa$ B mediated matrix metalloproteinase-1 gene regulation. *Breast Cancer Res.* 16: R75.
- Bhat, A., et al. 2015. Rev7/Mad2B plays a critical role in the assembly of a functional mitotic spindle. *Cell Cycle* 14: 3929-3938.
- Liu, L., et al. 2016. Salicylic acid receptors activate jasmonic acid signaling through a non-canonical pathway to promote effector-triggered immunity. *Nat. Commun.* 7: 13099.
- Gao, S., et al. 2017. RNF8 negatively regulates NF $\kappa$ B signaling by targeting I $\kappa$ B kinase: implications for the regulation of inflammation signaling. *Biochem. Biophys. Res. Commun.* 488: 189-195.
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- Karvonen, H., et al. 2018. Interaction between ROR1 and MuSK activation complex in myogenic cells. *FEBS Lett.* 592: 434-445.
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- Niu, X., et al. 2019. Rev1 plays central roles in mammalian DNA-damage tolerance in response to UV irradiation. *FEBS J.* 286: 2711-2725.

## PROTOCOLS

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

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