SANTA CRUZ BIOTECHNOLOGY, INC.

β3 Tubulin (3H3091): sc-69966

BACKGROUND

Tubulin is a major cytoskeleton component that has five distinct forms, designated α, β, γ, δ and ε Tubulin. α and β Tubulins form heterodimers which multimerize to form a microtubule filament. Multiple β Tubulin isoforms (β1, β2, β3, β4, β5, β6 and β8) have been characterized and are expressed in mammalian tissues. β1 and β4 are present throughout the cytosol, β2 is present in the nuclei and nucleoplasm, and β3 is a neuron-specific cytoskeletal protein. γ Tubulin forms the gammasome, which is required for nucleating microtubule filaments at the centrosome. Both δ Tubulin and ε Tubulin are associated with the centrosome. δ Tubulin is a homolog of the *Chlamydomonas* δ Tubulin Uni3 and is found in association with the centrioles, whereas ε Tubulin localizes to the pericentriolar material. ε 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.

CHROMOSOMAL LOCATION

Genetic locus: TUBB3 (human) mapping to 16q24.3; Tubb3 (mouse) mapping to 8 E1.

SOURCE

β3 Tubulin (3H3091) is a mouse monoclonal antibody raised against amino acids 441-448 of β3 Tubulin of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

β3 Tubulin (3H3091) is recommended for detection of β3 Tubulin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for β3 Tubulin siRNA (h): sc-105009, β3 Tubulin siRNA (m): sc-108023, β3 Tubulin shRNA Plasmid (h): sc-105009-SH, β3 Tubulin shRNA Plasmid (m): sc-108023-SH, β3 Tubulin shRNA (h) Lentiviral Particles: sc-105009-V and β3 Tubulin shRNA (m) Lentiviral Particles: sc-108023-V.

Molecular Weight of β3 Tubulin: 55 kDa.

Positive Controls: BJAB whole cell lysate: sc-2207.

STORAGE

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

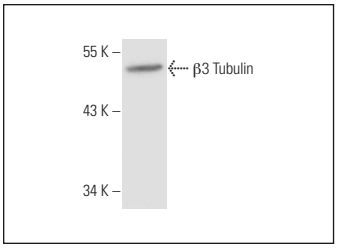
PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

RESEARCH USE

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

DATA



β3 Tubulin (3H3091): sc-69966. Western blot analysis of β3 Tubulin expression in BJAB whole cell lysate.

SELECT PRODUCT CITATIONS

1. Zhou, H., et al. 2008. A human endothelial cell feeder system that efficiently supports the undifferentiated growth of mouse embryonic stem cells. Differentiation 76: 923-930.
2. Ajeawung, N., et al. 2010. An efficient approach to enrich glioma stem cells from glioma cell lines in culture. WebmedCentral. E-published.
3. Osonoi, M., et al. 2011. Fibroblasts have plasticity and potential utility for cell therapy. Hum. Cell 24: 30-34.
4. Gao, M., et al. 2012. Ghrelin promotes the differentiation of human embryonic stem cells in infarcted cardiac microenvironment. Peptides 34: 373-379.
5. Kim, Y., et al. 2015. Antioxidant and anti-inflammatory effects of intravenously injected adipose derived mesenchymal stem cells in dogs with acute spinal cord injury. Stem Cell Res. Ther. 6: 229.
6. Lee, H.J., et al. 2017. BNIP3 induction by hypoxia stimulates FASN-dependent free fatty acid production enhancing therapeutic potential of umbilical cord blood-derived human mesenchymal stem cells. Redox Biol. 13: 426-443.
7. Khan, I.U., et al. 2018. Improved healing after the co-transplantation of HO-1 and BDNF overexpressed mesenchymal stem cells in the subacute spinal cord injury of dogs. Cell Transplant. 27: 1140-1153.
8. Li, S., et al. 2019. ERp57-small interfering RNA silencing can enhance the sensitivity of drug-resistant human ovarian cancer cells to paclitaxel. Int. J. Oncol. 54: 249-260.
9. Colapietro, A., et al. 2020. The botanical drug PBI-05204, a supercritical CO_2 extract of nerium oleander, inhibits growth of human glioblastoma, reduces Akt/mTOR activities, and modulates GSC cell-renewal properties. Front. Pharmacol. 11: 552428.