SANTA CRUZ BIOTECHNOLOGY, INC.

β3 Tubulin (AA10): sc-80016

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 (AA10) is a mouse monoclonal antibody raised against amino acids 436-450 of β3 Tubulin of rat origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

β3 Tubulin (AA10) is available conjugated to agarose (sc-80016 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-80016 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-80016 PE), fluorescein (sc-80016 FITC), Alexa Fluor® 488 (sc-80016 AF488), Alexa Fluor® 546 (sc-80016 AF546), Alexa Fluor® 594 (sc-80016 AF594) or Alexa Fluor® 647 (sc-80016 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-80016 AF680) or Alexa Fluor® 790 (sc-80016 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

β3 Tubulin (AA10) 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)] and immunofluorescence (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.

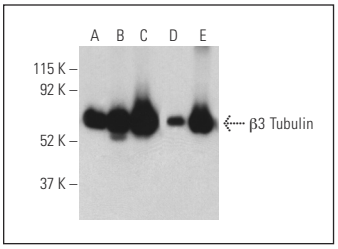
Molecular Weight of β3 Tubulin: 55 kDa.

Positive Controls: BJAB whole cell lysate: sc-2207, PC-12 cell lysate: sc-2250 or F9 cell lysate: sc-2245.

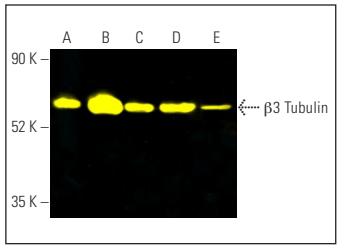
STORAGE

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

DATA



β3 Tubulin (AA10): sc-80016. Western blot analysis of β3 Tubulin expression in BJAB (**A**), A2058 (**B**), SK-N-SH (**C**), K-562 (**D**) and F9 (**E**) whole cell lysates. Detection reagent used: m-IgG_{2a} BP-HRP: sc-542731.



β3 Tubulin (AA10): sc-80016. Fluorescent western blot analysis of β3 Tubulin expression in A2058 (**A**), SK-N-SH (**B**), BJAB (**C**), F9 (**D**) and PC-12 (**E**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgG_{2a} BP-CFL 488: sc-542735.

SELECT PRODUCT CITATIONS

1. Yu, H., et al. 2011. Lentiviral gene transfer into the dorsal root ganglion of adult rats. Mol. Pain 7: 63.
2. Al-Sharabi, N., et al. 2014. Bone marrow stromal cell paracrine factors direct osteo/odontogenic differentiation of dental pulp cells. Tissue Eng. Part A 20: 3063-3072.
3. Bangaru, M.L., et al. 2015. Differential expression of CaMKII isoforms and overall kinase activity in rat dorsal root ganglia after injury. Neuroscience 300: 116-127.
4. Wang, F., et al. 2016. HMG-CoA synthase isoenzymes 1 and 2 localize to satellite glial cells in dorsal root ganglia and are differentially regulated by peripheral nerve injury. Brain Res. 1652: 62-70.
5. Yang, Y., et al. 2017. Derivation of pluripotent stem cells with *in vivo* embryonic and extraembryonic potency. Cell 169: 243-257.e25.
6. Xiang, H., et al. 2018. Glial fibrillary acidic protein promoter determines transgene expression in satellite glial cells following intraganglionic adeno-associated virus delivery in adult rats. J. Neurosci. Res. 96: 436-448.
7. Saba, J., et al. 2019. Melanocortin 4 receptor activation protects striatal neurons and glial cells from 3-nitropropionic acid toxicity. Mol. Cell. Neurosci. 94: 41-51.
8. Cornejo, V.H., et al. 2020. Non-conventional axonal oganelles control TRPM8 ion channel trafficking and peripheral cold sensing. Cell Rep. 30: 4505-4517.e5.
9. Li, C., et al. 2021. Comprehensive profiling reveals distinct microenvironment and metabolism characterization of lung adenocarcinoma. Front. Genet. 12: 619821.

RESEARCH USE

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