Anti-Beta-Tubulin III Antibody, Clone TUJ1

Antibodies

Mouse monoclonal IgG2a antibody against human, mouse, rat beta-tubulin III, unconjugated

Catalog #60052

250 µL 1 mg/mL

STEMCELL™ TECHNOLOGIES
Scientists Helping Scientists™ | WWW.STEMCELL.COM
TOLL FREE PHONE 1 800 667 0322 • PHONE +1 604 877 0713
INFO@STEMCELL.COM • TECHSUPPORT@STEMCELL.COM
FOR GLOBAL CONTACT DETAILS VISIT OUR WEBSITE

Product Description

The TUJ1 antibody reacts with beta-tubulin III, an ~50 - 55 kDa structural protein that is a component of tubulin. Tubulin is the major component of microtubules within the cytoskeleton and is assembled from heterodimers of alpha and beta tubulin subunits. The beta III isoform of tubulin, also known as neuron-specific class III beta-tubulin, is expressed primarily in neurons and is widely used as a marker to distinguish neurons from other cell types. Beta-tubulin III contributes to microtubule formation in neuronal cell bodies and axons, a function involving GTP binding, and plays roles in axonal transport, neuronal cell proliferation, and differentiation. It is highly expressed in several types of cancer and is a predictive and prognostic marker for various tumors, for example, being found in neoplastic but not in normal glial cells. The TUJ1 antibody is expected to recognize all mammalian homologs of beta-tubulin III and the epitope has reportedly been mapped to the C-terminal 15 amino acids of the protein.

Target Antigen Name:	Beta-Tubulin III
Alternative Names:	CDCBM, CDCBM1, CFEOM3, CFEOM3A, Class III beta-tubulin, FEOM3, TUBB4, Tubulin beta-3 chain, Tubulin beta-III, Tubulin beta-4 chain
Gene ID:	10381
Species Reactivity:	Human, Mouse, Rat, Other mammals
Host Species:	Mouse
Clonality:	Monoclonal
Clone:	TUJ1
Isotype:	IgG2a, kappa
Immunogen:	Rat brain microtubules
Conjugate:	Unconjugated

Applications

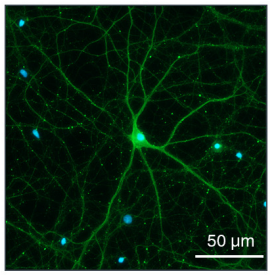
Verified:	ICC, IF
Reported:	FC, ICC, IF, IHC, Immunoaffinity Chromatography, IP, WB

Abbreviations: CellSep: Cell separation; ChIP: Chromatin immunoprecipitation; FA: Functional assay; FACS: Fluorescence-activated cell sorting; FC: Flow cytometry; ICC: Immunocytochemistry; IF: Immunofluorescence microscopy; IHC: Immunohistochemistry; IP: Immunoprecipitation; RIA: Radioimmunoassay; WB: Western blotting

Properties

Formulation:	Phosphate-buffered solution containing 0.03% Thimerosal
Purification:	The antibody was purified by affinity chromatography.
Stability and Storage:	Product stable at 2 - 8°C when stored undiluted. Do not freeze. For product expiry date, please contact techsupport@stemcell.com.
Directions for Use:	The suggested use of this antibody is: ICC, 1:1000 - 1:5000 dilution; IHC, 1:500 - 1:5000 dilution; WB, 1:1000 dilution. It is recommended that the antibody be titrated for optimal performance for each application. For further instructions on how to use this antibody, refer to the Technical Manual: In Vitro Proliferation and Differentiation of Human Neural Stem and Progenitor Cells Using NeuroCult™ or NeuroCult™-XF (Document #28724) available at www.stemcell.com.

Data



E18 cortical rat neurons were cultured using NeuroCult™ SM1 Neuronal Culture Kit (Catalog #05712) on poly-L-ornithine and laminin-coated glass coverslips, then fixed and labeled with Anti-Beta-Tubulin III Antibody, Clone TUJ1, followed by donkey anti-mouse IgG, Alexa Fluor® 488, and counterstained with DAPI.

Related Products

For a complete list of antibodies, including other conjugates, sizes and clones, as well as related products available from STEMCELL Technologies, please visit our website at www.stemcell.com/antibodies or contact us at techsupport@stemcell.com.

References

1. Zhang Q-J et al. (2017) Modeling the phenotype of spinal muscular atrophy by the direct conversion of human fibroblasts to motor neurons. Oncotarget 8(7): 10945–53. (ICC, IF)
2. Nakagomi T et al. (2015) Brain vascular pericytes following ischemia have multipotential stem cell activity to differentiate into neural and vascular lineage cells. Stem Cells 33(6): 1962–74. (ICC, IF, IHC, WB)
3. Hagelkruys A et al. (2014) A single allele of Hdac2 but not Hdac1 is sufficient for normal mouse brain development in the absence of its paralog. Development 141(3): 604–16.(IHC, WB)
4. Li Y et al. (2014) Topoisomerase IIbeta is required for proper retinal development and survival of postmitotic cells. Biol Open 3(2): 172–84. (ICC, IF)
5. Wang L et al. (2014) A conserved axon type hierarchy governing peripheral nerve assembly. Development 141(9): 1875–83. (IHC)
6. Amoroso MW et al. (2013) Accelerated high-yield generation of limb-innervating motor neurons from human stem cells. J Neurosci 33(2): 574–86. (ICC, IF)
7. Turaç G et al. (2013) Combined flow cytometric analysis of surface and intracellular antigens reveals surface molecule markers of human neuropoiesis. PLoS One 8(6): e68519. (FC)
8. Zonis S et al. (2013) P21Cip restrains hippocampal neurogenesis and protects neuronal progenitors from apoptosis during acute systemic inflammation. Hippocampus 23(12): 1383–94. (ICC, IF, IHC)
9. Lorthongpanich C et al. (2008) Chemical enhancement in embryo development and stem cell derivation from single blastomeres. Cloning Stem Cells 10(4): 503–12. (ICC, IF)
10. Goodwin HS et al. (2001) Multilineage differentiation activity by cells isolated from umbilical cord blood: expression of bone, fat, and neural markers. Biol Blood Marrow Transplant 7(11): 581–8. (ICC, IF, WB)
11. Lee MK et al. (1990) Posttranslational modification of class III beta-tubulin. Proc Natl Acad Sci USA 87(18): 7195–9. (Immunoaffinity Chromatography, WB)