Alexa Fluor® 594 anti-Tubulin Beta 3 (TUBB3) Antibody

Catalog# / Size	657408 / 100 µg
Clone	AA10
Regulatory Status	RUO
Other Names	β-3 Tubulin, Neuronal class III beta-tubulin, β3-tub
Isotype	Mouse IgG2a, κ
Description	Tubulin is the main component of microtubules. In adults, tubulin beta 3 (TUBB3) is primarily expressed in neurons and is commonly used as a neuronal marker. It plays an important role in neuronal cell proliferation and differentiation. Mutations in this gene cause congenital fibrosis of the type 3 extraocular muscles. Tubulin beta 3 (TUBB3) is also found in a wide range of tumors. Studies indicate that it is a predictive and prognostic marker in various tumors.

Product Details

Verified Reactivity	Mouse, Rat, Human
Antibody Type	Monoclonal
Host Species	Mouse
Immunogen	Fusion protein
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide.
Preparation	The antibody was purified by affinity chromatography and conjugated with Alexa Fluor® 594 under optimal conditions.
Concentration	0.5 mg/mL
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. **Do not freeze.**
Application	ICC - *Quality tested* IHC-F, IHC-P, 3D IHC - *Verified*
Recommended Usage	Each lot of this antibody is quality control tested by immunofluorescence staining. For immunocytochemistry microscopy, a concentration range of 2.5 - 5.0 µg/mL is recommended. For immunohistochemical staining on frozen tissue sections, the suggested use is 0.6 - 5 µg/mL. For immunohistochemical staining on formalin-fixed paraffin-embedded tissue sections, the suggested use of this reagent is 5.0 - 10 µg per mL. It is recommended that the reagent be titrated for optimal performance for each application. * Alexa Fluor® 594 has an excitation maximum of 590 nm, and a maximum emission of 617 nm. Alexa Fluor® and Pacific Blue™ are trademarks of Life Technologies Corporation. View full statement regarding label licenses
Application Notes	Additional reported application (for relevant formats) include: spatial biology (IBEX)[1,2].
Application References **(PubMed link indicates BioLegend citation)**	1. Radtke AJ, *et al.* 2020. *Proc Natl Acad Sci U S A.* 117:33455-65. (SB) PubMed 2. Radtke AJ, *et al.* 2022. *Nat Protoc.* 17:378-401. (SB) PubMed
Product Citations	1. Albanese A, *et al.* 2020. Sci Rep. 10:21487. PubMed
RRID	AB_2565285 (BioLegend Cat. No. 657408)

Antigen Details

Structure	450 amino acids with predicted molecular weight of 50 kD
Distribution	Cytosol
Function	Plays important roles in neuronal cell proliferation and differentiation
Interaction	Alpha tubulin, kinesin and dynein
Cell Type	Mature Neurons
Biology Area	Cell Biology, Cell Cycle/DNA Replication, Cell Motility/Cytoskeleton/Structure, Immunology, Neuroscience, Neuroscience Cell Markers
Molecular Family	Microtubules
Antigen References	1. Katsetos CD, *et al.* 2003. *J. Child Neurol.* 18:851. 2. Mobarakeh ZT, *et al.* 2012. *Cell Biol. Int. Rep. (2010)* 19:e00015. 3. Locher H, *et al.* 2013. *Differentiation.* 85:173. 4. Karki R, *et al.* 2013. *Expert Opin. Ther. Targets.* 17:461. 5. Mariani M, *et al.* 2011. *Curr. Mol. Med.* 11:726. 6. Koh Y, *et al.* 2009. *Ann. Oncol.* 20:1414.
Gene ID	10381

Related Protocols

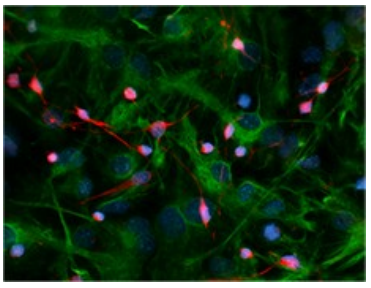
Immunohistochemistry Protocol for Frozen Sections

Immunocytochemistry Staining Protocol

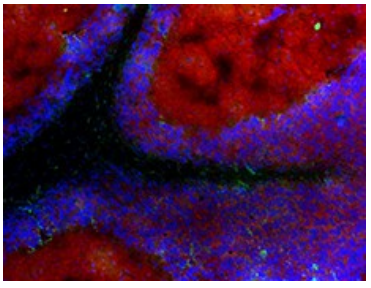
Other Formats

Purified anti-Tubulin Beta 3 (TUBB3), Alexa Fluor® 488 anti-Tubulin Beta 3 (TUBB3), Alexa Fluor® 647 anti-Tubulin Beta 3 (TUBB3), Alexa Fluor® 594 anti-Tubulin Beta 3 (TUBB3), Direct-Blot™ HRP anti-Tubulin Beta 3 (TUBB3), Brilliant Violet 421™ anti-Tubulin Beta 3 (TUBB3)

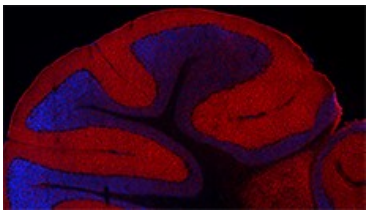
Product Data



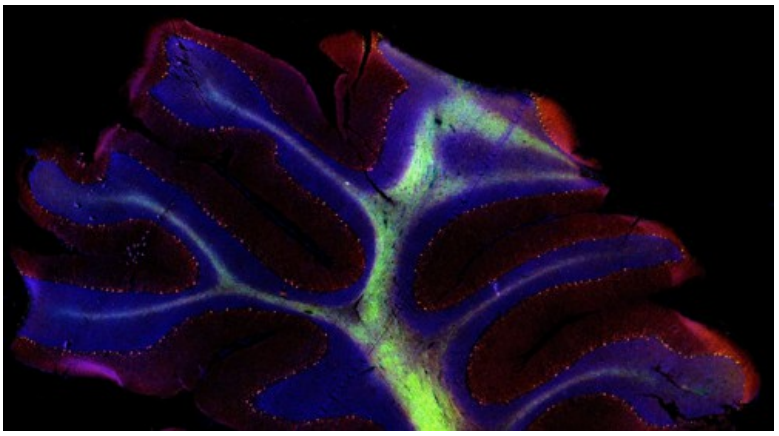
Day-three cultured postnatal C57BL/6 mouse brain cells were fixed with 1% paraformaldehyde (PFA) for ten minutes, permeabilized with 0.5 % Triton X-100 for ten minutes, and blocked with 5% FBS for 30 minutes. Then the cells were stained with 5 µg/mL of Alexa Fluor® 594 anti-Tubulin Beta 3 (TUBB3) (Clone AA10) (shown in red) in blocking buffer, overnight at 4°C, followed by staining with GFAP (shown in green) at room temperature for two hours. Nuclei were counterstained with DAPI (blue). The image was captured with 40X objective.



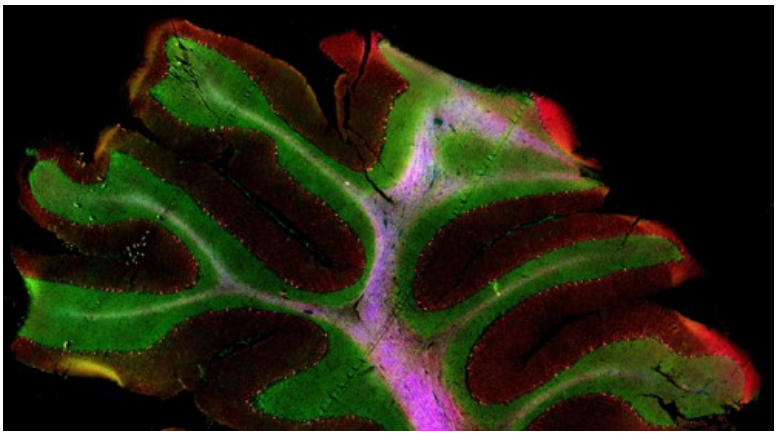
C57BL/6 mouse frozen brain tissue was fixed with 4% paraformaldehyde (PFA) for ten minutes, permeabilized with 0.5 % Triton X-100 for ten minutes, and blocked with 5% FBS for 1 hour. Then the tissue was stained with 1.25 µg/mL of Alexa Fluor® 594 anti-Tubulin Beta 3 (TUBB3) (Clone AA10) (shown in red) and 5 µg/mL of Alexa Fluor® 488 anti-GFAP (Clone 2E1.E9) (shown in green) in blocking buffer, overnight at 4°C. Nuclei were counterstained with DAPI (blue). The image was captured with 10X objective.



C57BL/6 mouse frozen brain tissue was fixed with 4% paraformaldehyde (PFA) for ten minutes, permeabilized with 0.5 % Triton X-100 for ten minutes, and blocked with 5% FBS for 30 minutes. Then the tissue was stained with 1.25 µg/mL of Alexa Fluor® 594 anti-Tubulin Beta 3 (TUBB3) (Clone AA10) (red) in blocking buffer, overnight at 4°C. Nuclei were counterstained with DAPI (blue). The image was captured with 10X objective.



Human paraffin-embedded cerebellum tissue slices were prepared with a standard protocol of deparaffinization and rehydration. Antigen retrieval was done with Citrate Buffered 1X (1.0M, pH6.0) at 95°C for 40 minutes. Tissue was washed with PBS/0.05% Tween 20 twice for five minutes and blocked with 5% FBS and 0.2% gelatin for 30 minutes. Then, the tissue was stained with 10 µg/mL of Alexa Fluor® 647 anti-GFAP Antibody (Clone 2E1.E9, green) and Alexa Fluor® 594 anti-Tubulin Beta 3 (TUBB3) Antibody (Clone AA10, red) antibody overnight at 4°C. Nuclei were counterstained with DAPI (blue). The image was scanned with a 10X objective and stitched with MetaMorph® software.



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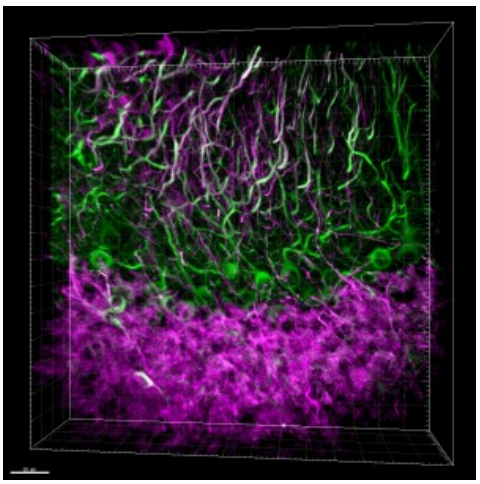

Formalin-fixed, 300 micron-thick mouse brain (cerebellum) section was blocked, permeabilized and stained overnight with Tubulin Beta 3 (TUBB3)(clone AA10) Alexa Fluor® 594 (green) and MAP2 (clone SMI 52) Alexa Fluor® 647 (magenta) both at 5 µg/mL, optically cleared, and analyzed on a confocal microscope. Watch the video.

BioLegend Inc., 8999 BioLegend Way, San Diego, CA 92121 www.biolegend.com
Toll-Free Phone: 1-877-Bio-Legend (246-5343) Phone: (858) 768-5800 Fax: (877) 455-9587