

## PE/Cyanine7 anti-Tubulin $\beta$ 3 (TUBB3) Antibody

<b>Catalog# / Size</b>	801217 / 25 tests 801218 / 100 tests
<b>Clone</b>	TUJ1
<b>Regulatory Status</b>	RUO
<b>Other Names</b>	CDCBM, CDCBM1, CFEOM3, CFEOM3A, FEOM3, TUBB4, Tubulin beta-3 chain, tubulin beta-III, tubulin beta-4 chain, class III beta-tubulin
<b>Isotype</b>	Mouse IgG2a, $\kappa$
<b>Description</b>	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

<b>Verified Reactivity</b>	Human, Mouse, Rat
<b>Antibody Type</b>	Monoclonal
<b>Host Species</b>	Mouse
<b>Immunogen</b>	This antibody was raised against microtubules derived from rat brain.
<b>Formulation</b>	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and BSA (origin USA)
<b>Preparation</b>	The antibody was purified by affinity chromatography and conjugated with PE/Cyanine7 under optimal conditions.
<b>Concentration</b>	Lot-specific (to obtain lot-specific concentration, please enter the lot number in our <a href="#">Concentration and Expiration Lookup</a> or <a href="#">Certificate of Analysis</a> online tools.)
<b>Storage &amp; Handling</b>	The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. <b>Do not freeze.</b>
<b>Application</b>	<a href="#">ICFC - Quality tested</a>
<b>Recommended Usage</b>	Each lot of this antibody is quality control tested by <a href="#">intracellular immunofluorescent staining with flow cytometric analysis</a> . For flow cytometric staining, the suggested use of this reagent is 5 $\mu$ L per million cells in 100 $\mu$ L staining volume or 5 $\mu$ L per 100 $\mu$ L of whole blood. It is recommended that the reagent be titrated for optimal performance for each application.
<b>Excitation Laser</b>	Blue Laser (488 nm) Green Laser (532 nm)/Yellow-Green Laser (561 nm)
<b>Application Notes</b>	Additional reported applications (for the relevant formats) include: flow cytometry <sup>4</sup> , immunofluorescence microscopy <sup>1-5,7</sup> , immunohistochemistry <sup>5,7</sup> , Western blotting <sup>8</sup> , and spatial biology (IBEX) <sup>9,10</sup> .  This antibody is well characterized and highly reactive to neuron specific Class III $\beta$ -tubulin ( $\beta$ III). TUJ1 does not identify $\beta$ -tubulin found in glial cells. TUJ1 recognizes an epitope located within the last 15 C-terminal residues <sup>8</sup> .
<b>Application References</b>	<ol style="list-style-type: none"> <li>Nishimura K, <i>et al.</i> 2017. <i>PLoS One</i>. 12(1): e0170568. <b>(ICC)</b></li> <li>Jongbloets J, <i>et al.</i> 2017. <i>Nat Commun</i>. 8: 14666. <b>(ICC)</b> <a href="#">PubMed</a></li> <li>Liu W.J, <i>et al.</i> 2015. <i>Eur J Histochem</i>. 59(1): 2464. <b>(ICC)</b> <a href="#">PubMed</a></li> <li>Chintalapudi SR, <i>et al.</i> 2016. <i>Front Aging Neurosci</i>. 8:93. <b>(FC, ICC)</b> <a href="#">PubMed</a></li> <li>Ambasudhan R, <i>et al.</i> 2011. <i>Cell Stem Cell</i>. 9(2):113. <b>(IHC, ICC)</b></li> <li>Hu X, <i>et al.</i> 2006. <i>Nature Neurosci</i>. 9(12):1520. <b>(WB)</b> <a href="#">PubMed</a></li> <li>Zechner D., <i>et al.</i> 2003. <i>Develop Biol</i>. 258(2):406. <b>(ICC, IHC)</b></li> <li>Lee MK, <i>et al.</i> 1990. <i>Proc. Natl. Acad. Sci. USA</i> 18:7195. <b>(WB)</b></li> </ol>
<b>(PubMed link indicates BioLegend citation)</b>	

9. Radtke AJ, *et al.* 2020. *Proc Natl Acad Sci USA*. 117:33455-33465. (SB) [PubMed](#)  
10. Radtke AJ, *et al.* 2022. *Nat Protoc*. 17:378-401. (SB) [PubMed](#)

**RRID** AB\_2876747 (BioLegend Cat. No. 801217)  
AB\_2876747 (BioLegend Cat. No. 801218)

## Antigen Details

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<b>Structure</b>	Tubulin $\beta$ 3 is a 450 amino acid protein with a molecular mass of ~50 kD.
<b>Distribution</b>	Tissue distribution: central and peripheral nervous system. Cellular distribution: cytosol, cytoskeleton and nucleus.
<b>Function</b>	Tubulin $\beta$ 3 is the major constituent of microtubules, and plays a critical role in proper axon guidance and maintenance.
<b>Interaction</b>	Alpha tubulin, kinesin and dynein.
<b>Cell Type</b>	Mature Neurons, Neural Stem Cells
<b>Biology Area</b>	Cell Biology, Neuroscience, Neuroscience Cell Markers, Stem Cells
<b>Molecular Family</b>	Microtubules
<b>Antigen References</b>	1. Zhao X, <i>et al.</i> 2017. <i>Med Sci Monit</i> . 22: 3915. 2. Lebok P, <i>et al.</i> 2016. <i>Oncol Lett</i> . 11(3):1987. 3. Du J, <i>et al.</i> 2015. <i>BMC Cancer</i> . 15:536. <a href="#">PubMed</a> 4. Rogue DM., <i>et al.</i> 2013. <i>Clin Exp Metastasis</i> . 31(1): 101. 5. Ploussard G, <i>et al.</i> 2010. <i>Cancer Res</i> . 70(22):9253. <a href="#">PubMed</a>
<b>Gene ID</b>	<a href="#">10381</a>

## Related Protocols

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[Immunocytochemistry Staining Protocol](#)

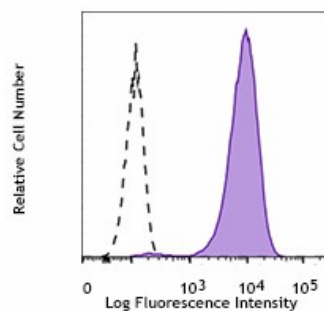
## Other Formats

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Alexa Fluor® 488 anti-Tubulin  $\beta$  3 (TUBB3), Purified anti-Tubulin  $\beta$  3 (TUBB3), Alexa Fluor® 594 anti-Tubulin  $\beta$  3 (TUBB3), Alexa Fluor® 647 anti-Tubulin  $\beta$  3 (TUBB3), HRP anti-Tubulin  $\beta$  3 (TUBB3), Biotin anti-Tubulin  $\beta$  3 (TUBB3), APC anti-Tubulin  $\beta$  3 (TUBB3), PE/Cyanine7 anti-Tubulin  $\beta$  3 (TUBB3), PerCP/Cyanine5.5 anti-Tubulin  $\beta$  3 (TUBB3), PE anti-Tubulin  $\beta$  3 (TUBB3)

## Product Data

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Human lung adenocarcinoma cell line A549 was treated with Fixation Buffer (Cat No. 420801) and Intracellular Staining Permeabilization Wash Buffer (Cat No. 421002), and then stained with anti-Tubulin  $\beta$  3 (TUBB3) (clone TUJ1) PE/Cyanine7 (filled histogram) or mouse IgG2a,  $\kappa$  PE/Cyanine7 isotype control (open histogram).

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