

## PerCP/Cyanine5.5 anti-Tubulin $\beta$ 3 (TUBB3) Antibody

<b>Catalog# / Size</b>	801215 / 25 tests 801216 / 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 PerCP/Cyanine5.5 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.  * PerCP/Cyanine5.5 has a maximum absorption of 482 nm and a maximum emission of 690 nm.
<b>Excitation Laser</b>	Blue Laser (488 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 Biology</i>. 258(2):406. <b>(ICC, IHC)</b></li> </ol>
<b>(PubMed link indicates BioLegend citation)</b>	

8. Lee MK, *et al.* 1990. *Proc. Natl. Acad. Sci. USA* 18:7195. (WB)
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](#)

## Product Citations

1. Chen D, *et al.* 2022. *J Neuroinflammation.* 19:112. [PubMed](#)

## RRID

AB\_2876746 (BioLegend Cat. No. 801215)  
 AB\_2876746 (BioLegend Cat. No. 801216)

## Antigen Details

<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>	<ol style="list-style-type: none"> <li>1. Zhao X, <i>et al.</i> 2017. <i>Med Sci Monit.</i> 22: 3915.</li> <li>2. Lebok P, <i>et al.</i> 2016. <i>Oncol Lett.</i> 11(3):1987.</li> <li>3. Du J, <i>et al.</i> 2015. <i>BMC Cancer.</i> 15:536. <a href="#">PubMed</a></li> <li>4. Rogue DM., <i>et al.</i> 2013. <i>Clin Exp Metastasis.</i> 31(1): 101.</li> <li>5. Ploussard G, <i>et al.</i> 2010. <i>Cancer Res.</i> 70(22):9253. <a href="#">PubMed</a></li> </ol>
<b>Gene ID</b>	<a href="#">10381</a>

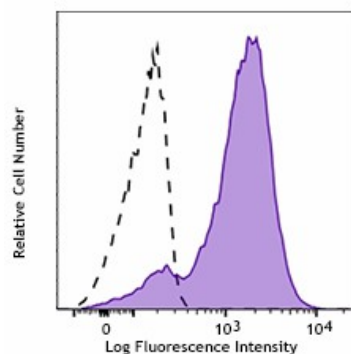
## Related Protocols

[Intracellular Flow Cytometry Staining Protocol](#)

## Other Formats

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



Human lung adenocarcinoma cell line A549 was treated with Fixation Buffer (Cat. No. 420801) and Permeabilization Wash Buffer (Cat. No. 421002), and then stained with TUBB3 (clone TUJ1) PerCP/Cyanine5.5 (filled histogram) or mouse IgG2a,  $\kappa$  PerCP/Cyanine5.5 isotype control (open histogram).

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