

## Pacific Blue™ anti-human FOXP3 Antibody

<b>Catalog# / Size</b>	320215 / 25 tests 320216 / 100 tests
<b>Clone</b>	259D
<b>Regulatory Status</b>	RUO
<b>Other Names</b>	Forkhead box protein P3, Scurfin, JM2, IPEX, Zinc finger protein JM2
<b>Isotype</b>	Mouse IgG1, κ
<b>Description</b>	FOXP3 is a 50-55 kD transcription factor, also known as Forkhead box protein P3, Scurfin, JM2, or IPEX. It is proposed to be a master regulatory gene and more specific marker of T regulatory cells than most cell surface markers (such as CD4 and CD25). Transduced expression of FOXP3 in CD4 <sup>+</sup> /CD25 <sup>-</sup> cells has been shown to induce GITR, CD103, and CTLA4 and impart a T regulatory cell phenotype. FOXP3 is mutated in X-linked autoimmunity-allergic dysregulation syndrome (XLAAD or IPEX) in humans and in "scurfy" mice. Overexpression of FOXP3 has been shown to lead to a hypoactive immune state suggesting that this transcriptional factor is a central regulator of T cell activity. In human, unlike in mouse, two isoforms of FOXP3 have been reported: one (FOXP3) corresponding to the canonical full-length sequence; the other (FOXP3 δ2) lacking exon 2. The 259D antibody recognizes human FOXP3 epitope in the region of amino acids 105-235.

### Product Details

<b>Verified Reactivity</b>	Human
<b>Reported Reactivity</b>	Cynomolgus, Rhesus, Baboon, Chimpanzee
<b>Antibody Type</b>	Monoclonal
<b>Host Species</b>	Mouse
<b>Immunogen</b>	Full-length FOXP3 protein
<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 Pacific Blue™ 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 intracellular flow cytometry using our <a href="#">True-Nuclear™ Transcription Factor Staining Protocol</a> . For flow cytometric staining, the suggested use of this reagent is ≤ 1.0 µg per 10 <sup>6</sup> cells in 100 µl volume. It is highly recommended that the reagent be titrated for optimal performance for each application.  * Pacific Blue™ has a maximum emission of 455 nm when it is excited at 405 nm.  Alexa Fluor® and Pacific Blue™ are trademarks of Life Technologies Corporation.  <a href="#">View full statement regarding label licenses</a>
<b>Excitation Laser</b>	Violet Laser (405 nm)
<b>Application Notes</b>	Additional reported applications (for the relevant formats) include: Western blotting <sup>1</sup> , and immunohistochemical staining <sup>1</sup> of acetone-fixed frozen sections and formalin-fixed paraffin-embedded sections. The 259D antibody gives strong positivity on paraffin and frozen sections and the antibody stains some epithelial cells. The binding of 206D to FOXP3 can be partially blocked by 259D, but 206D does not show significant blocking effect on 259D binding.

**NOTE:** For flow cytometric staining with this clone, True-Nuclear™ Transcription Factor Buffer Set (Cat. No. [424401](#)) offers improved staining and is highly recommended.

## Application References

(PubMed link indicates BioLegend citation)

1. Roncador G, *et al.* 2005 *Eur. J. Immunol.* 35:1681.
2. Yang ZZ, *et al.* 2006. *Blood* 107:3639. [PubMed](#)
3. Gavin MA, *et al.* 2006. *P. Natl. Acad. Sci. USA* 103:6659. [PubMed](#)
4. Groh V, *et al.* 2006. *Nature Immunology* 7:755. [PubMed](#)
5. Tran DQ, *et al.* 2007. *Blood* doi:10.1182/blood-2007-06-094656. [PubMed](#)
6. Long SA, *et al.* 2008. *J Autoimmun.* 30:293. [PubMed](#)
7. Gong G, *et al.* 2009. *Blood* 113:837. [PubMed](#)
8. Long SA, *et al.* 2009. *Eur J. Immunol.* 39:612. [PubMed](#)
9. Long SA, *et al.* 2010. *Diabetes.* 59:407. [PubMed](#)
10. Ferraro A, *et al.* 2014. *PNAS.* 111:1111. [PubMed](#)
11. Vudattu NK, *et al.* 2014. *J Immunol.* 193:587. [PubMed](#)
12. Dupont G, *et al.* 2014. *Cytokine.* 69:146. [PubMed](#)

## Product Citations

1. Cignarella F *et al.* 2018. *Cell metabolism.* 27(6):1222-1235 . [PubMed](#)
2. Sara Ricciardi *et al.* 2018. *Cell metabolism.* 28(6):895-906 . [PubMed](#)
3. Ickrath P, *et al.* 2019. *Biomed Rep.* 10:119. [PubMed](#)
4. Salvany-Celades M *et al.* 2019. *Cell Rep.* 27(9):2537-2547 . [PubMed](#)
5. Ickrath P, *et al.* 2018. *Int J Mol Med.* 42:1116. [PubMed](#)
6. Dai B, *et al.* 2021. *Cell Reports Medicine.* 2(8):100381. [PubMed](#)

## RRID

AB\_940354 (BioLegend Cat. No. 320215)  
AB\_2104902 (BioLegend Cat. No. 320216)

## Antigen Details

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<b>Structure</b>	Forkhead/winged-helix transcription factor family, approximately 50 kD, contains zinc finger and forkhead domains
<b>Distribution</b>	Nuclear; expressed in T regulatory cells
<b>Function</b>	Transcription factor proposed to be a master regulatory gene in T regulatory cell development and a critical factor for immune homeostasis
<b>Interaction</b>	Interacts with DNA
<b>Cell Type</b>	Tregs
<b>Biology Area</b>	Cell Biology, Immunology, Transcription Factors
<b>Molecular Family</b>	Nuclear Markers
<b>Antigen References</b>	1. Hori S, <i>et al.</i> 2003. <i>Science</i> 299:1057.
<b>Regulation</b>	FOXP3 is present at high levels in T regulatory cell can also be induced by T cell activation
<b>Gene ID</b>	<a href="#">50943</a>

## Related Protocols

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[True-Nuclear™ Transcription Factor Staining Protocol for 96-Well U Bottom Plate](#)

[True-Nuclear™ Transcription Factor Staining Protocol for 5mL Tubes](#)

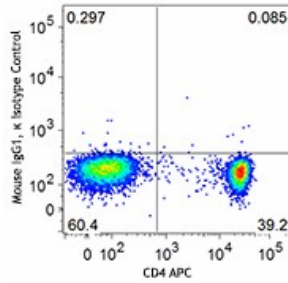
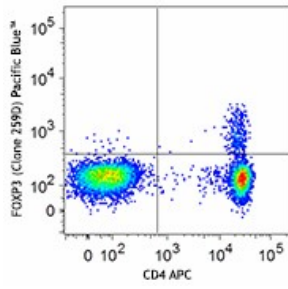
## Other Formats

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PE anti-human FOXP3, Purified anti-human FOXP3, Alexa Fluor® 488 anti-human FOXP3, Alexa Fluor® 647 anti-human FOXP3, Pacific Blue™ anti-human FOXP3, True-Nuclear™ Human Treg Flow™ Kit (FOXP3 Alexa Fluor® 488/CD4 PE-Cy5/CD25 PE)

## Product Data

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Human peripheral blood lymphocytes were surface stained with CD4 APC and then treated with True-Nuclear™ Transcription Factor Buffer Set. Cells were then stained with FOXP3 (clone 259D) Pacific Blue™ (top) or mouse IgG1, κ Pacific Blue™ isotype control (bottom).

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