

Pacific Blue™ anti-T-bet Antibody

Catalog# / Size	644807 / 25 µg 644808 / 100 µg
Clone	4B10
Regulatory Status	RUO
Other Names	T-box expressed in T cells, T box 21, TBLYM
Isotype	Mouse IgG1, κ
Description	T-bet, also known as T-box transcription factor T-bet, is considered to be a "master regulator" of Th1 lymphoid development controlling the production of the cytokine IFN-γ. T-bet is widely expressed in hematopoietic cells including stem cells, NK cells, B cells, and T cells. T-bet is critical for the control of microbial pathogens, and knockout animals show multiple physiologic and inflammatory features characteristic of asthma. T-bet expression is optimally observed after IL-12 stimulation and can be suppressed by addition of the Th2 cytokine IL-4 or neutralization of IL-12.

Product Details

Verified Reactivity	Human, Mouse
Antibody Type	Monoclonal
Host Species	Mouse
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide.
Preparation	The antibody was purified by affinity chromatography, and conjugated with Pacific Blue™ under optimal conditions.
Concentration	0.5 mg/ml
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C.
Application	ICFC - Quality tested
Recommended Usage	<p>Each lot of this antibody is quality control tested by intracellular immunofluorescent staining using our True-Nuclear™ Transcription Factor Staining Protocol. For flow cytometric staining, the suggested use of this reagent is 1.0 µg per million cells in a volume of 100 µl. It is recommended that the reagent be titrated for optimal performance for each application.</p> <p>* Pacific Blue™ has a maximum emission of 455 nm when it is excited at 405 nm. Prior to using Pacific Blue™ conjugate for flow cytometric analysis, please verify your flow cytometer's capability of exciting and detecting the fluorochrome.</p> <p>Alexa Fluor® and Pacific Blue™ are trademarks of Life Technologies Corporation.</p> <p>View full statement regarding label licenses</p>
Excitation Laser	Violet Laser (405 nm)
Application Notes	<p>Additional reported applications (for the relevant formats) include: immunoprecipitation² and immunofluorescence microscopy³.</p> <p>NOTE: For flow cytometric staining with this clone, True-Nuclear™ Transcription Factor Buffer Set (Cat. No. 424401) offers improved staining and is highly recommended over the Foxp3 Fix/Perm Buffer Set (Cat. No. 421403) and the Nuclear Factor Fixation and Permeabilization Buffer Set (Cat. No. 422601).</p>
Application References	<ol style="list-style-type: none"> 1. Szabo SJ, <i>et al.</i> 2000. <i>Cell</i> 100:655. (ICFC, WB) 2. Hwang ES, <i>et al.</i> 2005. <i>J. Exp. Med.</i> 202:1289. (ICFC, WB, IP) 3. Neurath MF, <i>et al.</i> 2002. <i>J. Exp. Med.</i> 195:1129. (IF) 4. Hsieh CY, <i>et al.</i> 2012. <i>J Pharmacol Exp.</i> 343:125. PubMed.
(PubMed link indicates BioLegend citation)	

Product Citations

1. Liu F, *et al.* 2016. PLoS Pathog. 12: 1005663. [PubMed](#)
2. Kalekar L, *et al.* 2016. Nat Immunol. 17:304-314. [PubMed](#)
3. Dimova T, *et al.* 2015. Proc Natl Acad Sci U S A. 112:556. [PubMed](#)
4. Bellavance E, *et al.* 2011. J Immunol. 186:3309. [PubMed](#)
5. Schiller M, *et al.* 2021. Immunity. 54(5):1022-1036.e8. [PubMed](#)
6. Ma C, *et al.* 2018. Science. 360:eaan5931. [PubMed](#)
7. Chen Z *et al.* 2019. Immunity. 51(5):840-855. [PubMed](#)
8. Domingo-Gonzalez R, *et al.* 2020. eLife. 9:e56890.. [PubMed](#)
9. Hanasoge Somasundara AV, *et al.* 2021. Cell Rep. 37:110099. [PubMed](#)
10. Chen Z, *et al.* 2021. Cell. 184(5):1262-1280.e22. [PubMed](#)
11. Rosário A, *et al.* 2012. J Immunol. 188:1178. [PubMed](#)
12. Webb LM, *et al.* 2020. J Clin Invest. 130:1683. [PubMed](#)
13. Jain A, *et al.* 2020. Nat Immunol. 0.920138889. [PubMed](#)

RRID

AB_1595586 (BioLegend Cat. No. 644807)
AB_1595479 (BioLegend Cat. No. 644808)

Antigen Details

Structure	T-box transcription factor, approximately 58 kD.
Distribution	Nuclear; expressed in T cells, hematopoietic stem cells, NK cells, B cells, lung, spleen.
Function	Th1-specific T-box transcription factor controlling expression of the hallmark Th1 cytokine, interferon gamma (IFN-γ). T-bet expression is critical for the control of microbial pathogens.
Cell Type	B cells, Hematopoietic stem and progenitors, NK cells, T cells, Tregs
Biology Area	Cell Biology, Immunology, Transcription Factors
Molecular Family	Nuclear Markers
Antigen References	<ol style="list-style-type: none">1. Szabo SJ, <i>et al.</i> 2000. <i>Cell</i> 100:655.2. Szabo SJ, <i>et al.</i> 2002. <i>Science</i> 295:338.3. Finotto S, <i>et al.</i> 2002. <i>Science</i> 295:336.4. Mullen AC, <i>et al.</i> 2001. <i>Science</i> 292:1907.
Gene ID	30009

Related Protocols

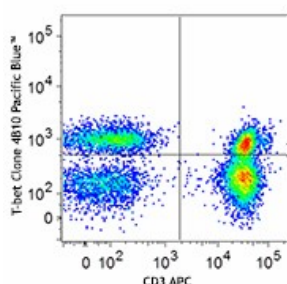
[True-Nuclear™ Transcription Factor Staining Protocol for 96-Well U Bottom Plate](#)

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

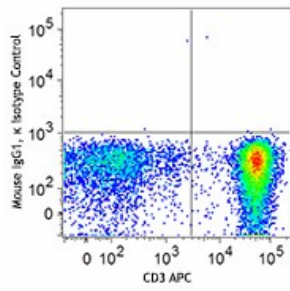
Other Formats

APC anti-T-bet, Purified anti-T-bet, Alexa Fluor® 647 anti-T-bet, PerCP/Cyanine5.5 anti-T-bet, Pacific Blue™ anti-T-bet, PE anti-T-bet, Brilliant Violet 711™ anti-T-bet, FITC anti-T-bet, Brilliant Violet 421™ anti-T-bet, Brilliant Violet 605™ anti-T-bet, PE/Cyanine7 anti-T-bet, PE/Dazzle™ 594 anti-T-bet, Purified anti-T-bet (Maxpar® Ready), Alexa Fluor® 488 anti-T-bet, Direct-Blot™ HRP anti-T-bet, Brilliant Violet 785™ anti-T-bet, Alexa Fluor® 594 anti-T-bet, KIRAVIA Blue 520™ anti-T-bet

Product Data



Human peripheral blood lymphocytes were surface stained with CD3 APC and then treated with True-Nuclear™ Transcription Factor Buffer Set (Cat# 424401). Cells were then stained with T-bet (clone 4B10) Pacific Blue™ (top) or mouse IgG1, κ Pacific Blue™ isotype control (bottom).



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