

Pacific Blue™ anti-human CD3 Antibody

Catalog# / Size	317313 / 25 µg 317314 / 100 µg
Clone	OKT3
Regulatory Status	RUO
Workshop	HCDM listed
Other Names	T3, CD3ε
Isotype	Mouse IgG2a, κ
Description	CD3ε is a 20 kD chain of the CD3/T cell receptor (TCR) complex, which is composed of two CD3ε, one CD3γ, one CD3δ, one CD3ζ (CD247), and a T cell receptor (α/β or γ/δ) heterodimer. It is found on all mature T lymphocytes, NK T cells, and some thymocytes. CD3, also known as T3, is a member of the immunoglobulin superfamily that plays a role in antigen recognition, signal transduction, and T cell activation.

Product Details

Verified Reactivity	Human
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, and protected from prolonged exposure to light. Do not freeze.
Application	FC - Quality tested
Recommended Usage	<p>Each lot of this antibody is quality control tested by immunofluorescent staining with flow cytometric analysis. For flow cytometric staining, the suggested use of this reagent is ≤ 2.0 µg per 10⁶ cells in 100 µl volume or 100 µl of whole blood. 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>The OKT3 monoclonal antibody reacts with an epitope on the epsilon-subunit within the human CD3 complex.</p> <p>Clone OKT3 can block the binding of clones SK7 and UCHT1.⁴ The OKT3 antibody is able to induce T cell activation. Additional reported applications (for the relevant formats) include: immunohistochemical staining of acetone-fixed frozen sections and activation of T cells. The LEAF™ purified antibody (Endotoxin <0.1 EU/µg, Azide-Free, 0.2 µm filtered) is recommended for functional assays (Cat. No. 317304). For highly sensitive assays, we recommend Ultra-LEAF™</p>

purified antibody (Cat. No. 317326) with a lower endotoxin limit than standard LEAF™ purified antibodies (Endotoxin <0.01 EU/μg).

Application References

(PubMed link indicates BioLegend citation)

1. Schlossman S, *et al.* Eds. 1995. Leucocyte Typing V. Oxford University Press. New York.
2. Knapp W. 1989. Leucocyte Typing IV. Oxford University Press New York.
3. Barclay N, *et al.* 1997. The Leucocyte Antigen Facts Book. Academic Press Inc. San Diego.
4. Li B, *et al.* 2005. *Immunology* 116:487.
5. Jeong HY, *et al.* 2008. *J. Leucocyte Biol.* 83:755. [PubMed](#)
6. Alter G, *et al.* 2008. *J. Virol.* 82:9668. [PubMed](#)
7. Manevich-Mendelson E, *et al.* 2009. *Blood* 114:2344. [PubMed](#)
8. Pinto JP, *et al.* 2010. *Immunology.* 130:217. [PubMed](#)
9. Biggs MJ, *et al.* 2011. *J. R. Soc. Interface.* 8:1462. [PubMed](#)

Product Citations

1. Lao L, *et al.* 2023. *Cancer Immunol Res.* 11:320. [PubMed](#)
2. Beck C, *et al.* 2023. *Biomedicines.* 11:. [PubMed](#)
3. Côte-Real BF, *et al.* 2022. *Front Immunol.* 13:1005965. [PubMed](#)
4. Qian Y, *et al.* 2021. *Cell Reports.* 36(8):109602. [PubMed](#)
5. Guo X, *et al.* 2016. *Mol Ther Methods Clin Dev.* 3:15054. [PubMed](#)
6. Hope C, *et al.* 2014. *Kidney Int.* 86:175. [PubMed](#)
7. Xia Q, *et al.* 2022. *Methods Mol Biol.* 2574:251. [PubMed](#)
8. Collins D, *et al.* 2015. *PLoS Pathog.* 11: 1005054. [PubMed](#)
9. Charles TP, *et al.* 2021. *PLoS Pathog.* 17:e1009257. [PubMed](#)
10. Bernardes JP, *et al.* 2020. *Immunity.* 53:1296. [PubMed](#)
11. LaSalle TJ, *et al.* 2022. *Cell Rep Med.* 3:100779. [PubMed](#)
12. Zaikos TD, *et al.* 2018. *Cell Rep.* 25:3759. [PubMed](#)

RRID

AB_571908 (BioLegend Cat. No. 317313)
AB_571909 (BioLegend Cat. No. 317314)

Antigen Details

Structure	Ig superfamily, the subunits CD3γ, CD3δ, CD3ζ (CD247) and TCR (α/β or γ/δ) form the CD3/TCR complex, 20 kD
Distribution	Mature T and NK T cells, thymocyte differentiation
Function	Antigen recognition, signal transduction, T cell activation
Ligand/Receptor	Peptide antigen bound to MHC
Cell Type	NKT cells, T cells, Thymocytes, Tregs
Biology Area	Immunology
Molecular Family	CD Molecules

Antigen References

1. Barclay N, *et al.* 1993. The Leucocyte FactsBook. Academic Press. San Diego.
2. Beverly P, *et al.* 1981. *Eur. J. Immunol.* 11:329.
3. Lanier L, *et al.* 1986. *J. Immunol.* 137:2501.

Gene ID

[916](#)

Related Protocols

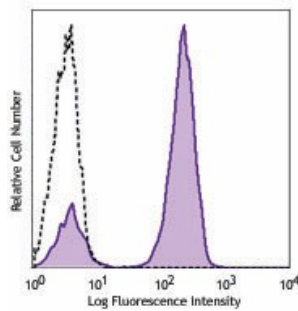
- [Cell Surface Flow Cytometry Staining Protocol](#)

Other Formats

Biotin anti-human CD3, PE/Cyanine7 anti-human CD3, Brilliant Violet 605™ anti-human CD3, Brilliant Violet 650™ anti-human CD3, Ultra-LEAF™ Purified anti-human CD3, Brilliant Violet 711™ anti-human CD3, Brilliant Violet 785™ anti-human CD3, PerCP/Cyanine5.5 anti-human CD3, Brilliant Violet 510™ anti-human CD3, PerCP anti-human CD3, Alexa Fluor® 700 anti-human CD3, APC/Cyanine7 anti-human CD3, Brilliant Violet 421™ anti-human CD3, PE/Dazzle™ 594 anti-human CD3, PE/Cyanine5 anti-

human CD3 Antibody, Cell-Vive™ GMP Ultra-LEAF™ Biotin anti-human CD3 SF, TotalSeq™-C1289 anti-human CD3, APC/Fire™ 750 anti-human CD3, Spark UV™ 387 anti-human CD3, TotalSeq™-A1289 anti-human CD3, Cell-Vive™ GMP Ultra-LEAF™ Purified anti-human CD3 SF, Spark YG™ 581 anti-human CD3 (Flexi-Fluor™), APC anti-human CD3, Spark Red™ 718 anti-human CD3, TotalSeq™-B1289 anti-human CD3, Purified anti-human CD3, Alexa Fluor® 647 anti-human CD3, Pacific Blue™ anti-human CD3, Spark PLUS V475™ anti-human CD3 Antibody, FITC anti-human CD3, PE anti-human CD3, Alexa Fluor® 488 anti-human CD3

Product Data



Human peripheral blood lymphocytes were stained with CD3 (clone OKT3) Pacific Blue™ (filled histogram) or mouse IgG2a, κ Pacific Blue™ isotype control (open histogram).

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