

FITC anti-human CD3 Antibody

Catalog# / Size	317305 / 25 tests 317306 / 100 tests
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 and BSA (origin USA)
Preparation	The antibody was purified by affinity chromatography, and conjugated with FITC under optimal conditions.
Concentration	Lot-specific (to obtain lot-specific concentration, please enter the lot number in our Concentration and Expiration Lookup or Certificate of Analysis online tools.)
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	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 5 µl per million cells in 100 µl staining volume or 5 µl per 100 µl of whole blood.
Excitation Laser	Blue Laser (488 nm)
Application Notes	The OKT3 monoclonal antibody reacts with an epitope on the epsilon-subunit within the human CD3 complex.

Clone OKT3 can block the binding of clones SK7 and UCHL1.⁴ 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™ 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)

- Schlossman S, *et al.* Eds. 1995. Leucocyte Typing V. Oxford University Press. New York.
- Knapp W. 1989. Leucocyte Typing IV. Oxford University Press New York.
- Barclay N, *et al.* 1997. The Leucocyte Antigen Facts Book. Academic Press Inc. San Diego.
- Li B, *et al.* 2005. *Immunology* 116:487.
- Jeong HY, *et al.* 2008. *J. Leucocyte Biol.* 83:755. [PubMed](#)
- Alter G, *et al.* 2008. *J. Virol.* 82:9668. [PubMed](#)
- Manevich-Mendelson E, *et al.* 2009. *Blood* 114:2344. [PubMed](#)
- 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. Zitti B, *et al.* 2017. *Sci Rep.* 10.1038/s41598-017-10403-0. [PubMed](#)
2. Giesecke C, *et al.* 2017. *Cytometry A.* 10.1002/cyto.a.23250. [PubMed](#)
3. Lin L, *et al.* 2018. *Oncol Lett.* 16:1259. [PubMed](#)
4. Wang Y, *et al.* 2019. *J Transl Med.* 17:93. [PubMed](#)
5. Want MY, *et al.* 2019. *Oncoimmunology.* 8:e1586042. [PubMed](#)
6. Gillissen MA, *et al.* 2018. *Blood.* 131:131. [PubMed](#)
7. Agashe VV, *et al.* 2018. *J Immunol.* 201:772. [PubMed](#)
8. Sullivan KD *et al.* 2016. *eLife.* 5 pii: e16220. [PubMed](#)
9. Hazenberg MD, *et al.* 2019. *Blood Adv.* 2.659722222. [PubMed](#)
10. Catapano M, *et al.* 2020. *J Invest Dermatol.* 140:816. [PubMed](#)
11. Kim K, *et al.* 2019. *Nat Microbiol.* 1.586111111. [PubMed](#)
12. Ochi T, *et al.* 2011. *Blood.* 118:1495. [PubMed](#)
13. Zhao B, *et al.* 2013. *PLoS One.* 8:77708. [PubMed](#)
14. Clayton K, *et al.* 2014. *J Immunol.* 192:782. [PubMed](#)
15. Fujigaki J, *et al.* 2015. *PLoS One.* 10: 0132521. [PubMed](#)
16. Guo X, *et al.* 2016. *Mol Ther Methods Clin Dev.* 3:15054. [PubMed](#)
17. Bal S, *et al.* 2016. *Nat Immunol.* 10.1038/ni.3444. [PubMed](#)
18. Aagaard K, *et al.* 2017. *Sci Rep.* 7:41389. [PubMed](#)
19. Shikhagaie M, *et al.* 2017. *Cell Rep.* 18(7):1761-1773. [PubMed](#)
20. Shi Z, *et al.* 2021. *Ann Clin Transl Neurol.* 8:43. [PubMed](#)
21. Dai Q, *et al.* 2020. *Front Immunol.* 11:539654. [PubMed](#)
22. James KR, *et al.* 2020. *Nat Immunol.* 1.113194444. [PubMed](#)
23. Miyamae Y, *et al.* 2020. *Cell Chemical Biology.* 27(12):1573-1581.e3. [PubMed](#)
24. Golebski K, *et al.* 2021. *Immunity.* 54(2):291-307.e7. [PubMed](#)
25. Loo Yau H, *et al.* 2021. *STAR Protocols.* 2(2):100549. [PubMed](#)

RRID

AB_571906 (BioLegend Cat. No. 317305)
AB_571907 (BioLegend Cat. No. 317306)

Antigen Details

Structure	Ig superfamily, the subunits CD3 γ , CD3 δ , CD3 ζ (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	<ol style="list-style-type: none">1. Barclay N, <i>et al.</i> 1993. <i>The Leucocyte FactsBook.</i> Academic Press. San Diego.2. Beverly P, <i>et al.</i> 1981. <i>Eur. J. Immunol.</i> 11:329.3. Lanier L, <i>et al.</i> 1986. <i>J. Immunol.</i> 137:2501.

Gene ID

[916](#)

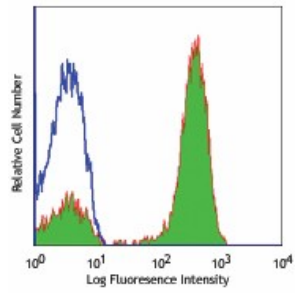
Related Protocols

[Cell Surface Flow Cytometry Staining Protocol](#)

Other Formats

Purified anti-human CD3, FITC anti-human CD3, PE anti-human CD3, Alexa Fluor® 488 anti-human CD3, Alexa Fluor® 647 anti-human CD3, Pacific Blue™ anti-human CD3, APC anti-human CD3, Biotin 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, Brilliant Violet 510™ anti-human CD3, PE/Cyanine7 anti-human CD3, PerCP/Cyanine5.5 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, APC/Fire™ 750 anti-human CD3, GMP Ultra-LEAF™ Purified anti-human CD3 SF, PE/Cyanine5

Product Data



Human peripheral blood lymphocytes
stained with OKT3 FITC

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