

PerCP/Cyanine5.5 anti-human CD3 Antibody

Catalog# / Size	300429 / 25 tests 300430 / 100 tests
Clone	UCHT1
Regulatory Status	RUO
Workshop	III 471
Other Names	T3, CD3ε
Isotype	Mouse IgG1, 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 cells, NKT 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
Reported Reactivity	Chimpanzee
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 PerCP/Cyanine5.5 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 CD3 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. * PerCP/Cyanine5.5 has a maximum absorption of 482 nm and a maximum emission of 690 nm.
Excitation Laser	Blue Laser (488 nm)
Application Notes	Additional reported applications (for the relevant formats) include: immunohistochemical staining of acetone-fixed frozen sections ^{4,6,7} and formalin-fixed paraffin-embedded sections ¹¹ , immunoprecipitation ¹ , activation of T cells ^{2,3,5} , Western blotting ⁹ , and spatial biology (IBEX) ^{16,17} . The LEAF™ purified antibody (Endotoxin < 0.1 EU/µg, Azide-Free, 0.2 µm filtered) is recommended for functional assays (Cat. No. 300413, 300414, and 300432). For highly sensitive assays, we recommend Ultra-LEAF™ purified antibody (Cat. No. 300437, 300438, 300465, 300466, 300473, 300474) with a lower endotoxin limit than standard LEAF™ purified antibodies (Endotoxin < 0.01 EU/µg).
Additional Product Notes	BioLegend is in the process of converting the name PerCP/Cy5.5 to PerCP/Cyanine5.5. The dye molecule remains the same, so you should expect the same quality and performance from our PerCP/Cyanine5.5 products. Contact Technical Service if you have any questions.
Application References	<ol style="list-style-type: none"> 1. Salmeron A, <i>et al.</i> 1991. <i>J. Immunol.</i> 147:3047. (IP) 2. Graves J, <i>et al.</i> 1991. <i>J. Immunol.</i> 146:2102. (Activ)

3. Lafont V, *et al.* 2000. *J. Biol. Chem.* 275:19282. (Activ)
4. Ryschich E, *et al.* 2003. *Tissue Antigens* 62:48. (IHC)
5. Thompson AG, *et al.* 2004. *J. Immunol.* 173:1671. (Activ)
6. Sakkas LI, *et al.* 1998. *Clin. Diagn. Lab. Immunol.* 5:430. (IHC)
7. Mack CL, *et al.* 2004. *Pediatr. Res.* 56:79. (IHC)
8. Thakral D, *et al.* 2008. *J. Immunol.* 180:7431. (FC) [PubMed](#)
9. Van Dongen JJM, *et al.* 1988. *Blood* 71:603. (WB)
10. Yoshino N, *et al.* 2000. *Exp. Anim. (Tokyo)* 49:97. (FC)
11. Pollard, K. *et al.* 1987. *J. Histochem. Cytochem.* 35:1329. (IHC)
12. Luckashenak N, *et al.* 2013. *J. Immunol.* 190:27. [PubMed](#)
13. Laurent AJ, *et al.* 2014. *PLoS One.* 9:103683. [PubMed](#)
14. Li J, *et al.* 2015. *Cancer Res.* 75:508. [PubMed](#)
15. Stoeckius M, *et al.* 2017. *Nat. Methods.* 14:865-868. (PG)
16. Radtke AJ, *et al.* 2020. *Proc Natl Acad Sci USA.* 117:33455-33465. (SB) [PubMed](#)
17. Radtke AJ, *et al.* 2022. *Nat Protoc.* 17:378-401. (SB) [PubMed](#)

Product Citations

1. Poonia B, Pauza C 2014. *PLoS One.* 9:88884. [PubMed](#)
2. Alcántara-Hernández M *et al.* 2017. *Immunity.* 47(6):1037-1050 . [PubMed](#)
3. Xu L, *et al.* 2018. *Mol Oncol.* 12:269. [PubMed](#)
4. Shoda H, *et al.* 2017. *Arthritis Research & Therapy* . 10.1186/s13075-017-1308-y. [PubMed](#)
5. Li H, *et al.* 2022. *Front Immunol.* 13:988004. [PubMed](#)
6. Nakano M, *et al.* 2021. *Front Immunol.* 12:713225. [PubMed](#)
7. Nagafuchi Y, *et al.* 2016. *Sci Rep.* 6:29338. [PubMed](#)
8. Yeung Y, *et al.* 2016. *Nat Commun.* 7:13376. [PubMed](#)
9. Armour K, *et al.* 2014. *PLoS One.* 9:109463. [PubMed](#)
10. Chen M, *et al.* 2021. *Cancers (Basel).* 13:. [PubMed](#)
11. Porsche CE, *et al.* 2021. *JCI Insight.* 6:. [PubMed](#)
12. Rajakumar SA, *et al.* 2021. *Cell Rep Med.* 2:100470. [PubMed](#)
13. Li T, *et al.* 2022. *Int J Infect Dis.* 122:874. [PubMed](#)
14. Mbiribindi B, *et al.* 2020. *Sci Rep.* 10:19973. [PubMed](#)
15. Ciarlo E, *et al.* 2016. *Sci Rep.* 6:37944. [PubMed](#)
16. Etxeberria I, *et al.* 2020. *Cancer Cell.* 36(6):613-629. [PubMed](#)
17. Scherer SD, *et al.* 2021. *Breast Cancer Res.* 23:100. [PubMed](#)
18. Zhang M, *et al.* 2020. *J Cell Mol Med.* . [PubMed](#)
19. Jilkova Z, *et al.* 2017. *Mediators Inflamm.* 10.1155/2017/3214917. [PubMed](#)
20. van Heerden D, *et al.* 2021. *Int J Mol Sci.* 22:. [PubMed](#)
21. Turner AW, *et al.* 2020. *ACS Infect Dis.* 6:1719. [PubMed](#)
22. Shen M, *et al.* 2018. *Int J Oncol.* 53:317. [PubMed](#)
23. Herrera FG, *et al.* 2019. *Int J Radiat Oncol Biol Phys.* 103:320. [PubMed](#)
24. Ye C, *et al.* 2017. *J Virol.* 91:e01389-23. [PubMed](#)
25. Leylek R, *et al.* 2019. *Cell Rep.* 29:3736. [PubMed](#)
26. Aydin AM, *et al.* 2021. *Int Immunopharmacol.* 94:107481. [PubMed](#)
27. Xu S, *et al.* 2021. *Immunity.* . [PubMed](#)
28. Sumitomo S, *et al.* 2017. *J Autoimmun.* 10.1016/j.jaut.2017.11.001. [PubMed](#)
29. Vendrame E, *et al.* 2020. *AIDS.* 34:801. [PubMed](#)
30. Song R, *et al.* 2022. *Front Immunol.* 13:1028246. [PubMed](#)
31. Pritchett J, *et al.* 2016. *J Infect Dis.* 214(12):1911-1915. [PubMed](#)
32. Gorman JA, *et al.* 2019. *Front Immunol.* 10:44. [PubMed](#)
33. Nakachi S, *et al.* 2017. *Arthritis Research & Therapy* . 10.1186/s13075-017-1309-x. [PubMed](#)
34. Sicklinger F, *et al.* 2021. *J Clin Invest.* 131:. [PubMed](#)
35. Khuzwayo S, *et al.* 2021. *Front Immunol.* 12:631410. [PubMed](#)
36. Shehata L, *et al.* 2019. *Cell Rep.* 28:3300. [PubMed](#)
37. Landgraf KE, *et al.* 2020. *Commun Biol.* 0.330555556. [PubMed](#)
38. Gross C, *et al.* 2016. *Proc Natl Acad Sci U S A.* 113: 2973 - 2982. [PubMed](#)
39. Körner C *et al.* 2017. *Cell host & microbe.* 22(1):111-119 . [PubMed](#)
40. Rappazzo CG, *et al.* 2022. *Immunity.* 55:1710. [PubMed](#)
41. Fels JM, *et al.* 2021. *Cell.* 184(13):3486-3501.e21. [PubMed](#)
42. Dulberger CL *et al.* 2017. *Immunity.* 46(6):1018-1029 . [PubMed](#)
43. Yu H, *et al.* 2021. *Cell Death Dis.* 13:1. [PubMed](#)
44. Hackstein CP, *et al.* 2022. *Nat Commun.* 13:7472. [PubMed](#)
45. Teirlinck A, *et al.* 2015. *Infect Immun* . 83: 3732-3739. [PubMed](#)
46. Shehata L, *et al.* 2019. *Nat Commun.* 10:1126. [PubMed](#)
47. Portillo AL, *et al.* 2021. *iScience.* 24(6):102619. [PubMed](#)
48. Poznanski SM, *et al.* 2021. *Cell Metabolism.* 33(6):1205-1220.e5. [PubMed](#)
49. Ribot J, *et al.* 2014. *J Immunol.* 192:2237. [PubMed](#)
50. Leylek R, *et al.* 2020. *Cell Rep.* 32:108180. [PubMed](#)
51. Brunk F, *et al.* 2021. *Eur J Immunol.* 51:2651. [PubMed](#)

RRID

AB_893301 (BioLegend Cat. No. 300429)
 AB_893299 (BioLegend Cat. No. 300430)

Antigen Details

Structure

Ig superfamily, with the subunits of CD3 γ , CD3 δ , CD3 ζ (CD247) and TCR (α/β or γ/δ) forms 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, Innate Immunity
Molecular Family	CD Molecules, TCRs
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> 137:2501-2507.
Gene ID	916

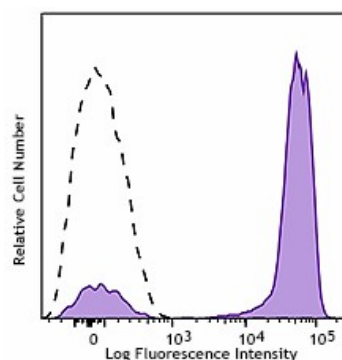
Related Protocols

[Cell Surface Flow Cytometry Staining Protocol](#)

Other Formats

APC anti-human CD3, Biotin anti-human CD3, FITC anti-human CD3, PE anti-human CD3, PE/Cyanine5 anti-human CD3, Purified anti-human CD3, Alexa Fluor® 647 anti-human CD3, Alexa Fluor® 488 anti-human CD3, Pacific Blue™ anti-human CD3, PE/Cyanine7 anti-human CD3, Alexa Fluor® 700 anti-human CD3, APC/Cyanine7 anti-human CD3, PerCP anti-human CD3, PerCP/Cyanine5.5 anti-human CD3, Brilliant Violet 421™ anti-human CD3, Brilliant Violet 570™ anti-human CD3, Ultra-LEAF™ Purified anti-human CD3, Purified anti-human CD3 (Maxpar® Ready), Alexa Fluor® 594 anti-human CD3, PE/Dazzle™ 594 anti-human CD3, Brilliant Violet 510™ anti-human CD3, Brilliant Violet 605™ anti-human CD3, Brilliant Violet 711™ anti-human CD3, Brilliant Violet 650™ anti-human CD3, APC/Fire™ 750 anti-human CD3, Brilliant Violet 785™ anti-human CD3, TotalSeq™-A0034 anti-human CD3, TotalSeq™-B0034 anti-human CD3, TotalSeq™-C0034 anti-human CD3, KIRAVIA Blue 520™ anti-human CD3, Spark Violet™ 538 anti-human CD3 Antibody, TotalSeq™-D0034 anti-human CD3, Spark Blue™ 574 anti-human CD3 Antibody, GMP Pacific Blue™ anti-human CD3, GMP PE anti-human CD3, GMP PE/Dazzle™ 594 anti-human CD3

Product Data



Human peripheral blood lymphocytes were stained with CD3 (clone UCHT1) PerCP/Cyanine5.5 (filled histogram), or mouse IgG1, κ PerCP/Cyanine5.5 isotype control (open histogram).

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