

FITC anti-human CD3 Antibody

Catalog# / Size	300405 / 25 tests 300406 / 100 tests 300452 / 100 µg 300440 / 500 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	µg size: Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide. test sizes: 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	µg sizes: 0.5 mg/mL test sizes: lot-specific (to obtain lot-specific concentration and expiration, please enter the lot number in our Certificate of Analysis online tool.)
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 using the µg size, the suggested use of this reagent is ≤1.0 µg per million cells in 100 µl volume. It is recommended that the reagent be titrated for optimal performance for each application. For flow cytometric staining using the test sizes, 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	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).

Application References

(PubMed link indicates BioLegend citation)

1. Salmeron A, *et al.* 1991. *J. Immunol.* 147:3047. (IP)
2. Graves J, *et al.* 1991. *J. Immunol.* 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. Immun.* 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](#)

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Product Citations

1. Johnson DC, *et al.* 2018. *Nat Med.* 24:1151. [PubMed](#)
2. Sajadi MM, *et al.* 2018. *Cell.* 173:1783. [PubMed](#)
3. Jiang G, *et al.* 2020. *Aging (Albany NY).* 12:11466. [PubMed](#)
4. Bhattacharya S, *et al.* 2020. *Front Bioeng Biotechnol.* 1.055555556. [PubMed](#)
5. Soday L, *et al.* 2021. *Frontiers in Immunology.* 12:600056. [PubMed](#)
6. Lin L, *et al.* 2020. *NAR Genom Bioinform.* 2:lqaa059. [PubMed](#)
7. Carre C, *et al.* 2021. *iScience.* 24:102970. [PubMed](#)
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9. Gan X, *et al.* 2022. *Proc Natl Acad Sci U S A.* 119:e2200879119. [PubMed](#)
10. Sušac L, *et al.* 2022. *Cell.* 185:3201. [PubMed](#)
11. Saber MM, *et al.* 2022. *J Immunol Res.* 2022:7219207. [PubMed](#)
12. McEvoy CM, *et al.* 2022. *Nat Commun.* 13:7634. [PubMed](#)

RRID

AB_314059 (BioLegend Cat. No. 300405)
AB_314060 (BioLegend Cat. No. 300406)
AB_2564148 (BioLegend Cat. No. 300452)
AB_2562046 (BioLegend Cat. No. 300440)

Antigen Details

Structure	Ig superfamily, with the subunits of CD3γ, CD3δ, CD3ζ (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

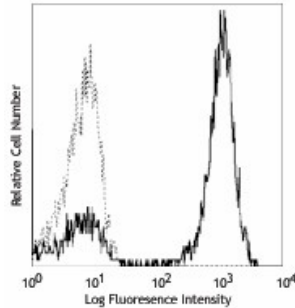
- [Cell Surface Flow Cytometry Staining Protocol](#)

Other Formats

Brilliant Violet 605™ anti-human CD3, Brilliant Violet 711™ anti-human CD3, Brilliant Violet 650™ anti-human CD3, APC/Fire™ 750

anti-human CD3, Pacific Blue™ anti-human CD3, Brilliant Violet 785™ anti-human CD3, PE/Dazzle™ 594 anti-human CD3, TotalSeq™-A0034 anti-human CD3, TotalSeq™-B0034 anti-human CD3, TotalSeq™-C0034 anti-human CD3, PE anti-human CD3, PE/Cyanine7 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, Spark Violet™ 423 anti-human CD3, GMP PE/Cyanine7 anti-human CD3, Spark Blue™ 515 anti-human CD3, APC/Fire™ 810 anti-human CD3, PE/Fire™ 810 anti-human CD3, Spark YG™ 581 anti-human CD3 (Flexi-Fluor™), Alexa Fluor® 647 anti-human CD3, Alexa Fluor® 488 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, APC anti-human CD3, Biotin anti-human CD3, FITC anti-human CD3, PE/Cyanine5 anti-human CD3, Purified anti-human CD3, Purified anti-human CD3 (Maxpar® Ready), Alexa Fluor® 594 anti-human CD3, Brilliant Violet 510™ anti-human CD3

Product Data



Human peripheral blood lymphocytes
stained with UCHT1 FITC

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