

PE/Fire™ 640 anti-mouse CD3ε Antibody

Catalog# / Size	100381 / 25 µg 100382 / 100 µg
Clone	145-2C11
Regulatory Status	RUO
Other Names	CD3ε, T3, CD3
Isotype	Armenian Hamster IgG
Description	CD3ε is a 20 kD transmembrane protein, also known as CD3 or T3. It is a member of the Ig superfamily and primarily expressed on T cells, NK-T cells, and at different levels on thymocytes during T cell differentiation. CD3ε forms a TCR complex by associating with the CD3δ, γ and ζ chains, as well as the TCR α/β or γ/δ chains. CD3 plays a critical role in TCR signal transduction, T cell activation, and antigen recognition by binding the peptide/MHC antigen complex.

Product Details

Verified Reactivity	Mouse
Antibody Type	Monoclonal
Host Species	Armenian Hamster
Immunogen	H-2K ^b -specific mouse cytotoxic T lymphocyte clone BM10-37
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide
Preparation	The antibody was purified by affinity chromatography and conjugated with PE/Fire™ 640 under optimal conditions.
Concentration	0.2 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	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 ≤ 0.25 µg per million cells in 100 µL volume. It is recommended that the reagent be titrated for optimal performance for each application. * PE/Fire™ 640 has a maximum excitation of 566 nm and a maximum emission of 639 nm.
Excitation Laser	Blue Laser (488 nm) Green Laser (532 nm)/Yellow-Green Laser (561 nm)
Application Notes	Clone 145-2C11 is useful for <i>in vitro</i> blocking of target-specific CTL-mediated cell lysis ¹ , as well as T cell activation assays, inducing proliferation and cytokine production ^{1,2,7,12,16} . It also induces apoptosis in immature thymocytes ³² , and <i>in vivo</i> T cell depletion ⁸⁻¹⁰ . Additional reported applications (for relevant formats of this clone) include: immunoprecipitation ¹ , immunohistochemical staining ^{14,15} of acetone-fixed frozen sections and zinc-fixed paraffin-embedded sections, Western blotting ⁴ , complement-mediated cytotoxicity ⁶ , <i>in vitro</i> and <i>in vivo</i> stimulation of T cells ^{1,2,7,12,16} , immunofluorescent staining ⁵ , and <i>in vivo</i> T cell depletion ⁸⁻¹⁰ . The 145-2C11 antibody has been reported to block the binding of 17A2 antibody to CD3 epsilon-specific T cells ¹¹ . Clone 145-2C11 is not recommended for formalin-fixed paraffin embedded sections. The LEAF™ purified antibody (Endotoxin <0.1 EU/µg, Azide-Free, 0.2 µm filtered) is recommended for functional assays (Cat. No. 100314). For <i>in vivo</i> studies or highly sensitive

assays, we recommend Ultra-LEAF™ purified antibody (Cat. No. 100340) with a lower endotoxin limit than standard LEAF™ purified antibodies (Endotoxin <0.01 EU/μg).

Application References

(PubMed link indicates BioLegend citation)

1. Leo O, et al. 1987. *P. Natl. Acad. Sci. USA* 84:1374. (IP, Activ, Block)
2. Kruisbeek AM, et al. 1991. *In Current Protocols in Immunology*. 3.12.1. (Activ)
3. Duke RC, et al. 1995. *Current Protocols in Immunology*. 3.17.1.
4. Salvadori S, et al. 1994. *J. Immunol.* 153:5176. (WB)
5. Payer E, et al. 1991. *J. Immunol.* 146:2536. (IF)
6. Jacobs H, et al. 1994. *Eur. J. Immunol.* 24:934. (CMCD)
7. Vossen ACTM, et al. 1995. *Eur. J. Immunol.* 25:1492. (Activ)
8. Henrickson M, et al. 1995. *Transplantation* 60:828. (Deplete)
9. Kinnaert P, et al. 1996. *Transpl. Int.* 9:386. (Deplete)
10. Han WR, et al. 1999. *Transpl. Immunol.* 7:207. (Deplete)
11. Miescher GC, et al. 1989. *Immunol. Lett.* 23:113. (Block)
12. Terrazas LI, et al. 2005. *Intl. J. Parasitology.* 35:1349. (Activ)

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Antigen Details

Structure	Ig superfamily, forms CD3/TCR complex with CD3δ, γ and ζ subunits and TCR (α/β and γ/δ), 20 kD
Distribution	Thymocytes (differentiation dependent), mature T cells, NK-T cells
Function	TCR signal transduction, T cell activation, antigen recognition
Ligand/Receptor	Peptide antigen/MHC-complex
Cell Type	NKT cells, T cells, Thymocytes, Tregs
Biology Area	Immunology
Molecular Family	CD Molecules, TCRs
Antigen References	1. Barclay A, et al. 1997. <i>The Leukocyte Antigen FactsBook</i> Academic Press. 2. Davis MM. 1990. <i>Annu. Rev. Biochem.</i> 59:475. 3. Weiss A, et al. 1994. <i>Cell</i> 76:263.
Gene ID	12501

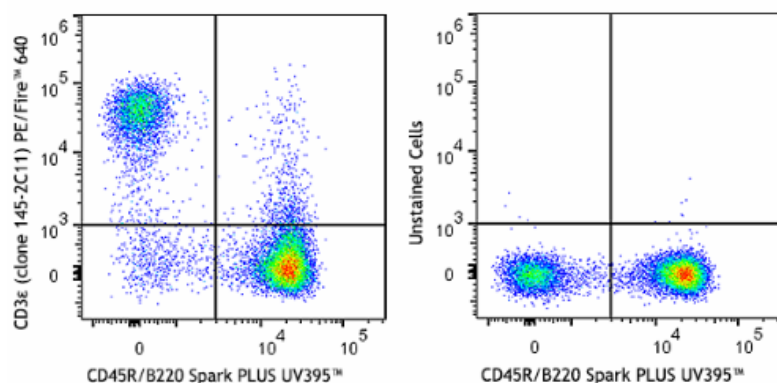
Related Protocols

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

Other Formats

FITC anti-mouse CD3ε, PerCP/Fire™ 780 anti-mouse CD3ε, APC anti-mouse CD3ε, PE anti-mouse CD3ε, PE/Dazzle™ 594 anti-mouse CD3ε, Purified anti-mouse CD3ε (Maxpar® Ready), Brilliant Violet 510™ anti-mouse CD3ε, Brilliant Violet 711™ anti-mouse CD3ε, Brilliant Violet 785™ anti-mouse CD3ε, Brilliant Violet 605™ anti-mouse CD3ε, APC/Fire™ 750 anti-mouse CD3ε, GoInVivo™ Purified anti-mouse CD3ε, Pacific Blue™ anti-mouse CD3ε, APC/Cyanine7 anti-mouse CD3ε, Biotin anti-mouse CD3ε, Ultra-LEAF™ Purified anti-mouse CD3ε, Spark YG™ 593 anti-mouse CD3, Brilliant Violet 421™ anti-mouse CD3ε, PE/Cyanine5 anti-mouse CD3ε, Brilliant Violet 650™ anti-mouse CD3ε, Alexa Fluor® 488 anti-mouse CD3ε, Alexa Fluor® 647 anti-mouse CD3ε, Spark YG™ 581 anti-mouse CD3ε (Flexi-Fluor™) , Purified anti-mouse CD3ε, PE/Cyanine7 anti-mouse CD3ε, PE/Fire™ 640 anti-mouse CD3ε, Brilliant Violet 750™ anti-mouse CD3ε, APC/Fire™ 810 anti-mouse CD3ε Antibody, Spark NIR™ 685 anti-mouse CD3ε (Flexi-Fluor™) Antibody, PerCP anti-mouse CD3ε, PerCP/Cyanine5.5 anti-mouse CD3ε

Product Data



C57BL/6 mouse splenocytes were stained with anti-mouse/human CD45R/B220 (clone RA3-6B2) Spark PLUS UV395™ and anti-mouse CD3ε (clone 145-2C11) PE/Fire™ 640 (left) or stained with anti-mouse/human CD45R/B220 (clone RA3-6B2) Spark PLUS UV395™ only (right).

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