Biotin anti-mouse CD3ε Antibody

Catalog# / Size	100303 / 50 µg 100304 / 500 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 biotin under optimal conditions.
Concentration	0.5 mg/ml
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C. **Do not freeze.**
Application	FC - *Quality tested* IHC-F - *Verified*
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 10^6 cells in 100 µl. For immunohistochemistry, a concentration range of 5.0 - 10 µg/mL is suggested. It is recommended that the reagent be titrated for optimal performance for each application.
Application Notes	Clone 145-2C11 is useful for *in vitro* 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 *in vivo* 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], *in vitro* and *in vivo* stimulation of T cells[1,2,7,12,16], immunofluorescent staining[5], and *in vivo* T cell depletion8-10. 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 *in vivo* 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

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RRID

AB_312668 (BioLegend Cat. No. 100303)
AB_312669 (BioLegend Cat. No. 100304)

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. The Leukocyte Antigen FactsBook Academic Press. 2. Davis MM. 1990. *Annu. Rev. Biochem.* 59:475. 3. Weiss A, *et al.* 1994. *Cell* 76:263.
Gene ID	12501

Related Protocols

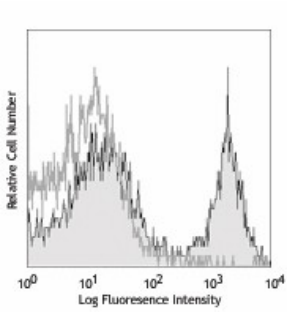
Immunohistochemistry Protocol for Frozen Sections

Cell Surface Flow Cytometry Staining Protocol

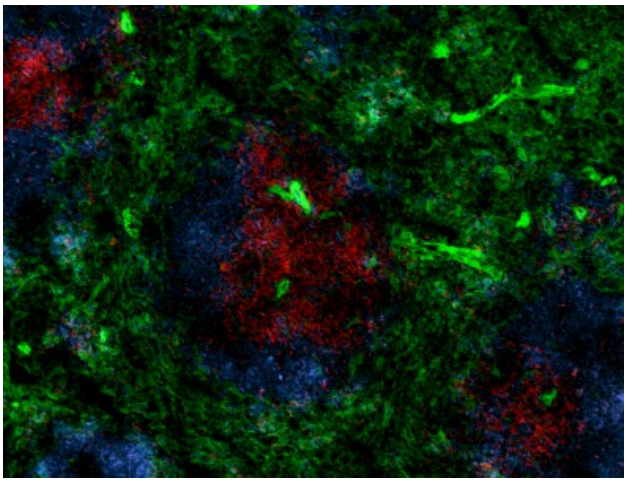
Other Formats

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

Product Data



C57BL/6 mouse splenocytes were stained with biotinylated CD3e (clone 145-2C11) (filled histogram) or Armenian hamster IgG isotype control (open histogram), followed by Sav-PE.



C57BL/6 mouse frozen spleen section was fixed with 4% paraformaldehyde (PFA) for 10 minutes at room temperature and blocked with 5% FBS for 30 minutes at room temperature. Then the section was stained with 10 µg/ml of biotin anti-mouse CD3ε (clone 145-2C11), Alexa Fluor® 594 anti-mouse B220 (clone RA3-6B2) (blue), and Alexa Fluor® 488 anti-mouse CD29 (clone HMβ1-1) (green) overnight at 4°C, followed by 2.5 µg/ml of Spark YG™ 570 Streptavidin (red) for 2 hours at room temperature. The image was captured by 10X objective.

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