

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 <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	<ol style="list-style-type: none"> 1. Leo O, <i>et al.</i> 1987. <i>P. Natl. Acad. Sci. USA</i> 84:1374. (IP, Activ, Block) 2. Kruisbeek AM, <i>et al.</i> 1991. <i>In Current Protocols in Immunology</i>. 3.12.1. (Activ) 3. Duke RC, <i>et al.</i> 1995. <i>Current Protocols in Immunology</i>. 3.17.1. 4. Salvadori S, <i>et al.</i> 1994. <i>J. Immunol.</i> 153:5176. (WB) 5. Payer E, <i>et al.</i> 1991. <i>J. Immunol.</i> 146:2536. (IF) 6. Jacobs H, <i>et al.</i> 1994. <i>Eur. J. Immunol.</i> 24:934. (CMCD)
(PubMed link indicates BioLegend citation)	

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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 CD3 δ , 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, <i>et al.</i> 1997. The Leukocyte Antigen FactsBook Academic Press. 2. Davis MM. 1990. <i>Annu. Rev. Biochem.</i> 59:475. 3. Weiss A, <i>et al.</i> 1994. <i>Cell</i> 76:263.
Gene ID	12501

Related Protocols

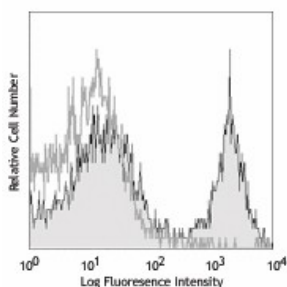
[Immunohistochemistry Protocol for Frozen Sections](#)

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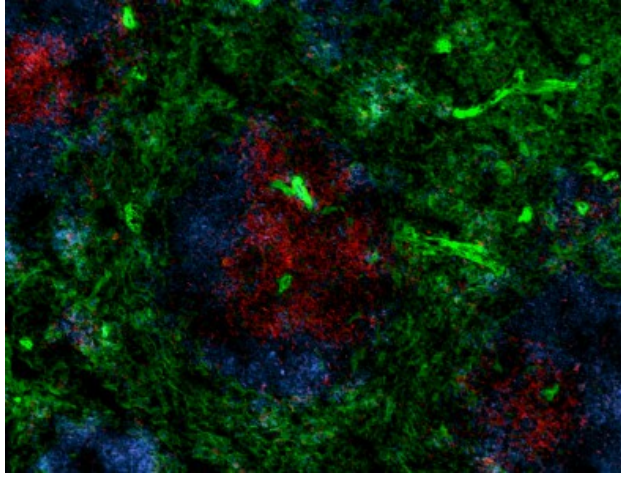
Other Formats

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

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 $\mu\text{g}/\text{ml}$ of biotin anti-mouse CD3 ϵ (clone 145-2C11), Alexa Fluor[®] 594 anti-mouse B220 (clone RA3-6B2) (blue), and Alexa Fluor[®] 488 anti-mouse CD29 (clone HM β 1-1) (green) overnight at 4°C, followed by 2.5 $\mu\text{g}/\text{ml}$ of Spark YG[™] 570 Streptavidin (red) for 2 hours at room temperature. The image was captured by 10X objective.

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