Alexa Fluor® 488 anti-mouse CD3 Antibody

Catalog# / Size	100212 / 25 µg 100210 / 100 µg
Clone	17A2
Regulatory Status	RUO
Other Names	T cell antigen receptor complex, T3
Isotype	Rat IgG2b, κ
Description	CD3, also known as T3, 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. CD3 is composed of CD3ε, δ, γ and ζ chains. It forms a TCR complex by associating with 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	Rat
Immunogen	γδTCR-positive T-T hybridoma D1
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide.
Preparation	The antibody was purified by affinity chromatography and conjugated with Alexa Fluor® 488 under optimal conditions.
Concentration	0.5 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* IHC-F, 3D IHC - *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 ≤1.0 µg per million cells in 100 µL volume. For immunohistochemical staining on frozen tissue sections, the suggested use of this reagent is 5.0 - 10 µg per mL. For 3D immunohistochemistry on formalin-fixed tissues, a concentration of 5.0 µg/mL is suggested. It is recommended that the reagent be titrated for optimal performance for each application. * Alexa Fluor® 488 has a maximum emission of 519 nm when it is excited at 488 nm. Alexa Fluor® and Pacific Blue™ are trademarks of Life Technologies Corporation. View full statement regarding label licenses
Excitation Laser	Blue Laser (488 nm)
Application Notes	Additional reported application (for relevant formats) include: spatial biology (IBEX)[1,2].
Application References **(PubMed link indicates BioLegend citation)**	1. Radtke AJ, *et al.* 2020. *Proc Natl Acad Sci U S A.* 117:33455-65. (SB) PubMed 2. Radtke AJ, *et al.* 2022. *Nat Protoc.* 17:378-401. (SB) PubMed
Product Citations	1. Wan W, *et al.* 2013. Cardiovasc Res. 97:580. PubMed 2. Langhauser F, *et al.* 2014. Stroke. 45:1799. PubMed 3. Datta S, *et al.* 2014. J Leukoc Biol. 95:853. PubMed

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RRID

AB_493530 (BioLegend Cat. No. 100212)
AB_389301 (BioLegend Cat. No. 100210)

Antigen Details

Structure

Ig superfamily, CD3/TCR, 20 kD

Distribution

Thymocytes (differentiation dependent), mature T cells, NK-T cells

Function

Antigen recognition, TCR signal transduction, T cell activation

Ligand/Receptor

Peptide antigen/MHC-complex

Antigen References

1. Barclay A, *et al.* 1997. The Leukocyte Antigen FactsBook Academic Press.
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3. Weiss A, *et al.* 1994. *Cell* 76:263.

Gene ID

12502

Related Protocols

Immunohistochemistry Protocol for Frozen Sections

Cell Surface Flow Cytometry Staining Protocol

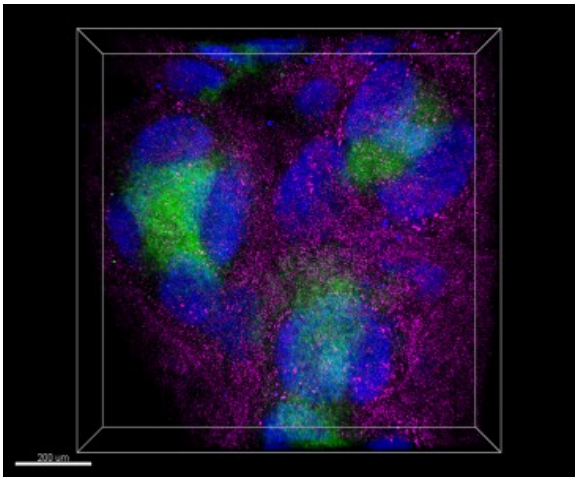
Ce3D™ Tissue Clearing Kit

Other Formats

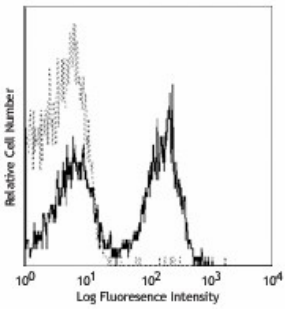
FITC anti-mouse CD3, PE anti-mouse CD3, Purified anti-mouse CD3, Alexa Fluor® 647 anti-mouse CD3, Alexa Fluor® 488 anti-mouse CD3, Pacific Blue™ anti-mouse CD3, Alexa Fluor® 700 anti-mouse CD3, PerCP/Cyanine5.5 anti-mouse CD3, PE/Cyanine7 anti-mouse CD3, APC/Cyanine7 anti-mouse CD3, Brilliant Violet 421™ anti-mouse CD3, Brilliant Violet 570™ anti-mouse CD3, Brilliant Violet 650™ anti-mouse CD3, Brilliant Violet 785™ anti-mouse CD3, Brilliant Violet 510™ anti-mouse CD3, APC anti-mouse CD3, Ultra-LEAF™ Purified anti-mouse CD3, Brilliant Violet 605™ anti-mouse CD3, Alexa Fluor® 594 anti-mouse CD3, Brilliant Violet 711™ anti-mouse CD3, Biotin anti-mouse CD3, PE/Dazzle™ 594 anti-mouse CD3, APC/Fire™ 750 anti-mouse CD3, Brilliant

Violet 750™ anti-mouse CD3, TotalSeq™-A0182 anti-mouse CD3, TotalSeq™-B0182 anti-mouse CD3, Spark Blue™ 550 anti-mouse CD3, Spark NIR™ 685 anti-mouse CD3, TotalSeq™-C0182 anti-mouse CD3, APC/Fire™ 810 anti-mouse CD3, PE/Fire™ 640 anti-mouse CD3, Spark YG™ 570 anti-mouse CD3, PE/Fire™ 700 anti-mouse CD3, PE/Cyanine5 anti-mouse CD3, Spark Blue™ 574 anti-mouse CD3 Antibody, Spark Violet™ 423 anti-mouse CD3, PE/Fire™ 810 anti-mouse CD3, Spark Red™ 718 anti-mouse CD3

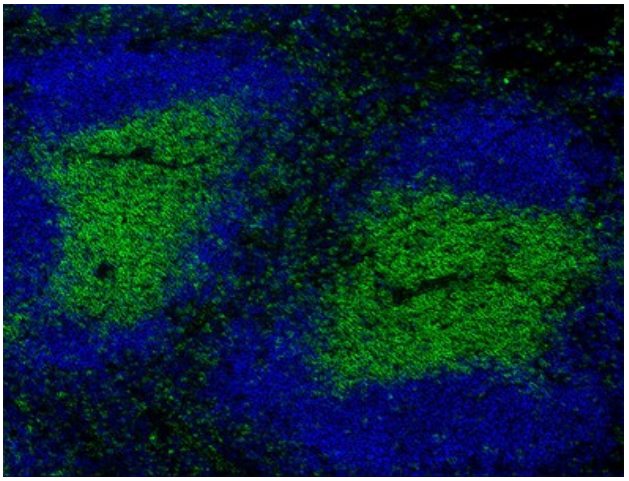
Product Data



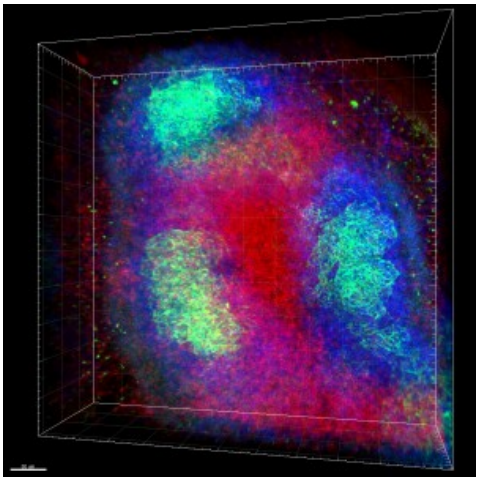
Paraformaldehyde-fixed (4%), 500 µm-thick mouse spleen section was processed according to the Ce3DTM Tissue Clearing Kit protocol (cat. no. 427701). The section was costained with anti-mouse CD3 Antibody (clone 17A2) Alexa Fluor® 488 at 5 µg/mL (green), anti-mouse IgD Antibody (clone 11-26c.2a) Alexa Fluor® 594 at 5 µg/mL (blue), and anti-mouse CD68 Antibody (clone FA-11) Alexa Fluor® 647 at 5 µg/mL (magenta). The section was then optically cleared and mounted in a sample chamber. The image was captured with a 10X objective using Zeiss 780 confocal microscope and processed by Imaris image analysis software.
Watch the video.



C57BL/6 mouse splenocytes stained with 17A2 Alexa Fluor® 488



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 CD3 (Clone 17A2) Alexa Fluor® 488 (green) and B220 (Clone RA3-6B2) Brilliant Violet 421™ (blue), overnight at 4°C. The image was captured by 10X objective.



Formalin-fixed, 300 micron-thick mouse spleen section was blocked, permeabilized and stained overnight with CD3 (clone 17A2) Alexa Fluor® 488 (red), CD21/35 (CR2/CR1)(clone 7E9) Alexa Fluor® 594 (green), and CD45R/B220 (clone RA3-6B2) Alexa Fluor® 647 (blue) all at 5 µg/mL, optically cleared, then analyzed at 215 µm imaging depth on a confocal microscope.

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