

Alexa Fluor® 647 anti-CD3ε Antibody

Catalog# / Size	649953 / 25 µg 649954 / 100 µg
Clone	W23186F
Regulatory Status	RUO
Other Names	T-cell surface glycoprotein CD3 epsilon chain, T3
Isotype	Rat IgG2a, κ
Description	The CD3ε chain of the T-cell receptor (TCR)-CD3 complex is a type I membrane protein that plays a critical role in antigen recognition, TCR signal transduction and T-cell activation following binding to the peptide/MHC antigen complex. CD3ε is expressed by all mature T cells and forms a heteromeric complex with CD3 γ, δ and ζ chains, and either α/β or γ/δ chains of the TCR heterodimer. Upon activation, CD3 undergoes a conformational change, leading to exposure of the proline rich sequence in CD3ε and recruitment of Lck. CD3 is also important in T cell development, and deficiency of this gene has been associated with severe immunodeficiency.

Product Details

Verified Reactivity	Human, Mouse
Antibody Type	Monoclonal
Host Species	Rat
Immunogen	Recombinant fragment of the intracellular domain of human CD3ε
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® 647 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	IHC-P - Quality tested ICFC - Verified
Recommended Usage	Each lot of this antibody is quality control tested by formalin-fixed paraffin-embedded immunohistochemical staining. For immunohistochemistry, a concentration range of 1.0 - 5.0 µg/mL is suggested. For flow cytometric staining, the suggested use of this reagent is ≤ 0.015 µg per million cells in 100 µL volume. It is recommended that the reagent be titrated for optimal performance for each application. * Alexa Fluor® 647 has a maximum emission of 668 nm when it is excited at 633 nm / 635 nm. Alexa Fluor® and Pacific Blue™ are trademarks of Life Technologies Corporation. View full statement regarding label licenses
Excitation Laser	Red Laser (633 nm)
Additional Product Notes	For use in immunohistochemistry on formalin-fixed paraffin-embedded tissue (IHC-P), it is recommended to perform antigen retrieval using Citrate Buffer, 10X (Cat. No. 420902) or Tris-EDTA pH 9.0 Antigen Retrieval Buffer (10X) (Cat. No. 422704). For use in intracellular flow cytometry (ICFC), fixation/permeabilization with Cyto-Fast™ Fix/Perm Buffer Set (Cat. No. 426803) is recommended.

Fixation/permeabilization with either True-Nuclear Transcription Factor Buffer Set or Cyto-Fast™ Fix/Perm Buffer Set is not recommended.

Antigen Details

Structure	CD3ε is a 207 amino acid protein with a predicted molecular weight of 23 kD.
Distribution	Plasma membrane
Function	Co-receptor
Interaction	CD3ε forms a heteromeric complex with CD3 γ, δ.and ζ chains, and either α/β or γ/δ chains of the TCR heterodimer.
Ligand/Receptor	CD3ε, as part of the TCR-CD3 complex, recognizes fragments of antigens bound to major histocompatibility complex molecules
Cell Type	NKT cells, T cells, Thymocytes, Tregs
Biology Area	Immunology
Molecular Family	CD Molecules, TCRs
Antigen References	1. Schlossman S, <i>et al.</i> 1995. <i>Leucocyte Typing V Oxford University Press New York.</i> 2. Knapp W. 1989. <i>Leucocyte Typing IV. Oxford University Press New York.</i> 3. Barclay N, <i>et al.</i> 1997. <i>The Leucocyte Antigen Facts Book. Academic Press Inc. San Diego.</i> 4. Sedelies KA, <i>et al.</i> 2004. <i>J Biol Chem.</i> 279:26581-7. 5. Rivollier A, <i>et al.</i> 2004. <i>Blood.</i> 104:4029-37. 6. Scharschmidt E, <i>et al.</i> 2004. <i>Mol. Cell Biol.</i> 24:3860-73. 7. Smeltz RB. 2007. <i>J Immunol.</i> 178:4786-92.
Gene ID	12501

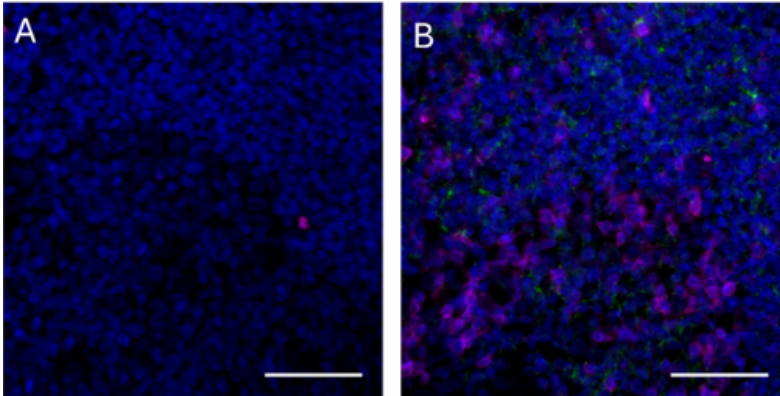
Related Protocols

- [True-Nuclear™ Transcription Factor Staining Protocol for 5mL Tubes](#)
- [Intracellular Flow Cytometry Staining Protocol](#)
- [Immunohistochemistry Protocol for Paraffin-Embedded Sections](#)

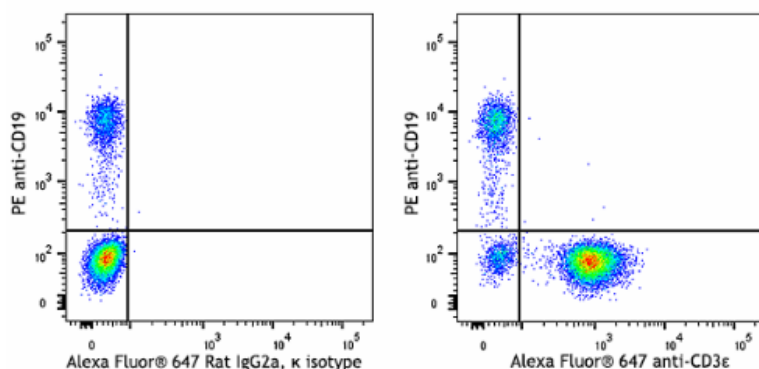
Other Formats

Purified anti-CD3ε, Alexa Fluor® 647 anti-CD3ε Antibody

Product Data



IHC staining without (panel A) and with (panel B) Alexa Fluor® 647 anti-CD3ε (clone W23186F) on formalin-fixed paraffin-embedded human tonsil tissue. Following antigen retrieval using 1X Tris-EDTA pH 9.0 Antigen Retrieval Buffer (Cat. No. 422704), the tissue was incubated with Alexa Fluor® 647 anti-CD3ε (clone W23186F) (magenta) and Alexa Fluor® 594 anti-human CD20 (green) (clone C20Mab-60, Cat. No. 382806). Nuclei were counterstained with DAPI (blue) (Cat. No. 422801). Scale bar: Scale bar: 50 μm



Human peripheral blood lymphocytes were fixed and permeabilized using Cyto-Fast™ Fix/Perm Buffer Set (Cat. No. 426803), intracellularly stained with either Alexa Fluor® 647 anti-CD3ε (clone W23186F), or Alexa Fluor® 647 anti-rat IgG2a, κ isotype control (clone RTK2758) (Cat. No. 400526), and co-stained with PE anti-human CD19 (clone HIB19) (Cat. No. 302254).

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8999 BioLegend Way, San Diego, CA 92121 www.biolegend.com
Toll-Free Phone: 1-877-Bio-Legend (246-5343) Phone: (858) 768-5800 Fax: (877) 455-9587