

Alexa Fluor® 647 anti-human CD3 Antibody

Catalog# / Size	300321 / 25 tests 300322 / 100 tests
Clone	HIT3a
Regulatory Status	RUO
Workshop	V CD03.05
Other Names	T3, CD3ε
Isotype	Mouse IgG2a, κ
Description	CD3ε is a 20 kD chain of the CD3/T-cell receptor (TCR) complex which is composed of two CD3ε, one CD3γ, one CD3δ, one CD3ζ (CD247), and a T-cell receptor (α/β or γ/δ) heterodimer. It is found on all mature T lymphocytes, NK-T cells, and some thymocytes. CD3, also known as T3, is a member of the immunoglobulin superfamily that plays a role in antigen recognition, signal transduction, and T cell activation.

Product Details

Verified Reactivity	Human
Antibody Type	Monoclonal
Host Species	Mouse
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and BSA (origin USA)
Preparation	The antibody was purified by affinity chromatography and conjugated with Alexa Fluor® 647 under optimal conditions.
Concentration	Lot-specific (to obtain lot-specific concentration, please enter the lot number in our Concentration and Expiration Lookup or Certificate of Analysis online tools.)
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 5 µl per million cells in 100 µl staining volume or 5 µl per 100 µl of whole blood. * Alexa Fluor® 647 has a maximum emission of 668 nm when it is excited at 633nm / 635nm. Alexa Fluor® and Pacific Blue™ are trademarks of Life Technologies Corporation. View full statement regarding label licenses
Excitation Laser	Red Laser (633 nm)
Application Notes	Additional reported (for the relevant formats) applications include: immunohistochemical staining of acetone-fixed frozen sections, immunoprecipitation, and activation of T lymphocytes ⁴⁻⁷ . The HIT3a antibody is able to stimulate T cell activation. The LEAF™ purified antibody (Endotoxin <0.1 EU/µg, Azide-Free, 0.2 µm filtered) is recommended for functional assays (Cat. No. 300314). For highly sensitive assays, we recommend Ultra-LEAF™ purified antibody (Cat. No. 300332) with a lower endotoxin limit than standard LEAF™ purified antibodies (Endotoxin <0.01 EU/µg).
Application References	<ol style="list-style-type: none"> Schlossman S, <i>et al.</i> Eds. 1995. Leucocyte Typing V. Oxford University Press. New York. Knapp W. 1989. Leucocyte Typing IV. Oxford University Press New York. Barclay N, <i>et al.</i> 1997. The Leucocyte Antigen Facts Book. Academic Press Inc. San Diego. Sedellies KA, <i>et al.</i> 2004. <i>J. Biol. Chem.</i> 279:26581. (Activ) Rivollier A, <i>et al.</i> 2004. <i>Blood</i> 104:4029. (Activ) Scharschmidt E, <i>et al.</i> 2004. <i>Mol. Cell Biol.</i> 24:3860. (Activ)
(PubMed link indicates BioLegend citation)	

- Smeltz RB. 2007. *J. Immunol.* 178:4786. (Activ)
- Knyazhitsky M, *et al.* 2012. *J Biol Chem.* 287:19725. [PubMed](#)

Product Citations

- Knyazhitsky M, *et al.* 2012. *J Biol Chem.* 287:19275. [PubMed](#)
- Wu Y, *et al.* 2021. *Nat Biomed Eng.* 5:1336. [PubMed](#)
- Harris MJ, *et al.* 2021. *Mol Syst Biol.* 17:e10091. [PubMed](#)
- Bounab Y, *et al.* 2020. *Nature Protocols.* 15(9):2920-2955. [PubMed](#)
- Cho JH, *et al.* 2021. *Nat Commun.* 12:792. [PubMed](#)

RRID

AB_493692 (BioLegend Cat. No. 300321)
AB_493693 (BioLegend Cat. No. 300322)

Antigen Details

Structure	Ig superfamily, with the subunits of CD3 γ , CD3 δ , CD3 ζ (CD247) and TCR (α/β or γ/δ) forms CD3/TCR complex, 20 kD
Distribution	Mature T and NK-T cells, thymocyte differentiation
Function	Antigen recognition, signal transduction, T cell activation
Ligand/Receptor	Peptide antigen bound to MHC
Cell Type	T cells, NKT cells, Thymocytes, Tregs
Biology Area	Immunology
Molecular Family	CD Molecules, TCRs
Antigen References	<ol style="list-style-type: none">Barclay N, <i>et al.</i> 1993. <i>The Leucocyte FactsBook.</i> Academic Press. San Diego.Beverly P, <i>et al.</i> 1981. <i>Eur. J. Immunol.</i> 11:329.Lanier L, <i>et al.</i> 1986. <i>J. Immunol.</i> 137:2501-2507.
Gene ID	916

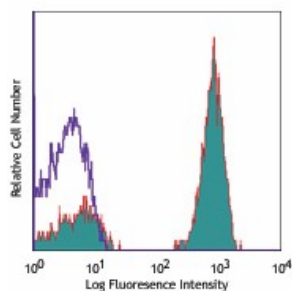
Related Protocols

[Cell Surface Flow Cytometry Staining Protocol](#)

Other Formats

APC anti-human CD3, Biotin anti-human CD3, FITC anti-human CD3, PE anti-human CD3, PE/Cyanine5 anti-human CD3, Purified anti-human CD3, APC/Cyanine7 anti-human CD3, PE/Cyanine7 anti-human CD3, Alexa Fluor® 488 anti-human CD3, Alexa Fluor® 647 anti-human CD3, Alexa Fluor® 700 anti-human CD3, PerCP anti-human CD3, PerCP/Cyanine5.5 anti-human CD3, Pacific Blue™ anti-human CD3, Ultra-LEAF™ Purified anti-human CD3, PE/Dazzle™ 594 anti-human CD3

Product Data



Human peripheral blood lymphocytes stained with HIT3a Alexa Fluor® 647

For research use only. Not for diagnostic use. Not for resale. BioLegend will not be held responsible for patent infringement or other violations that may occur with the use of our products.

*These products may be covered by one or more Limited Use Label Licenses (see the BioLegend Catalog or our website, www.biolegend.com/ordering#license). BioLegend products may not be transferred to third parties, resold, modified for resale, or used to manufacture commercial products, reverse engineer functionally similar materials, or to provide a service to third parties without written approval of BioLegend. By use of these products you accept the terms and conditions of all applicable Limited Use Label Licenses. Unless otherwise indicated, these products are for research use only and are not intended for human or animal diagnostic, therapeutic or commercial use.

BioLegend Inc., 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