

## Ultra-LEAF™ Purified anti-human CD3 Antibody

<b>Catalog# / Size</b>	300331 / 100 µg 300332 / 1 mg 300333 / 5 mg 300334 / 25 mg
<b>Clone</b>	HIT3a
<b>Regulatory Status</b>	RUO
<b>Workshop</b>	V CD03.05
<b>Other Names</b>	T3, CD3ε
<b>Isotype</b>	Mouse IgG2a, κ
<b>Description</b>	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

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<b>Verified Reactivity</b>	Human
<b>Antibody Type</b>	Monoclonal
<b>Host Species</b>	Mouse
<b>Formulation</b>	0.2 µm filtered in phosphate-buffered solution, pH 7.2, containing no preservative. Endotoxin level is <0.01 EU/µg of the protein (<0.001 ng/µg of the protein) as determined by the LAL test.
<b>Preparation</b>	The Ultra-LEAF™ (Low Endotoxin, Azide-Free) antibody was purified by affinity chromatography.
<b>Concentration</b>	The antibody is bottled at the concentration indicated on the vial, typically between 2 mg/mL and 3 mg/mL. Older lots may have also been bottled at 1 mg/mL. To obtain lot-specific concentration, please enter the lot number in our <a href="#">Concentration and Expiration Lookup</a> or <a href="#">Certificate of Analysis</a> online tools.
<b>Storage &amp; Handling</b>	The antibody solution should be stored undiluted between 2°C and 8°C. This Ultra-LEAF™ solution contains no preservative; handle under aseptic conditions.
<b>Application</b>	<a href="#">FC - Quality tested</a>
<b>Recommended Usage</b>	Each lot of this antibody is quality control tested by <a href="#">immunofluorescent staining with flow cytometric analysis</a> . For flow cytometric staining, the suggested use of this reagent is ≤ 2.0 µg per million cells in 100 µl volume or 100 µl of whole blood. It is recommended that the reagent be titrated for optimal performance for each application.
<b>Application Notes</b>	Additional reported (for the relevant formats) applications include: immunohistochemical staining of acetone-fixed frozen sections, immunoprecipitation, and activation of T lymphocytes <sup>4-7</sup> . 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).
<b>Application References</b>	<ol style="list-style-type: none"> <li>Schlossman S, <i>et al.</i> Eds. 1995. Leucocyte Typing V. Oxford University Press. New York.</li> <li>Knapp W. 1989. Leucocyte Typing IV. Oxford University Press New York.</li> <li>Barclay N, <i>et al.</i> 1997. The Leucocyte Antigen Facts Book. Academic Press Inc. San Diego.</li> <li>Sedelies KA, <i>et al.</i> 2004. <i>J. Biol. Chem.</i> 279:26581. (Activ)</li> <li>Rivollier A, <i>et al.</i> 2004. <i>Blood</i> 104:4029. (Activ)</li> <li>Scharschmidt E, <i>et al.</i> 2004. <i>Mol. Cell Biol.</i> 24:3860. (Activ)</li> <li>Smeltz RB. 2007. <i>J. Immunol.</i> 178:4786. (Activ)</li> </ol>
<b>(PubMed link indicates BioLegend citation)</b>	
<b>Product Citations</b>	

1. Zhao J, *et al.* 2021. *Front Immunol.* 12:658420. [PubMed](#)
2. Wang C, *et al.* 2021. *Cell Stem Cell.* . [PubMed](#)
3. Chan W, *et al.* 2021. *Immunohorizons.* 5:117. [PubMed](#)
4. Neal JT, *et al.* 2018. *Cell.* 175:1972. [PubMed](#)
5. Eken A, *et al.* 2020. *North Clin Istanbul.* 0.513194444. [PubMed](#)

**RRID** AB\_11147368 (BioLegend Cat. No. 300331)  
 AB\_11150396 (BioLegend Cat. No. 300332)  
 AB\_2616669 (BioLegend Cat. No. 300333)  
 AB\_2616670 (BioLegend Cat. No. 300334)

## Antigen Details

<b>Structure</b>	Ig superfamily, with the subunits of CD3 $\gamma$ , CD3 $\delta$ , CD3 $\zeta$ (CD247) and TCR ( $\alpha/\beta$ or $\gamma/\delta$ ) forms CD3/TCR complex, 20 kD
<b>Distribution</b>	Mature T and NK-T cells, thymocyte differentiation
<b>Function</b>	Antigen recognition, signal transduction, T cell activation
<b>Ligand/Receptor</b>	Peptide antigen bound to MHC
<b>Cell Type</b>	NKT cells, T cells, Tregs
<b>Biology Area</b>	Immunology
<b>Molecular Family</b>	CD Molecules, TCRs
<b>Antigen References</b>	1. Barclay N, <i>et al.</i> 1993. <i>The Leucocyte FactsBook.</i> Academic Press. San Diego. 2. Beverly P, <i>et al.</i> 1981. <i>Eur. J. Immunol.</i> 11:329. 3. Lanier L, <i>et al.</i> 1986. <i>J. Immunol.</i> 137:2501-2507.
<b>Gene ID</b>	<a href="#">916</a>

## Related Protocols

[Cell Surface Flow Cytometry Staining Protocol](#)

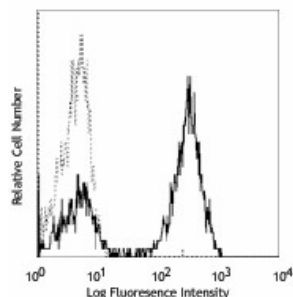
[T Cell Activation with anti-CD3 Antibodies Protocol - Human](#)

[T Cell Activation with anti-CD3 Antibodies Protocol - Mouse](#)

## 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 LEAF™ purified HIT3a and detected with anti-mouse IgGs FITC

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