

## Biotin anti-human CD3 Antibody

<b>Catalog# / Size</b>	300303 / 25 µg 300304 / 100 µg
<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>	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide.
<b>Preparation</b>	The antibody was purified by affinity chromatography, and conjugated with biotin under optimal conditions.
<b>Concentration</b>	0.5 mg/ml
<b>Storage &amp; Handling</b>	The antibody solution should be stored undiluted between 2°C and 8°C. <b>Do not freeze.</b>
<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 ≤0.5 µg per million cells in 100 µl volume. 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>Product Citations</b>	<ol style="list-style-type: none"><li>Rohde D, <i>et al.</i> 2022. <i>Nat Cardiovasc Res.</i> 1:28. <a href="#">PubMed</a></li><li>Agarwal S, <i>et al.</i> 2020. <i>Cell Reports.</i> 30(5):1292-1299.e3.. <a href="#">PubMed</a></li><li>Heyde A, <i>et al.</i> 2021. <i>Cell.</i> 184(5):1348-1361.e22. <a href="#">PubMed</a></li><li>Zebrowska A, <i>et al.</i> 2022. <i>Cells.</i> 11:. <a href="#">PubMed</a></li><li>Mondal SK, <i>et al.</i> 2021. <i>Methods Mol Biol.</i> 2265:305. <a href="#">PubMed</a></li></ol>

RRID AB\_314039 (BioLegend Cat. No. 300303)  
AB\_314040 (BioLegend Cat. No. 300304)

## 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>	T cells, NKT cells, Thymocytes, 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. The Leucocyte FactsBook. 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>

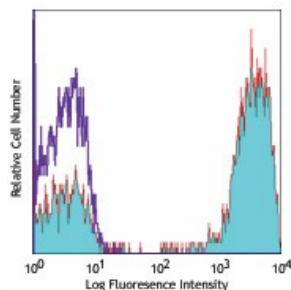
## Related Protocols

[Cell Surface Flow Cytometry Staining Protocol](#)

## 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 biotinylated HIT3a, followed by Sav-PE

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