

## PE/Cyanine5 anti-human CD3 Antibody

|                          |                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Catalog# / Size</b>   | 300309 / 25 tests<br>300310 / 100 tests                                                                                                                                                                                                                                                                                                                                                                                  |
| <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 and BSA (origin USA)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Preparation</b>                                | The antibody was purified by affinity chromatography, and conjugated with PE/Cyanine5 under optimal conditions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Concentration</b>                              | Lot-specific (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, and protected from prolonged exposure to light. <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 5 µl per million cells in 100 µl staining volume or 5 µl per 100 µl of whole blood.                                                                                                                                                                                                                                                                                                                                                                |
| <b>Excitation Laser</b>                           | Blue Laser (488 nm)<br>Green Laser (532 nm)/Yellow-Green Laser (561 nm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <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>Additional Product Notes</b>                   | BioLegend is in the process of converting the name PE/Cy5 to PE/Cyanine5. The dye molecule remains the same, so you should expect the same quality and performance from our PE/Cyanine5 products. Please contact <a href="#">Technical Service</a> if you have any questions.                                                                                                                                                                                                                                                                                                                                                                           |
| <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> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

8. Chow IT, *et al.* 2014. *PLoS One.* 9:112882. [PubMed](#)

## Product Citations

1. Labuhn M, *et al.* 2020. *Cancer Cell.* 36(2):123-138. [PubMed](#)
2. Ho T, *et al.* 2016. *Blood.* 128: 1671 - 1678. [PubMed](#)
3. Barruet E, *et al.* 2018. *JCI Insight.* 3: [PubMed](#)
4. Quast I, *et al.* 2015. *Neurol Neuroimmunol Neuroinflamm.* 2: e148. [PubMed](#)
5. James E, *et al.* 2016. *PLoS Pathog.* 12: 1005375. [PubMed](#)
6. BÖiers C, *et al.* 2018. *Dev Cell.* 44:362. [PubMed](#)
7. Chow I, *et al.* 2014. *PLoS One.* 9:112882. [PubMed](#)
8. Sade-Feldman M, *et al.* 2018. *Cell.* 175:998. [PubMed](#)
9. Bill M, *et al.* 2018. *J Cell Mol Med.* 22:2311. [PubMed](#)
10. Gupta R, *et al.* 2020. *Cell Stem Cell.* 26:527. [PubMed](#)
11. Rodriguez-Meira A *et al.* 2019. *Molecular cell.* 73(6):1292-1305 . [PubMed](#)

## RRID

AB\_314045 (BioLegend Cat. No. 300309)  
AB\_314046 (BioLegend Cat. No. 300310)

## 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. <i>The Leucocyte FactsBook.</i> Academic Press. San Diego.<br>2. Beverly P, <i>et al.</i> 1981. <i>Eur. J. Immunol.</i> 11:329.<br>3. Lanier L, <i>et al.</i> 1986. <i>J. Immunol.</i> 137:2501-2507. |
| <b>Gene ID</b>            | <a href="#">916</a>                                                                                                                                                                                                                     |

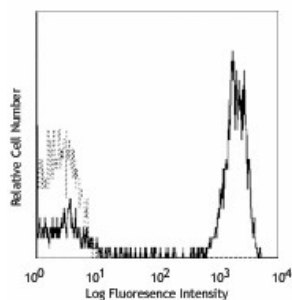
## Related Protocols

[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 HIT3a PE/Cyanine5

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