

## GMP PE/Cyanine7 anti-human CD45 Antibody

<b>Catalog# / Size</b>	260272 / 100 tests
<b>Clone</b>	HI30
<b>Workshop</b>	IV N816
<b>Other Names</b>	LCA, T200
<b>Isotype</b>	Mouse IgG1, κ
<b>Description</b>	CD45 is a 180-240 kD single chain type I membrane glycoprotein also known as leukocyte common antigen (LCA) and T200. It is a tyrosine phosphatase expressed on the plasma membrane of all hematopoietic cells, except erythrocytes and platelets. CD45 is a signaling molecule that regulates a variety of cellular processes including cell growth, differentiation, cell cycle, and oncogenic transformation. CD45 plays a critical role in T and B cell antigen receptor-mediated activation by dephosphorylating substrates including p56Lck, p59Fyn, and other Src family kinases. CD45 non-covalently associates with lymphocyte phosphatase-associated phosphoprotein (LPAP) on T and B lymphocytes. CD45 has been reported to bind galectin-1 and to be associated with several other cell surface antigens including CD1, CD2, CD3, and CD4.

### Product Details

<b>Reactivity</b>	Human
<b>Antibody Type</b>	Monoclonal
<b>Host Species</b>	Mouse
<b>Formulation</b>	Phosphate-buffered solution, pH 7.2, containing True-Stain Monocyte Blocker™, 0.09% sodium azide and 0.2% (w/v) BSA (origin USA).
<b>Preparation</b>	The antibody was purified by affinity chromatography and conjugated with PE/Cyanine7 under optimal conditions.
<b>Concentration</b>	25 µg/mL
<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. It is recommended that the reagent be titrated for optimal performance for each application.
<b>Excitation Laser</b>	Blue Laser (488 nm) Green Laser (532 nm)/Yellow-Green Laser (561 nm)
<b>Application Notes</b>	Additional reported applications (for the relevant formats) include: immunohistochemical staining of acetone-fixed frozen tissue sections and formalin-fixed paraffin-embedded tissue sections <sup>9</sup> , inhibition of CD45 functions <sup>4</sup> , immunofluorescence <sup>11</sup> , Western blotting <sup>3</sup> , and spatial biology (IBEX) <sup>16,17</sup> .  It was found that the HI30 clone and the 2D1 clone can cross block each other's binding.

### Application References

(PubMed link indicates BioLegend citation)

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11. Rees LE, et al. 2003. *Clin. Exp. Immunol.* 134:497. (IF)
12. Lee J, et al. 2015. *J Exp Med.* 212:385. [PubMed](#)
13. Breton G, et al. 2015. *J Exp Med.* 212:401. [PubMed](#)
14. Marquardt N, et al. 2015. *J Immunol.* 6:2467. [PubMed](#)
15. Bushway ME, et al. 2014. *Biol Reprod.* 90(5): 110. (IF) [PubMed](#)
16. Radtke AJ, et al. 2020. *Proc Natl Acad Sci USA.* 117:33455-33465. (SB) [PubMed](#)
17. Radtke AJ, et al. 2022. *Nat Protoc.* 17:378-401. (SB) [PubMed](#)

#### Disclaimer

**GMP RUO Flow Cytometry Antibodies.** BioLegend GMP RUO fluorophore conjugated antibodies are manufactured in a dedicated GMP facility and compliant with ISO 13485:2016. For research use only. Not for use in diagnostic or therapeutic procedures. Our processes include:

- Batch-to-batch consistency
- Material traceability
- Documented procedures
- Documented employee training
- Equipment maintenance and monitoring records
- Lot-specific certificates of analysis
- Quality audits per ISO 13485:2016
- QA review of released products

## Antigen Details

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<b>Structure</b>	Tyrosine phosphatases, type I transmembrane protein, 180-240 kD (multiple isoforms)
<b>Distribution</b>	Hematopoietic cells, not expressed in circulating erythrocytes or platelets
<b>Function</b>	TCR and BCR mediated activation
<b>Ligand/Receptor</b>	Galectin-1, CD2, CD3, CD4
<b>Cell Type</b>	Hematopoietic stem and progenitors, Mesenchymal Stem Cells
<b>Biology Area</b>	Cell Biology, Immunology, Inhibitory Molecules, Innate Immunity, Neuroscience, Neuroscience Cell Markers, Stem Cells
<b>Molecular Family</b>	CD Molecules
<b>Antigen References</b>	<ol style="list-style-type: none"> <li>1. Thomas M. 1989. <i>Annu. Rev. Immunol.</i> 7:339.</li> <li>2. Trowbridge I, et al. 1994. <i>Annu. Rev. Immunol.</i> 12:85.</li> </ol>
<b>Gene ID</b>	<a href="#">5788</a>

## Related Protocols

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[Cell Surface Flow Cytometry Staining of Whole Blood](#)

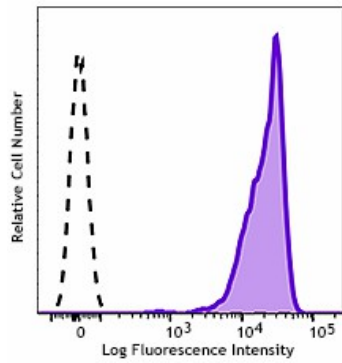
## Other Formats

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APC anti-human CD45, Biotin anti-human CD45, FITC anti-human CD45, PE anti-human CD45, PE/Cyanine5 anti-human CD45, Purified anti-human CD45, APC/Cyanine7 anti-human CD45, PE/Cyanine7 anti-human CD45, Alexa Fluor® 488 anti-human CD45, Alexa Fluor® 647 anti-human CD45, Pacific Blue™ anti-human CD45, Alexa Fluor® 700 anti-human CD45, PerCP anti-human CD45, PerCP/Cyanine5.5 anti-human CD45, Brilliant Violet 421™ anti-human CD45, Brilliant Violet 570™ anti-human CD45, Brilliant Violet 510™ anti-human CD45, Brilliant Violet 605™ anti-human CD45, Brilliant Violet 650™ anti-human CD45, Purified anti-human CD45 (Maxpar® Ready), Brilliant Violet 785™ anti-human CD45, Brilliant Violet 711™ anti-human CD45, PE/Dazzle™ 594 anti-human CD45, Alexa Fluor® 594 anti-human CD45, APC/Fire™ 750 anti-human CD45, TotalSeq™-A0391 anti-human CD45, TotalSeq™-B0391 anti-human CD45, TotalSeq™-C0391 anti-human CD45, PE/Fire™ 640 anti-human CD45, APC/Fire™ 810 anti-human CD45, Spark YG™ 570 anti-human CD45, PE/Fire™ 700 anti-human CD45, Alexa Fluor® 660 anti-human CD45 Antibody, Spark Violet™ 538 anti-human CD45, Spark YG™ 593 anti-human CD45, GMP APC/Fire™ 750 anti-human CD45, GMP APC anti-human CD45, Spark UV™ 387 anti-human CD45, GMP Pacific Blue™ anti-human CD45, GMP PerCP anti-human CD45, GMP FITC anti-human CD45, GMP PE/Dazzle™ 594 anti-human CD45, GMP PerCP/Cyanine5.5 anti-human CD45, Spark Blue™ 515 anti-human CD45, TotalSeq™-D0391 anti-human CD45

## Product Data

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Typical results from human peripheral blood lymphocytes stained either with HI30 PE/Cyanine7 used at 5  $\mu$ L/test (filled histogram) or with an isotype control (open histogram).

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