

## Pacific Blue™ anti-human CD45 Antibody

<b>Catalog# / Size</b>	304021 / 25 µg 304029 / 100 tests 304022 / 100 µg
<b>Clone</b>	HI30
<b>Regulatory Status</b>	RUO
<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

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<b>Verified Reactivity</b>	Human
<b>Reported Reactivity</b>	Chimpanzee
<b>Antibody Type</b>	Monoclonal
<b>Host Species</b>	Mouse
<b>Formulation</b>	test size: Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and BSA (origin USA). µg size: Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide.
<b>Preparation</b>	The antibody was purified by affinity chromatography, and conjugated with Pacific Blue™ under optimal conditions.
<b>Concentration</b>	test size: lot-specific; µg sizes: 0.5 mg/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> . <b>For test size</b> , the suggested use of this reagent for immunofluorescent staining is 5 µl per 10 <sup>6</sup> cells in 100 µl volume. <b>For µg sizes</b> , the suggested use of this reagent for immunofluorescent staining is ≤0.5 µg per 10 <sup>6</sup> cells in 100 µl volume. It is recommended that the reagent be titrated for optimal performance for each application.  * Pacific Blue™ has a maximum emission of 455 nm when it is excited at 405 nm. Prior to using Pacific Blue™ conjugate for flow cytometric analysis, please verify your flow cytometer's capability of exciting and detecting the fluorochrome.  Alexa Fluor® and Pacific Blue™ are trademarks of Life Technologies Corporation.  <a href="#">View full statement regarding label licenses</a>
<b>Excitation Laser</b>	Violet Laser (405 nm)

## Application Notes

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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**RRID** [AB\\_493654](#) (BioLegend Cat. No. 304021)  
[AB\\_2174123](#) (BioLegend Cat. No. 304029)  
[AB\\_493655](#) (BioLegend Cat. No. 304022)

## Antigen Details

<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, <i>et al.</i> 1994. <i>Annu. Rev. Immunol.</i> 12:85.</li> </ol>
<b>Gene ID</b>	<a href="#">5788</a>

## Related Protocols

[Cell Surface Flow Cytometry Staining Protocol](#)

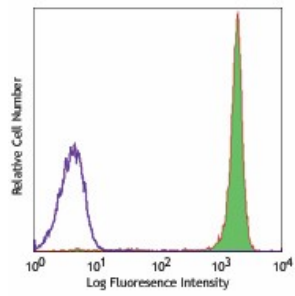
## Other Formats

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

## Product Data

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Human peripheral blood lymphocytes  
stained with HI30 Pacific Blue™



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