

GMP PE/Dazzle™ 594 anti-human CD45 Antibody

Catalog# / Size	260178 / 100 tests
Clone	HI30
Workshop	IV N816
Other Names	LCA, T200
Isotype	Mouse IgG1, κ
Description	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

Reactivity	Human
Antibody Type	Monoclonal
Host Species	Mouse
Formulation	Phosphate-buffered solution, pH 7.2, containing True-Stain Monocyte Blocker™, 0.09% sodium azide and 0.2% (w/v) BSA (origin USA).
Preparation	The antibody was purified by affinity chromatography and conjugated with PE/Dazzle™ 594 under optimal conditions.
Concentration	50 µg/mL
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. Do not freeze .
Application	FC - Quality tested
Recommended Usage	Each lot of this antibody is quality control tested by immunofluorescent staining with flow cytometric analysis . 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. * PE/Dazzle™ 594 has a maximum excitation of 566 nm and a maximum emission of 610 nm.
Excitation Laser	Blue Laser (488 nm) Green Laser (532 nm)/Yellow-Green Laser (561 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 ⁹ , inhibition of CD45 functions ⁴ , immunofluorescence ¹¹ , Western blotting ³ , and spatial biology (IBEX) ^{16,17} . It was found that the HI30 clone and the 2D1 clone can cross block each other's binding.
Application References	1. Knapp W, <i>et al.</i> 1989. Leucocyte Typing IV. Oxford University Press. New York. 2. Kishihara K, <i>et al.</i> 1993. <i>Cell</i> 74:143. 3. Esser M, <i>et al.</i> 2001. <i>J. Virol.</i> 75:6173. (WB) 4. Yamada T, <i>et al.</i> 2002. <i>J. Biol. Chem.</i> 277:28830. 5. Nagano M, <i>et al.</i> 2007. <i>Blood</i> 110:151. 6. Jiang Q, <i>et al.</i> 2008. <i>Blood</i> 112:2858. PubMed
(PubMed link indicates BioLegend citation)	

7. Morozov A, *et al.* 2010. *Clin Cancer Res.* 16:5630. [PubMed](#)
8. Yoshino N, *et al.* 2000. *Exp. Anim. (Tokyo)* 49:97. (FC)
9. Friedman T, *et al.* 1999. *J. Immunol.* 162:5256. (IHC)
10. Oeztuerk-Winder F, *et al.* 2012. *EMBO J.* 31:3431. (FC) [PubMed](#)
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

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

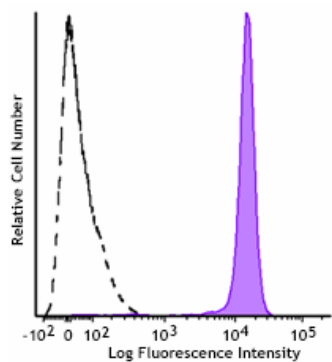
Related Protocols

[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

Product Data



Typical results from human peripheral blood lymphocytes stained either with HI30 PE/Dazzle™ 594 used at 5 μ L/test (filled histogram) or with an isotype control (open histogram).

For research use only. Not for resale. BioLegend will not be held responsible for patent infringement or other violations that may occur with the use of our products.

*These products may be covered by one or more Limited Use Label Licenses (see the BioLegend Catalog or our website, www.biolegend.com/ordering#license). BioLegend products may not be transferred to third parties, resold, modified for resale, or used to manufacture commercial products, reverse engineer functionally similar materials, or to provide a service to third parties without written approval of BioLegend. By use of these products you accept the terms and conditions of all applicable Limited Use Label Licenses.

BioLegend Inc., 8999 BioLegend Way, San Diego, CA 92121 www.biolegend.com
Toll-Free Phone: 1-877-Bio-Legend (246-5343) Phone: (858) 768-5800 Fax: (877) 455-9587