

Purified anti-human CD45 Antibody

Catalog# / Size	368502 / 100 µg
Clone	2D1
Regulatory Status	RUO
Other Names	Leukocyte Common Antigen (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 or 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
Immunogen	Human PBMC
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide.
Preparation	The antibody was purified by affinity chromatography.
Concentration	0.5 mg/ml
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C.
Application	FC - Quality tested IHC-P - Reported in the literature, not verified in house
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 ≤0.5 µg per million cells in 100 µl volume. It is recommended that the reagent be titrated for optimal performance for each application.
Application Notes	It was found that the HI30 clone and the 2D1 clone can cross block each other's binding.
Application References	<ol style="list-style-type: none">1. Bradstock KF, <i>et al.</i> 1980. <i>J. Natl. Cancer Inst.</i> 65:33.2. Csiba A, <i>et al.</i> 1984. <i>Br. J. Cancer</i> 50:699.3. Tchilian EZ, <i>et al.</i> 2001. <i>J. Immunol.</i> 166:1308.4. Lee MS, <i>et al.</i> 2004. <i>Int. Immunol.</i> 16:1109.

Product Citations

1. Xie S, *et al.* 2020. *Ann Transl Med.* 1.384027778. [PubMed](#)
2. Balakrishnan A, *et al.* 2019. *Sci Rep.* 9:7933. [PubMed](#)
3. Ran LJ, *et al.* 2018. *Mol Med Rep.* 18:723. [PubMed](#)
4. Walker DG, *et al.* 2019. *Cells.* 8. [PubMed](#)
5. Donnelly C, *et al.* 2018. *Sci Rep.* 0.625. [PubMed](#)
6. Zhao L, *et al.* 2018. *Nat Med.* 24:1536. [PubMed](#)
7. Yoshihara S, *et al.* 2019. *Front Immunol.* 0.545833333. [PubMed](#)
8. Wäldchen F, *et al.* 2020. *Nat Commun.* 1.074305556. [PubMed](#)
9. Wang J, *et al.* 2020. *Sci Adv.* 6:eaax3223. [PubMed](#)

Antigen Details

Structure	Type I transmembrane protein, 180 - 240 kD (multiple isoforms)
Distribution	Hematopoietic cells, except circulating erythrocytes or platelets.
Function	Tyrosine phosphatases, signaling, co-stimulation (co-inhibition), TCR and BCR mediated activation.
Ligand/Receptor	Galectin-1, CD2, CD3, and CD4.
Cell Type	B cells, Dendritic cells, Neutrophils
Biology Area	Cell Biology, Immunology, Inhibitory Molecules, Neuroscience, Neuroscience Cell Markers
Molecular Family	CD Molecules, Protein Kinases/Phosphatase, TCRs
Antigen References	1. Thomas M. 1989. <i>Annu. Rev. Immunol.</i> 7:339. 2. Trowbridge I, et al. 1994. <i>Annu. Rev. Immunol.</i> 12:85.
Gene ID	5788

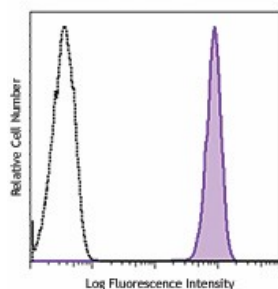
Related Protocols

[Cell Surface Flow Cytometry Staining Protocol](#)

Other Formats

Purified anti-human CD45, PerCP anti-human CD45, FITC anti-human CD45, PE anti-human CD45, APC anti-human CD45, Alexa Fluor® 700 anti-human CD45, APC/Cyanine7 anti-human CD45, PerCP/Cyanine5.5 anti-human CD45, APC/Fire™ 750 anti-human CD45, Alexa Fluor® 594 anti-human CD45, Brilliant Violet 510™ anti-human CD45, Brilliant Violet 421™ anti-human CD45, PE/Dazzle™ 594 anti-human CD45, Brilliant Violet 605™ anti-human CD45, PE/Cyanine7 anti-human CD45, Pacific Blue™ anti-human CD45, Alexa Fluor® 647 anti-human CD45, Biotin anti-human CD45, Alexa Fluor® 488 anti-human CD45, TotalSeq™-A0048 anti-human CD45, Brilliant Violet 750™ anti-human CD45, TotalSeq™-C0048 anti-human CD45, TotalSeq™-B0048 anti-human CD45, Spark Blue™ 550 anti-human CD45, Spark NIR™ 685 anti-human CD45, TotalSeq™-D0048 anti-human CD45, PE/Cyanine5 anti-human CD45, Spark Blue™ 574 anti-human CD45 Antibody

Product Data



Human peripheral blood lymphocytes were stained with purified CD45 (clone 2D1) (filled histogram) or purified mouse IgG1, κ isotype control (open histogram), followed by anti-mouse IgG FITC.

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