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CD45.1 Monoclonal Antibody (A20), PE-Cyanine5, eBioscience™

Catalog Number 15-0453-82

Product data sheet

Details	
Size	100 µg
Host/Isotope	Mouse / IgG2a, kappa
Class	Monoclonal
Type	Antibody
Clone	A20
Conjugate	PE-Cyanine5
Form	Liquid
Concentration	0.2 mg/mL
Purification	Affinity chromatography
Storage buffer	PBS, pH 7.2
Contains	0.09% sodium azide
Storage Conditions	4° C, store in dark, DO NOT FREEZE!

Species Reactivity	
Species reactivity	Mouse
Published species	Fish, Mouse, Not Applicable

Tested Applications	Dilution *
Flow Cytometry (Flow)	0.5 µg/test

Published Applications	
Flow Cytometry (Flow)	See 10 publications below

* Suggested working dilutions are given as a guide only. It is recommended that the user titrate the product for use in their own experiment using appropriate negative and positive controls.

Product specific information

Description: The A20 monoclonal antibody reacts with the mouse CD45 molecule, the leukocyte common antigen (LCA) in CD45.1-expressing mouse strains. The strains that express CD45.1 include SJL/J, DA, STS/A and RIII. CD45.1 is expressed by all leukocytes in these strains. Applications Reported: The A20 antibody has been reported for use in flow cytometric analysis. Applications Tested: The A20 antibody has been tested by flow cytometric analysis of mouse splenocytes. This can be used at less than or equal to 0.5 µg per test. A test is defined as the amount (µg) of antibody that will stain a cell sample in a final volume of 100 µL. Cell number should be determined empirically but can range from 10^5 to 10^8 cells/test. It is recommended that the antibody be carefully titrated for optimal performance in the assay of interest. Light sensitivity: This tandem dye is sensitive photo-induced oxidation. Please protect this vial and stained samples from light. Fixation: Samples can be stored in IC Fixation Buffer (cat. 00-8222) (100 µL cell sample + 100 µL IC Fixation Buffer) or 1-step Fix/Lyse Solution (cat. 00-5333) for up to 3 days in the dark at 4°C with minimal impact on brightness and FRET efficiency/compensation. Some generalizations regarding fluorophore performance after fixation can be made, but clone specific performance should be determined empirically. Excitation: 488-561 nm; Emission: 667 nm; Laser: Blue Laser, Green Laser, Yellow-Green Laser. Filtration: 0.2 µm post-manufacturing filtered.

Background/Target Information

CD45 (LCA, leukocyte common antigen) is a receptor-type protein tyrosine phosphatase ubiquitously expressed in all nucleated hematopoietic cells, comprising approximately 10% of all surface proteins in lymphocytes. CD45 glycoprotein is crucial in lymphocyte development and antigen signaling, serving as an important regulator of Src-family kinases. CD45 protein exists as multiple isoforms as a result of alternative splicing; these isoforms differ in their extracellular domains, whereas they share identical transmembrane and cytoplasmic domains. These CD45 isoforms differ in their ability to translocate into the glycosphingolipid-enriched membrane domains and their expression depends on cell type and physiological state of the cell. Besides the role in immunoreceptor signaling, CD45 is important in promoting cell survival by modulating integrin-mediated signal transduction pathway and is also involved in DNA fragmentation during apoptosis. CD45RA is an isoform of the CD45 complex and has restricted expression between different subtypes of lymphoid cells.

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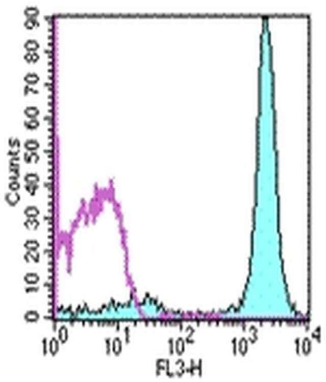
Product Images For CD45.1 Monoclonal Antibody (A20), PE-Cyanine5, eBioscience™



CD45.1 Antibody (15-0453-82) in Flow

Staining of SJL splenocytes with staining buffer (autofluorescence) (open histogram) or 0.25 µg Anti-Mouse CD45-1 PE-Cyanine5 (filled histogram).Total cells were used for analysis.

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PubMed References For CD45.1 Monoclonal Antibody (A20), PE-Cyanine5, eBioscience™

10 Flow Cytometry References

Species / Dilution	Summary
Mouse / Not Cited	15-0453 was used in Flow cytometry/Cell sorting to study the role of Treg cell activation in postischemic response and vessel growth. Circulation (2009; 120: 1415) **"Regulatory T cells modulate postischemic neovascularization."** Author(s):Zouggari Y,Ait-Oufella H,Waeckel L,Vilar J,Loinard C,Cochain C,Récalde A,Duriez M,Levy BI,Lutgens E,Mallat Z,Silvestre JS PubMed Article URL:http://dx.doi.org/10.1161/CIRCULATIONAHA.109.875583
Mouse / Not Cited	15-0453 was used in Flow cytometry/Cell sorting to demonstrate roles for retinoid signaling and the DERARE in maintaining HSCs and preventing leukemogenesis by coordinate regulation of Hoxb genes. Cell stem cell (2018; 22: 740) **"Retinoid-Sensitive Epigenetic Regulation of the Hoxb Cluster Maintains Normal Hematopoiesis and Inhibits Leukemogenesis."** Author(s):Qian P,De Kumar B,He XC,Nolte C,Gogol M,Ahn Y,Chen S,Li Z,Xu H,Perry JM,Hu D,Tao F,Zhao M,Han Y,Hall K,Peak A,Paulson A,Zhao C,Venkatraman A,Box A,Perera A,Haug JS,Parmely T,Li H,Krumlauf R,Li L PubMed Article URL:http://dx.doi.org/10.1016/j.stem.2018.04.012
Mouse / Not Cited	15-0453-82 was used in Flow cytometry/Cell sorting to demonstrate that Dlk1 is essential for maintaining HSC homeostasis, which is realized by governing Notch signalling and restricting mitochondrial metabolic activity. Experimental hematology & oncology (2023; 12:) **"Dlk1 maintains adult mice long-term HSCs by activating Notch signaling to restrict mitochondrial metabolism."** Author(s):Huang D,Han Y,Tang T,Yang L,Jiang P,Qian W,Zhang Z,Qian X,Zeng X,Qian P PubMed Article URL:http://dx.doi.org/10.1186/s40164-022-00369-9
Mouse / Not Cited	15-0453 was used in Flow cytometry/Cell sorting to describe an evasion mechanism employed by pathogens to prevent entry into the cross-presentation pathway. PLoS pathogens (2009; 5:) **"Viral sequestration of antigen subverts cross presentation to CD8(+) T cells."** Author(s):Tewalt EF,Grant JM,Granger EL,Palmer DC,Heuss ND,Gregerson DS,Restifo NP,Norbury CC PubMed Article URL:http://dx.doi.org/10.1371/journal.ppat.1000457
Mouse / Not Cited	15-0453 was used in Flow cytometry/Cell sorting to describe the immunological mechanism leading to rejection of allogeneic BM-SCs after implantation in murine CNS. Immunology and cell biology (2009; 87: 267) **"Allogeneic stromal cell implantation in brain tissue leads to robust microglial activation."** Author(s):Tambuyzer BR,Bergwerf I,De Vocht N,Reekmans K,Daans J,Jorens PG,Goossens H,Ysebaert DK,Chatterjee S,Van Marck E,Berneman ZN,Ponsaerts P PubMed Article URL:http://dx.doi.org/10.1038/icb.2009.12
Mouse / Not Cited	15-0453 was used in Flow cytometry/Cell sorting to show that induced deletion of CXCR4 in adult mice leads to severe reduction of haematopoietic stem cells and increased sensitivity to myelotoxic injury. Immunity (2006; 25: 977) **"Maintenance of the hematopoietic stem cell pool by CXCL12-CXCR4 chemokine signaling in bone marrow stromal cell niches."** Author(s):Sugiyama T,Kohara H,Noda M,Nagasawa T PubMed Article URL:http://dx.doi.org/10.1016/j.immuni.2006.10.016
Mouse / Not Cited	15-0453 was used in Flow cytometry/Cell sorting to directly observe the dynamics of T cell-parasite interactions within living tissue and further understand immune responses to persistent pathogens in the brain. Journal of immunology (Baltimore, Md. : 1950) (2009; 182: 6379) **"Dynamic imaging of T cell-parasite interactions in the brains of mice chronically infected with Toxoplasma gondii."** Author(s):Schaeffer M,Han SJ,Chtanova T,van Dooren GG,Herzmark P,Chen Y,Roysam B,Striepen B,Robey EA PubMed Article URL:http://dx.doi.org/10.4049/jimmunol.0804307
Mouse / Not Cited	15-0453 was used in Flow cytometry/Cell sorting to report that N-cad+ cells were functional bone and marrow stromal progenitor cells, giving rise to osteoblasts, adipocytes, and chondrocytes both in vitro and in vivo. Cell reports (2019; 26: 652) **"N-Cadherin-Expressing Bone and Marrow Stromal Progenitor Cells Maintain Reserve Hematopoietic Stem Cells."** Author(s):Zhao M,Tao F,Venkatraman A,Li Z,Smith SE,Unruh J,Chen S,Ward C,Qian P,Perry JM,Marshall H,Wang J,He XC,Li L PubMed Article URL:http://dx.doi.org/10.1016/j.celrep.2018.12.093

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	15-0453 was used in Flow cytometry/Cell sorting to contribute to a protocol for the production, enrichment, and in vitro and in vivo analyses of HR-targeted hematopoietic stem cells.
Mouse / Not Cited	Nature protocols (2018; 13: 358) **"CRISPR/Cas9 genome editing in human hematopoietic stem cells."** Author(s):Bak RO,Dever DP,Porteus MH PubMed Article URL:http://dx.doi.org/10.1038/nprot.2017.143
	15-0453 was used in Flow cytometry/Cell sorting to demonstrate an effect of the NK1R in T cells that is relevant for immunotherapies based on pro-inflammatory neuropeptides and its receptors.
Mouse / Not Cited	Cell reports (2020; 30: 3448) **"Neurokinin-1 Receptor Signaling Is Required for Efficient Ca²⁺ Flux in T-Cell-Receptor-Activated T Cells."** Author(s):Morelli AE,Sumpter TL,Rojas-Canales DM,Bandyopadhyay M,Chen Z,Tkacheva O,Shufesky WJ,Wallace CT, Watkins SC,Berger A,Paige CJ,Falo LD,Larregina AT PubMed Article URL:http://dx.doi.org/10.1016/j.celrep.2020.02.054

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