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CD45 Monoclonal Antibody (30-F11), PE-Cyanine5, eBioscience™

Catalog Number 15-0451-81

Product data sheet

Details	
Size	50 µg
Host/Isotope	Rat / IgG2b, kappa
Class	Monoclonal
Type	Antibody
Clone	30-F11
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	Mouse, Human, Not Applicable

Tested Applications	Dilution *
Flow Cytometry (Flow)	0.06 µg/test

Published Applications	
Flow Cytometry (Flow)	See 14 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 30-F11 monoclonal antibody reacts with all isoforms of mouse CD45, also known as Leukocyte Common Antigen (LCA). CD45 is expressed by all hematopoietic cells excluding mature erythrocytes and platelets. The cytoplasmic portion of CD45 has tyrosine phosphatase enzymatic activity and plays an important role in activation of lymphocytes. Applications Reported: The 30-F11 antibody has been reported for use in flow cytometric analysis. Applications Tested: The 30-F11 antibody has been tested by flow cytometric analysis of mouse bone marrow cells and splenocytes. This can be used at less than or equal to 0.06 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 (PTP) ubiquitously expressed in all nucleated hematopoietic cells, comprising approximately 10% of all surface proteins in lymphocytes. CD45 is absent on non-hematopoietic cell lines, normal and malignant, non-hematopoietic tissues. 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, differ in their extracellular domains but share identical transmembrane and cytoplasmic domains. CD45RA is an isoform of the CD45 complex and has restricted expression between different subtypes of lymphoid cells. 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. CD45 has been shown to be an essential regulator of T- and B-cell antigen receptor signaling and suppresses JAK kinases to regulate cytokine receptor signaling. CD45 is also important in promoting cell survival by modulating integrin-mediated signal transduction pathway, DNA fragmentation during apoptosis and inhibition or upregulation of various immunological functions.

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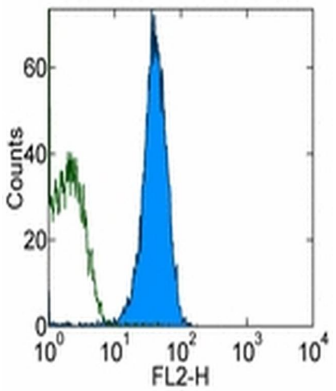
Product Images For CD45 Monoclonal Antibody (30-F11), PE-Cyanine5, eBioscience™



CD45 Antibody (15-0451-81) in Flow

Staining of C57Bl/6 splenocytes with 0.03 µg of PE-Cyanine5 Rat IgG2b Isotype Control (Product # 15-4031-82) (open histogram) or 0.03 µg of Anti-Mouse CD45 PE-Cyanine5 (filled histogram).Cells in the lymphocyte gate were used for analysis.

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PubMed References For CD45 Monoclonal Antibody (30-F11), PE-Cyanine5, eBioscience™

14 Flow Cytometry References

Species / Dilution	Summary
Mouse / Not Cited	15-0451 was used in Flow cytometry/Cell sorting to investigate the effects of local doxycycline administration on skin scarring. Annals of surgery (2020; 272: 183) **"Doxycycline Reduces Scar Thickness and Improves Collagen Architecture."** Author(s):Moore AL,desJardins-Park HE,Duoto BA,Mascharak S,Murphy MP,Irizarry DM,Foster DS,Jones RE,Barnes LA, Marshall CD,Ransom RC,Wernig G,Longaker MT PubMed Article URL:http://dx.doi.org/10.1097/SLA.0000000000003172
Mouse / Not Cited	15-0451-82 was used in Flow Cytometry to report findings related to reverse signaling by CD137 ligand (CD137L) in antigen-presenting dendritic cells (DC) in tumors that address these paradoxical results. Cancer research (2017; 77: 5989) **"Anti-CD137 Suppresses Tumor Growth by Blocking Reverse Signaling by CD137 Ligand."** Author(s):Kang SW,Lee SC,Park SH,Kim J,Kim HH,Lee HW,Seo SK,Kwon BS,Cho HR,Kwon B PubMed Article URL:http://dx.doi.org/10.1158/0008-5472.CAN-17-0610
Mouse / Not Cited	15-0451 was used in Flow cytometry/Cell sorting to investigate different functional classes of interstitial cells of Cajal of human and murine small intestine. American journal of physiology. Cell physiology (2007; 292: C497) **"Selective labeling and isolation of functional classes of interstitial cells of Cajal of human and murine small intestine."** Author(s):Chen H,Redelman D,Ro S,Ward SM,Ordög T,Sanders KM PubMed Article URL:http://dx.doi.org/10.1152/ajpcell.00147.2006
Mouse / Not Cited	15-0451 was used in Flow cytometry/Cell sorting to investigate the contribution of different cell types to tumour response to radiation. Science translational medicine (2015; 7:) **"Tumor cells, but not endothelial cells, mediate eradication of primary sarcomas by stereotactic body radiation therapy."** Author(s):Moding EJ,Castle KD,Perez BA,Oh P,Min HD,Norris H,Ma Y,Cardona DM,Lee CL,Kirsch DG PubMed Article URL:http://dx.doi.org/10.1126/scitranslmed.aaa4214
Mouse / Not Cited	15-0451 was used in Flow cytometry/Cell sorting to study the developmental origins of cardiac fibroblasts and characterise their corresponding phenotypes, to aid in determining the proliferation rates of each developmental subset. Circulation research (2014; 115: 625) **"Developmental heterogeneity of cardiac fibroblasts does not predict pathological proliferation and activation."** Author(s):Ali SR,Ranjbarvaziri S,Talkhabi M,Zhao P,Subat A,Hojjat A,Kamran P,Müller AM,Volz KS,Tang Z,Red-Horse K, Ardehali R PubMed Article URL:http://dx.doi.org/10.1161/CIRCRESAHA.115.303794
Mouse / Not Cited	15-0451 was used in Flow cytometry/Cell sorting to confirm the importance of MC3R signalling in human metabolism, and suggest a novel role for MC3R in adipose tissue development. Nature communications (2016; 7:) **"A mouse model for a partially inactive obesity-associated human MC3R variant."** Author(s):Lee B,Koo J,Yun Jun J,Gavrilova O,Lee Y,Seo AY,Taylor-Douglas DC,Adler-Wailes DC,Chen F,Gardner R, Koutzoumis D,Sherafat Kazemzadeh R,Roberson RB,Yanovski JA PubMed Article URL:http://dx.doi.org/10.1038/ncomms10522
Mouse / Not Cited	15-0451 was used in Flow cytometry/Cell sorting to determine that endothelial cells must progress through the cell cycle in order to be radiosensitized by Atm deletion. The Journal of clinical investigation (2014; 124: 3325) **"Atm deletion with dual recombinase technology preferentially radiosensitizes tumor endothelium."** Author(s):Moding EJ,Lee CL,Castle KD,Oh P,Mao L,Zha S,Min HD,Ma Y,Das S,Kirsch DG PubMed Article URL:http://dx.doi.org/10.1172/JCI73932
Mouse / Not Cited	15-0451 was used in Flow cytometry/Cell sorting to identify a population of primitive cells expressing germ line/epiblast markers deposited early during embryogenesis in various organs and survives into adulthood. Cytometry. Part A : the journal of the International Society for Analytical Cytology (2008; 73A: 1116) **"Very small embryonic-like stem cells are present in adult murine organs: ImageStream-based morphological analysis and distribution studies."** Author(s):Zuba-Surma EK,Kucia M,Wu W,Klich I,Lillard JW,Ratajczak J,Ratajczak MZ PubMed Article URL:http://dx.doi.org/10.1002/cyto.a.20667

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	15-0451 was used in Flow cytometry/Cell sorting to show that the absence of Invariant natural killer T cells in the peripheral blood of patients with hypomorphic RAG mutations, may contribute to the physical pathology of Ommen syndrome.
Human / Not Cited	Blood (2008; 111: 271) **"Lack of iNKT cells in patients with combined immune deficiency due to hypomorphic RAG mutations."** Author(s):Matangkasombut P,Pichavant M,Saez DE,Giliani S,Mazzolari E,Finocchi A,Villa A,Sobacchi C,Cortes P,Umetsu DT,Notarangelo LD PubMed Article URL:http://dx.doi.org/10.1182/blood-2007-06-096487
Mouse / Not Cited	15-0451 was used in Flow cytometry/Cell sorting to study infiltration of inflammatory cells to skeletal muscle in Ross River virus disease in response to MTX treatment.
	PloS one (2014; 8:) **"Methotrexate treatment causes early onset of disease in a mouse model of Ross River virus-induced inflammatory disease through increased monocyte production."** Author(s):Taylor A,Sheng KC,Herrero LJ,Chen W,Rulli NE,Mahalingam S PubMed Article URL:http://dx.doi.org/10.1371/journal.pone.0071146
Mouse / Not Cited	15-0451 was used in Flow cytometry/Cell sorting to develop a method to expand the study of endothelial cell biology for multiple clinical applications..
	BioMed research international (2014; 2013:) **"Isolation, characterization, and transplantation of cardiac endothelial cells."** Author(s):Pratumvinit B,Reesukumal K,Janebodin K,Ieronimakis N,Reyes M PubMed Article URL:http://dx.doi.org/10.1155/2013/359412
Mouse / Not Cited	15-0451 was used in Flow cytometry/Cell sorting to develop and characterise an improved mouse model of psoriasis using imiquimod, showing that the dynamics and transcriptomics of skin dendritic cells and macrophages are similar to those seen in human pathology.
	Journal of immunology (Baltimore, Md. : 1950) (2015; 195: 4953) **"Dynamics and Transcriptomics of Skin Dendritic Cells and Macrophages in an Imiquimod-Induced, Biphasic Mouse Model of Psoriasis."** Author(s):Terhorst D,Chelbi R,Wohn C,Malosse C,Tamoutounour S,Jorquera A,Bajenoff M,Dalod M,Malissen B,Henri S PubMed Article URL:http://dx.doi.org/10.4049/jimmunol.1500551
Mouse / Not Cited	15-0451 was used in Flow cytometry/Cell sorting to suggest that using syngeneic or decellularised corneal tissue as a Boston-KPro carrier could reduce the postoperative inflammation response.
	Investigative ophthalmology & visual science (2014; 56: 185) **"Corneal inflammation after miniature keratoprosthesis implantation."** Author(s):Crnej A,Omoto M,Dohlman TH,Dohlman CH,Dana R PubMed Article URL:http://dx.doi.org/10.1167/iovs.14-15884
Mouse / Not Cited	15-0451 was used in Flow cytometry/Cell sorting to examine the effect of Caveolin-1 ablation on the sensitivity of the retina to inflammation.
	Investigative ophthalmology & visual science (2014; 55: 6224) **"Caveolin-1 increases proinflammatory chemoattractants and blood-retinal barrier breakdown but decreases leukocyte recruitment in inflammation."** Author(s):Li X,Gu X,Boyce TM,Zheng M,Reagan AM,Qi H,Mandal N,Cohen AW,Callegan MC,Carr DJ,Elliott MH PubMed Article URL:http://dx.doi.org/10.1167/iovs.14-14613

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