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CD14 Monoclonal Antibody (61D3), PerCP-Cyanine5.5, eBioscience™

Catalog Number 45-0149-41

Product data sheet

Details	
Size	25 Tests
Host/Isotope	Mouse / IgG1, kappa
Class	Monoclonal
Type	Antibody
Clone	61D3
Conjugate	PerCP-Cyanine5.5
Form	Liquid
Concentration	5 µL/Test
Purification	Affinity chromatography
Storage buffer	PBS, pH 7.2, with 0.2% BSA
Contains	0.09% sodium azide
Storage Conditions	4° C, store in dark, DO NOT FREEZE!

Species Reactivity	
Species reactivity	Human
Published species	Human, Not Applicable

Tested Applications	Dilution *
Flow Cytometry (Flow)	5 µL (0.5 µg)/test

Published Applications	
Flow Cytometry (Flow)	See 16 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 61D3 monoclonal antibody reacts with human CD14, a 53-55 kDa GPI-linked glycoprotein. CD14 is expressed on monocytes, interfollicular macrophages and some dendritic cells. Complexes of LPS and LBP (LPS-Binding Protein) bind with high affinity to monocytes through the surface CD14. Applications Reported: This 61D3 antibody has been reported for use in flow cytometric analysis. Applications Tested: This 61D3 antibody has been pre-titrated and tested by flow cytometric analysis of normal human peripheral blood cells. This can be used at 5 µL (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. Light sensitivity: This tandem dye is sensitive to 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 of cell sample + 100 µL of 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 nm; Emission: 695 nm; Laser: Blue Laser. Filtration: 0.2 µm post-manufacturing filtered.

Background/Target Information

CD14 is a 55 kDa GPI-anchored glycoprotein that is constitutively expressed on the surface of mature monocytes, macrophages, and neutrophils. CD14 also serves as a multifunctional lipopolysaccharide receptor, and is released to the serum both as a secreted and enzymatically cleaved GPI-anchored form. CD14 binds lipopolysaccharide molecule in a reaction catalyzed by lipopolysaccharide-binding protein (LBP), an acute phase serum protein. The soluble sCD14 can discriminate slight structural differences between lipopolysaccharides and is important for neutralization of serum allochthonous lipopolysaccharides by reconstituted lipoprotein particles. Further, CD14 has been shown to bind apoptotic cells, and can affect allergic, inflammatory and infectious processes. Alternative splicing results in multiple transcript variants encoding the same CD14 isoform. Diseases associated with CD14 dysfunction include mycobacterium chelonae infection and Croup.

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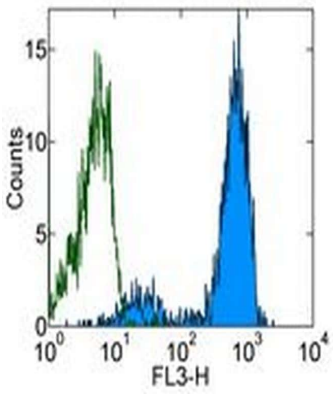
Product Images For CD14 Monoclonal Antibody (61D3), PerCP-Cyanine5.5, eBioscience™



CD14 Antibody (45-0149-41) in Flow

Staining of normal human peripheral blood cells with staining buffer (autofluorescence) (open histogram) or Anti-Human CD14 PerCP-Cyanine5.5 (filled histogram). Cells in the monocyte gate were used for analysis.

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PubMed References For CD14 Monoclonal Antibody (61D3), PerCP-Cyanine5.5, eBioscience™

16 Flow Cytometry References

Species / Dilution	Summary
Human / Not Cited	45-0149 was used in Flow cytometry/Cell sorting to show that progranulin (PGRN) can reduce NK cell cytotoxicity through reduction of NK cell expansion, granzyme B transcription, and NK cell-mediated lysis of target cells. JCI insight (2019; 4:) **"Progranulin prevents regulatory NK cell cytotoxicity against antiviral T cells."** Author(s):Huang A,Shinde PV,Huang J,Senff T,Xu HC,Margotta C,Häussinger D,Willnow TE,Zhang J,Pandyra AA,Timm J,Weggen S,Lang KS,Lang PA PubMed Article URL:http://dx.doi.org/10.1172/jci.insight.129856
Human / Not Cited	45-0149-42 was used in Flow cytometry/Cell sorting to find that NLRP3 was highly expressed in tumor-associated macrophages (TAMs) in both mouse and human HNSCC, and the expression of NLRP3 was positively correlated with the density of TAMs according to immunohistochemistry, immunofluorescence, and flow cytometry analyses. Cancer immunology, immunotherapy : CII (2023; 72: 1647) **"NLRP3 in tumor-associated macrophages predicts a poor prognosis and promotes tumor growth in head and neck squamous cell carcinoma."** Author(s):Chen L,Wan SC,Mao L,Huang CF,Bu LL,Sun ZJ PubMed Article URL:http://dx.doi.org/10.1007/s00262-022-03357-4
Human / Not Cited	45-0149-42 was used in Flow Cytometry to study the human B cell response to SARS-CoV-2 infection in patients over five months. Science immunology (2021; 6:) **"Prolonged evolution of the human B cell response to SARS-CoV-2 infection."** Author(s):Sakharkar M,Rappazzo CG,Wieland-Alter WF,Hsieh CL,Wrapp D,Esterman ES,Kaku CI,Wec AZ,Geoghegan JC,McLellan JS,Connor RI,Wright PF,Walker LM PubMed Article URL:http://dx.doi.org/10.1126/sciimmunol.abg6916
Human / Not Cited	45-0149 was used in Flow cytometry/Cell sorting to establish the MDSC-specific gene signature and identify CD84 as a surface marker for improved detection and enrichment of MDSCs in breast cancers. Science immunology (2020; 5:) **"Defining the emergence of myeloid-derived suppressor cells in breast cancer using single-cell transcriptomics."** Author(s):Alshetaiwi H,Pervolarakis N,McIntyre LL,Ma D,Nguyen Q,Rath JA,Nee K,Hernandez G,Evans K,Torosian L,Silva A,Walsh C,Kessenbrock K PubMed Article URL:http://dx.doi.org/10.1126/sciimmunol.aay6017
Human / Not Cited	45-0149 was used in Flow cytometry/Cell sorting to compare the expression of CD73 on lymphocytes from patients with juvenile idiopathic arthritis to healthy control subjects. Arthritis & rheumatology (Hoboken, N.J.) (2015; 67: 545) **"Correlation of low CD73 expression on synovial lymphocytes with reduced adenosine generation and higher disease severity in juvenile idiopathic arthritis."** Author(s):Botta Gordon-Smith S,Ursu S,Eaton S,Moncrieffe H,Wedderburn LR PubMed Article URL:http://dx.doi.org/10.1002/art.38959
Human / Not Cited	45-0149 was used in Flow cytometry/Cell sorting to determine whether there are specific biochemical mechanisms responsible for an increase in oxidative stress resistance in differentiating macrophages. Oncotarget (2017; 8: 54243) **"TLR2 activation induces antioxidant defence in human monocyte-macrophage cell line models."** Author(s):Karwaciak I,Gorzkiewicz M,Bartosz G,Pulaski L PubMed Article URL:http://dx.doi.org/10.18632/oncotarget.17342
Human / Not Cited	45-0149 was used in Flow cytometry/Cell sorting to demonstrate the expression pattern of signature NK cell transcription factors during developmental maturation. JCI insight (2017; 2:) **"Eomesodermin and T-bet mark developmentally distinct human natural killer cells."** Author(s):Collins A,Rothman N,Liu K,Reiner SL PubMed Article URL:http://dx.doi.org/10.1172/jci.insight.90063
Human / Not Cited	45-0149 was used in Flow cytometry/Cell sorting to demonstrate a novel mechanism by which anti-OxLDL IgM antibodies could mediate protective functions in CVD. Journal of lipid research (2015; 56: 440) **"Circulating microparticles carry oxidation-specific epitopes and are recognized by natural IgM antibodies."** Author(s):Tsiantoulas D,Perkmann T,Afonyushkin T,Mangold A,Prohaska TA,Papac-Milicevic N,Millischer V,Bartel C,Hörkkö S,Boulanger CM,Tsimikas S,Fischer MB,Witztum JL,Lang IM,Binder CJ PubMed Article URL:http://dx.doi.org/10.1194/jlr.P054569

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	45-0149 was used in Flow cytometry to establish how environmental amino acids control the metabolic fate of polykaryons and suggest metabolic ways to manipulate multinucleated giant cell (MGC)-associated pathologies and bone remodelling.
Human / Not Cited	Nature communications (2020; 11:) **"Environmental arginine controls multinuclear giant cell metabolism and formation."** Author(s):Brunner JS,Vulliard L,Hofmann M,Kieler M,Lercher A,Vogel A,Russier M,Brüggenthies JB,Kerndl M,Saferding V,Niederreiter B,Junza A,Frauenstein A,Scholtysek C,Mikami Y,Klavins K,Krönke G,Bergthaler A,O'Shea JJ,Weichhart T,Meissner F,Smolen JS,Cheng P,Yanes O,Menche J,Murray PJ,Sharif O,Blüml S,Schabbauer G PubMed Article URL:http://dx.doi.org/10.1038/s41467-020-14285-1
	45-0149 was used in Flow cytometry/Cell sorting to study the effects of fingolimod on circulating tight-junction protein levels as well as on peripheral blood mononuclear cells migration.
Human / Not Cited	Scientific reports (2018; 8:) **"Fingolimod reduces circulating tight-junction protein levels and in vitro peripheral blood mononuclear cells migration in multiple sclerosis patients."** Author(s):Annunziata P,Cioni C,Masi G,Tassi M,Marotta G,Severi S PubMed Article URL:http://dx.doi.org/10.1038/s41598-018-33672-9
	45-0149 was used in Flow cytometry/Cell sorting to study the interaction between host cells and Mycobacterium massiliense.
Human / Not Cited	Biology open (2016; 5: 1118) **"An in vitro model of granuloma-like cell aggregates substantiates early host immune responses against Mycobacterium massiliense infection."** Author(s):Je S,Quan H,Na Y,Cho SN,Kim BJ,Seok SH PubMed Article URL:http://dx.doi.org/10.1242/bio.019315
	45-0149 was used in Flow cytometry/Cell sorting to demonstrate that glucocorticoids shift the innate-adaptive balance of the immune response.
Human / Not Cited	Journal of immunology (Baltimore, Md. : 1950) (2014; 192: 1196) **"Chronic exposure to glucocorticoids shapes gene expression and modulates innate and adaptive activation pathways in macrophages with distinct changes in leukocyte attraction."** Author(s):van de Garde MD,Martinez FO,Melgert BN,Hylkema MN,Jonkers RE,Hamann J PubMed Article URL:http://dx.doi.org/10.4049/jimmunol.1302138
	45-0149 was used in Flow cytometry/Cell sorting to elucidate the effect of leptin on PRRs.
Human / Not Cited	Journal of leukocyte biology (2013; 93: 561) **"Leptin up-regulates TLR2 in human monocytes."** Author(s):Jaedicke KM,Roythorne A,Padget K,Todryk S,Preshaw PM,Taylor JJ PubMed Article URL:http://dx.doi.org/10.1189/jlb.1211606
	45-0149-42 was used in Flow cytometry/Cell sorting to investigate whether GPR120, the receptor of polyunsaturated long chain fatty acids, is involved in fulminant hepatic failure (FHF).
Human / Not Cited	Cell death & disease (2021; 13:) **"GPR120 induces regulatory dendritic cells by inhibiting HK2-dependent glycolysis to alleviate fulminant hepatic failure."** Author(s):Yu H,Yang W,Huang J,Miao X,Wang B,Ren X,Gu Y,Wang Q,Ding X,Guo X,Qian F,Zhang Y,Xu H,Zheng L,Jin M PubMed Article URL:http://dx.doi.org/10.1038/s41419-021-04394-0
	45-0149 was used in Flow cytometry/Cell sorting to support a potential novel mechanism of cell-cell communication involving exosomal transfer of mitochondria and the bioenergetic and/or redox regulation of target cells.
Human / Not Cited	Redox biology (2018; 18: 54) **"Exosomal transfer of mitochondria from airway myeloid-derived regulatory cells to T cells."** Author(s):Hough KP,Trevor JL,Strenkowski JG,Wang Y,Chacko BK,Tousif S,Chanda D,Steele C,Antony VB,Dokland T,Ouyang X,Zhang J,Duncan SR,Thannickal VJ,Darley-Usmar VM,Deshane JS PubMed Article URL:http://dx.doi.org/10.1016/j.redox.2018.06.009
	45-0149-42 was used in Flow cytometry/Cell sorting to provide promising monoclonal antibody candidates for passive immunoprophylaxis and informs the rational design of hMPV vaccine immunogens.
Human / Not Cited	Immunity (2022; 55: 1710) **"Potently neutralizing and protective anti-human metapneumovirus antibodies target diverse sites on the fusion glycoprotein."** Author(s):Rappazzo CG,Hsieh CL,Rush SA,Esterman ES,Delgado T,Geoghegan JC,Wec AZ,Sakharkar M,Más V,McLellan JS,Walker LM PubMed Article URL:http://dx.doi.org/10.1016/j.immuni.2022.07.003

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