

CD25 Monoclonal Antibody (BC96), PE-Cyanine7, eBioscience™

Catalog Number 25-0259-41

Product data sheet

Details	
Size	25 Tests
Host/Isotope	Mouse / IgG1, kappa
Class	Monoclonal
Type	Antibody
Clone	BC96
Conjugate	PE-Cyanine7
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, Mouse, Not Applicable, Rhesus monkey
Tested Applications	
Flow Cytometry (Flow)	Dilution * 5 µL (0.25 µg)/test
Published Applications	
Flow Cytometry (Flow)	See 25 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 BC96 monoclonal antibody reacts with human CD25, the 55 kDa interleukin-2 receptor alpha chain (IL-2Ralpha). CD25 is expressed by early progenitors of T and B lineage as well as by activated mature T and B lymphocytes. By itself, CD25 binds IL-2 only with low affinity. However, CD25 associates with CD122 (IL-2 receptor beta chain) and CD132 (common gamma chain) to form the high affinity IL-2 receptor. CD25 plays a role in lymphocyte differentiating and activation/proliferation. Applications Reported: The BC96 antibody has been reported for use in flow cytometric analysis. Applications Tested: This BC96 antibody has been pre-titrated and tested by flow cytometric analysis of human peripheral blood. This can be used at 5 µL (0.25 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 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: 775 nm; Laser: Blue Laser, Green Laser, Yellow-Green Laser. Filtration: 0.2 µm post-manufacturing filtered.

Background/Target Information

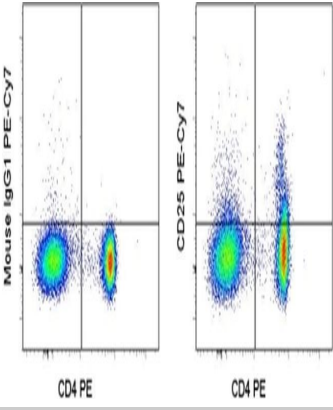
CD25 (IL2 receptor alpha chain/IL2RA) is a cytokine that plays a role in the proliferation of T and B lymphocytes. The receptor of this cytokine (IL2RA) is a heterotrimeric protein complex with a gamma chain also shared by interleukin 4 (IL4) and interleukin 7 (IL7). IL2RA, IL2R beta chain (IL2RB), and the IL2R gamma chain (IL2RG), constitute the high-affinity IL2 receptor. Homodimeric IL2RA chains result in low-affinity receptor, while homodimeric IL2RB chains produce a medium-affinity receptor. The expression of IL2 in mature thymocytes is monoallelic, which represents an unusual regulatory mode for controlling the precise expression of a single gene. IL2 is primarily produced by mature T cells. IL2 plays an important role as a growth factor, differentiation factor, and regulator of cell death. IL-2 stimulates the proliferation of B cells, augments natural killer cell activity, and inhibits granulocyte macrophage colony formation. The targeted disruption of a similar gene in mice leads to ulcerative colitis-like disease, which suggests a role in the immune response to antigenic stimuli. Mutations in this gene are associated with interleukin 2 receptor alpha deficiency.

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CD25 Antibody (25-0259-41) in Flow

Staining of normal human peripheral blood cells with Anti-Human CD4 PE (Product # 12-0049-42) and Mouse IgG1 kappa Isotype Control PE-Cyanine7 (Product # 25-4714-80) (left) or Anti-Human CD25 PE-Cyanine7 (right). Cells in the lymphocyte gate were used for analysis.

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25 Flow Cytometry References

Thermo Fisher Scientific
10255 Science Center Drive
San Diego, CA 92121

	25-0259 was used in Flow cytometry/Cell sorting to indicate that IRIS appears to be a predominantly CD4-mediated phenomenon.
Human / Not Cited	<p>Blood (2010; 116: 3818)</p> <p>"Elevated frequencies of highly activated CD4+ T cells in HIV+ patients developing immune reconstitution inflammatory syndrome."</p> <p>Author(s):Antonelli LR,Mahnke Y,Hodge JN,Porter BO,Barber DL,DerSimonian R,Greenwald JH,Roby G,Mican J,Sher A, Roederer M,Sereti I</p> <p>PubMed Article URL:http://dx.doi.org/10.1182/blood-2010-05-285080</p>
Rhesus monkey / Not Cited	<p>25-0259 was used in Flow cytometry/Cell sorting to exhibit a novel method for the generation of non-human primate regulatory T cells with alloantigen specificity.</p> <p>Transplantation (2009; 88: 1057)</p> <p>"Rhesus monkey immature monocyte-derived dendritic cells generate alloantigen-specific regulatory T cells from circulating CD4+CD127-/lo T cells."</p> <p>Author(s):Zahorchak AF,Raimondi G,Thomson AW</p> <p>PubMed Article URL:http://dx.doi.org/10.1097/TP.0b013e3181ba6b1f</p>
Mouse / Not Cited	<p>25-0259 was used in Flow cytometry/Cell sorting to investigate the impact of 5-azacytidine on xenogeneic graft-vs.-host disease and graft-vs.-leukaemia effects in a humanised murine model of transplantation.</p> <p>Oncoimmunology (2021; 6:)</p> <p>"Azacytidine prevents experimental xenogeneic graft-versus-host disease without abrogating graft-versus-leukemia effects."</p> <p>Author(s):Ehx G,Fransolet G,de Leval L,D'Hondt S,Lucas S,Hannon M,Delens L,Dubois S,Drion P,Beguín Y,Humblet-Baron S,Baron F</p> <p>PubMed Article URL:http://dx.doi.org/10.1080/2162402X.2017.1314425</p>
Human / Not Cited	<p>25-0259 was used in Flow cytometry/Cell sorting to investigate a subset within the CD4 T cell population defined by expression of the immunomodulatory receptor CD300a.</p> <p>PLoS one (2010; 5:)</p> <p>"Human Th1 cells that express CD300a are polyfunctional and after stimulation up-regulate the T-box transcription factor eomesodermin."</p> <p>Author(s):Narayanan S,Silva R,Peruzzi G,Alvarez Y,Simhadri VR,Debell K,Coligan JE,Borrego F</p> <p>PubMed Article URL:http://dx.doi.org/10.1371/journal.pone.0010636</p>
Human / Not Cited	<p>25-0259 was used in Flow cytometry/Cell sorting to study the effect of PSM3 on the maturation, cytokine production, antigen uptake, and T cell stimulatory capacity of human monocyte-derived DCs treated simultaneously with either LPS (TLR4 ligand) or Sa cell lysate (TLR2 ligand).</p> <p>Frontiers in immunology (2019; 9:)</p> <p>"<i>Staphylococcus aureus</i> PSM Peptides Modulate Human Monocyte-Derived Dendritic Cells to Prime Regulatory T Cells."</p> <p>Author(s):Richardson JR,Armbruster NS,Günter M,Henes J,Autenrieth SE</p> <p>PubMed Article URL:http://dx.doi.org/10.3389/fimmu.2018.02603</p>
Human / Not Cited	<p>25-0259 was used in Flow cytometry/Cell sorting to investigate effects of desflurane and sevoflurane anesthesia on peripheral blood Tregs induction in patients undergoing living donor kidney transplantation.</p> <p>BMC anesthesiology (2020; 20:)</p> <p>"Effects of Desflurane and Sevoflurane anesthesia on regulatory T cells in patients undergoing living donor kidney transplantation: a randomized intervention trial."</p> <p>Author(s):Chutipongtanate A,Prukviwat S,Pongsakul N,Srisala S,Kamane N,Arpornsujaaritkun N,Gesprasert G, Apiwatanakul N,Hongeng S,Ittichaikulthol W,Sumethkul V,Chutipongtanate S</p> <p>PubMed Article URL:http://dx.doi.org/10.1186/s12871-020-01130-7</p>
Human / Not Cited	<p>25-0259 was used in Flow cytometry/Cell sorting to elucidate the role of the neuroblastoma microenvironment in promoting regulatory T cell phenotype.</p> <p>Journal of oncology (2023; 2018:)</p> <p>"Secretory High-Mobility Group Box 1 Protein Affects Regulatory T Cell Differentiation in Neuroblastoma Microenvironment <i>In Vitro</i>."</p> <p>Author(s):Vanichapol T,Chiangjong W,Panachan J,Anurathapan U,Chutipongtanate S,Hongeng S</p> <p>PubMed Article URL:http://dx.doi.org/10.1155/2018/7946021</p>

	<p>25-0259 was used in Flow cytometry/Cell sorting to suggest a role for regulatory T-cells with a pro-inflammatory TH17-like phenotype in Aspergillus-associated immunopathology, and identifies key players, i.e. TLR2 and CTLA4, involved in this mechanism.</p>
Human / Not Cited	<p>Scientific reports (2017; 7:) "Toll-like receptor 2 induced cytotoxic T-lymphocyte-associated protein 4 regulates Aspergillus-induced regulatory T-cells with pro-inflammatory characteristics." Author(s):Raijmakers RPH,Sprengeler EGG,Aleva FE,Jacobs CWM,Kanneganti TD,Joosten LAB,van de Veerdonk FL, Gresnigt MS PubMed Article URL:http://dx.doi.org/10.1038/s41598-017-11738-4</p>
	<p>25-0259 was used in Flow cytometry/Cell sorting to determine whether loss of Lin28b expression in foetal T cells leads to increased mature let-7, which causes decreased expression of TGF-RI, TGF-RIII, and SMAD2 proteins.</p>
Human / Not Cited	<p>Journal of immunology (Baltimore, Md. : 1950) (2016; 197: 4344) "Lin28b Regulates Fetal Regulatory T Cell Differentiation through Modulation of TGF- Signaling." Author(s):Bronevetsky Y,Burt TD,McCune JM PubMed Article URL:http://dx.doi.org/10.4049/jimmunol.1601070</p>
	<p>25-0259 was used in Flow cytometry/Cell sorting to provide preclinical evidence for the use of anti-GITR (1) non-depleting antibodies in combination with SRS in GBM.</p>
Mouse / Not Cited	<p>Journal for immunotherapy of cancer (2016; 4:) "Agonist anti-GITR monoclonal antibody and stereotactic radiation induce immune-mediated survival advantage in murine intracranial glioma." Author(s):Patel MA,Kim JE,Theodros D,Tam A,Velarde E,Kochel CM,Francica B,Nirschl TR,Ghasemzadeh A,Mathios D, Harris-Bookman S,Jackson CC,Jackson C,Ye X,Tran PT,Tyler B,Coric V,Selby M,Brem H,Drake CG,Pardoll DM,Lim M PubMed Article URL:http://dx.doi.org/10.1186/s40425-016-0132-2</p>
	<p>25-0259 was used in Flow cytometry/Cell sorting to investigate the role of B cells in human breast cancer etiology.</p>
Human / Not Cited	<p>Oncoimmunology (2016; 5:) "PD-L1 mediated the differentiation of tumor-infiltrating CD19<sup>+</sup> B lymphocytes and T cells in Invasive breast cancer." Author(s):Guan H,Lan Y,Wan Y,Wang Q,Wang C,Xu L,Chen Y,Liu W,Zhang X,Li Y,Gu Y,Wang Z,Xie F PubMed Article URL:http://dx.doi.org/10.1080/2162402X.2015.1075112</p>
	<p>25-0259 was used in Flow cytometry/Cell sorting to perform 24-subset immunophenotyping of peripheral blood mononuclear cells in HLA-DRB1-genotyped rheumatoid arthritis patients and healthy donors.</p>
Human / Not Cited	<p>Scientific reports (2016; 6:) "Immunophenotyping of rheumatoid arthritis reveals a linkage between HLA-DRB1 genotype, CXCR4 expression on memory CD4(+) T cells, and disease activity." Author(s):Nagafuchi Y,Shoda H,Sumitomo S,Nakachi S,Kato R,Tsuchida Y,Tsuchiya H,Sakurai K,Hanata N,Tateishi S, Kanda H,Ishigaki K,Okada Y,Suzuki A,Kochi Y,Fujio K,Yamamoto K PubMed Article URL:http://dx.doi.org/10.1038/srep29338</p>
	<p>25-0259 was used in Flow cytometry/Cell sorting to provide initial evidence that elevated frequencies of Th17 and Th2 cells form part of the immune network instigating the development of severe onchocerciasis.</p>
Human / Not Cited	<p>PLoS neglected tropical diseases (2015; 9:) "Hyperreactive onchocerciasis is characterized by a combination of Th17-Th2 immune responses and reduced regulatory T cells." Author(s):Katawa G,Layland LE,Debrah AY,von Horn C,Batsa L,Kwarteng A,Arriens S,W Taylor D,Specht S,Hoerauf A, Adjobimey T PubMed Article URL:http://dx.doi.org/10.1371/journal.pntd.0003414</p>
	<p>25-0259 was used in Flow cytometry/Cell sorting to investigate the combined mechanism of action of MSCs and hyaluronic acid.</p>
Human / Not Cited	<p>PloS one (2016; 11:) "A Systematic Study of the Effect of Different Molecular Weights of Hyaluronic Acid on Mesenchymal Stromal Cell-Mediated Immunomodulation." Author(s):Gómez-Aristizábal A,Kim KP,Viswanathan S PubMed Article URL:http://dx.doi.org/10.1371/journal.pone.0147868</p>
	<p>25-0259 was used in Flow cytometry/Cell sorting to reveal that TIGIT+CD4+T cells provide a supportive microenvironment for CLL cells.</p>
Human / Not Cited	<p>Oncoimmunology (2022; 7:) "TIGIT expressing CD4+T cells represent a tumor-supportive T cell subset in chronic lymphocytic leukemia." Author(s):Catakovic K,Gassner FJ,Ratswohl C,Zaborsky N,Rebhandl S,Schubert M,Steiner M,Gutjahr JC,Pleyer L,Egle A, Hartmann TN,Greil R,Geisberger R PubMed Article URL:http://dx.doi.org/10.1080/2162402X.2017.1371399</p>

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25-0259 was used in Flow cytometry/Cell sorting to determine levels of CCR5 and CXCR4 expression among CD4(+) and CD8(+) lymphocyte subsets in HIV-infected long-term non-progressors.

Human / Not Cited

BMC infectious diseases (2014; 14:)
"The number of CCR5 expressing CD4+ T lymphocytes is lower in HIV-infected long-term non-progressors with viral control compared to normal progressors: a cross-sectional study."
Author(s):Meijerink H,Indrati AR,van Crevel R,Joosten I,Koenen H,van der Ven AJ
PubMed Article URL:<http://dx.doi.org/10.1186/s12879-014-0683-0>

25-0259-42 was used in Flow Cytometry to indicate that ILC2s may play a protective role in ESRD.

Human / Not Cited

Journal of immunology (Baltimore, Md. : 1950) (2020; 205: 36)
"Expansion of Group 2 Innate Lymphoid Cells in Patients with End-Stage Renal Disease and Their Clinical Significance."
Author(s):Liu GY,Deng XH,Li X,Cao YJ,Xing YF,Zhou P,Lei AH,Yang Q,Deng K,Zhang H,Zhou J
PubMed Article URL:<http://dx.doi.org/10.4049/jimmunol.1901095>

25-0259 was used in Flow cytometry/Cell sorting to show that a nonactivating monovalent anti-CD28 that spares CTLA4 signaling is an effective immunosuppressant in a clinically relevant humanized mouse transplant model.

Human / Not Cited

JCI insight (2017; 2:)
"Selective blockade of CD28 on human T cells facilitates regulation of alloimmune responses."
Author(s):Zaitzu M,Issa F,Hester J,Vanhove B,Wood KJ
PubMed Article URL:<http://dx.doi.org/10.1172/jci.insight.89381>