

CD4 Monoclonal Antibody (OKT4 (OKT-4)),  
Alexa Fluor™ 700, eBioscience™

Catalog Number56-0048-41

Product data sheet

Details	
Size	25 Tests
Host/Isotope	Mouse / IgG2b, kappa
Class	Monoclonal
Type	Antibody
Clone	OKT4 (OKT-4)
Conjugate	Alexa Fluor™ 700
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	Hamster, Mouse, Human, Not Applicable, Rhesus monkey

Tested Applications	Dilution *
Flow Cytometry (Flow)	5 µL (0.125 µg)/test

Published Applications	
Flow Cytometry (Flow)	See 9 publications below
Immunocytochemistry (ICC/IF)	See 1 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 OKT4 monoclonal antibody reacts with human CD4, a 59 kDa cell surface glycoprotein expressed by the majority of thymocytes, a subpopulation of mature T cells (T-helper cells) and in low levels on monocytes. CD4 is a receptor for the human immunodeficiency virus (HIV). The OKT4 antibody recognizes a different epitope than the RPA-T4 monoclonal antibody, and these antibodies do not cross-block binding to each other's respective epitopes. Applications Reported: This OKT4 (OKT-4) antibody has been reported for use in flow cytometric analysis. Applications Tested: This OKT4 (OKT-4) antibody has been pre-titrated and tested by flow cytometric analysis of normal human peripheral blood cells. This can be used at 5 µL (0.125 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. The Alexa Fluor® 700 emits at 723 nm and can be excited with the red laser (633 nm). Most instruments will require a 685 LP mirror and 710/20 filter. Please make sure that your instrument is capable of detecting this fluorochrome. Excitation: 633-647 nm; Emission: 723 nm; Laser: Red Laser. Filtration: 0.2 µm post-manufacturing filtered.

Background/Target Information

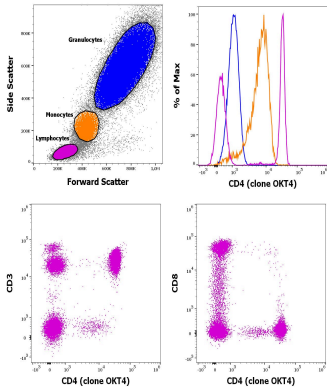
The CD4 antigen is involved in the recognition of MHC class II molecules and is a co-receptor for HIV. CD4 is primarily expressed in a subset of T-lymphocytes, also referred to as T helper cells, but may also be expressed by other cells in the immune system, such as monocytes, macrophages, and dendritic cells. At the tissue level, CD4 expression may be detected in thymus, lymph nodes, tonsils, and spleen, and also in specific regions of the brain, gut, and other non-lymphoid tissues. CD4 functions to initiate or augment the early phase of T-cell activation through its association with the T-cell receptor complex and protein tyrosine kinase, Lck. It may also function as an important mediator of direct neuronal damage in infectious and immune-mediated diseases of the central nervous system. Multiple alternatively spliced transcripts have been identified in this gene [RefSeq, July 2017].

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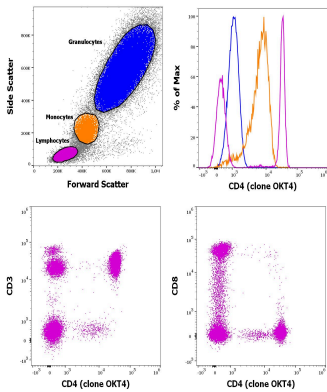
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**CD4 Antibody (56-0048-41)**

Staining of human peripheral blood mononuclear cells with CD45 Pacific Blue, CD3 FITC, CD8 PE and CD4 Alexa Fluor 700. As expected based on known relative expression patterns, CD4 clone OKT4 (OKT-4) stains a subset of lymphocytes (pink) and monocytes (orange), but not granulocytes (blue). {RE}



**CD4 Antibody (56-0048-41) in Flow**

Staining of human peripheral blood mononuclear cells with CD45 Pacific Blue, CD3 FITC, CD8 PE and CD4 Alexa Fluor 700. As expected based on known relative expression patterns, CD4 clone OKT4 (OKT-4) stains a subset of lymphocytes (pink) and monocytes (orange), but not granulocytes (blue).

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9 Flow Cytometry References

Species / Dilution	Summary
Mouse / Not Cited	<p>56-0048 was used in Flow cytometry/Cell sorting to indicate that a vaccine capable of eliciting adequate titers of neutralizing antibodies targeting the AMMO1 epitope may protect against EBV acquisition and are therefore highly relevant to the design of an effective EBV vaccine.</p> <p>Cell reports. Medicine ( 2020; 1: ) <b>"Neutralizing Antibodies Protect against Oral Transmission of Lymphocryptovirus."</b> Author(s):Singh S,Homad LJ,Akins NR,Stoffers CM,Lackhar S,Malhi H,Wan YH,Rawlings DJ,McGuire AT PubMed Article URL:<a href="http://dx.doi.org/10.1016/j.xcrm.2020.100033">http://dx.doi.org/10.1016/j.xcrm.2020.100033</a></p>
Human / Not Cited	<p>56-0048 was used in Flow cytometry/Cell sorting to analyse peripheral blood mononuclear cells to characterise T cell populations in terms of their cathepsin G content by flow cytometry.</p> <p>Biomedical reports ( 2019; 10: 245) <b>"Cell surface cathepsin G can be used as an additional marker to distinguish T cell subsets."</b> Author(s):Penczek A,Burster T PubMed Article URL:<a href="http://dx.doi.org/10.3892/br.2019.1198">http://dx.doi.org/10.3892/br.2019.1198</a></p>
Human / Not Cited	<p>56-0048 was used in Flow cytometry/Cell sorting to investigate the role of impaired Treg function in sarcoidosis.</p> <p>Respiratory research ( 2015; 16: ) <b>"Impaired survival of regulatory T cells in pulmonary sarcoidosis."</b> Author(s):Broos CE,van Nimwegen M,Kleinjan A,ten Berge B,Muskens F,in 't Veen JC,Annema JT,Lambrecht BN, Hoogsteden HC,Hendriks RW,Kool M,van den Blink B PubMed Article URL:<a href="http://dx.doi.org/10.1186/s12931-015-0265-8">http://dx.doi.org/10.1186/s12931-015-0265-8</a></p>
Human / Not Cited	<p>56-0048 was used in Flow cytometry/Cell sorting to prove if serum lipids could contribute to ADA development by altering immune-cell lipid rafts.</p> <p>Frontiers in immunology ( 2021; 11: ) <b>"Using Serum Metabolomics to Predict Development of Anti-drug Antibodies in Multiple Sclerosis Patients Treated With IFN."</b> Author(s):Waddington KE,Papadaki A,Coelewij L,Adriani M,Nytrova P,Kubala Havrdova E,Fogdell-Hahn A,Farrell R, Dönnies P,Pineda-Torra I,Jury EC PubMed Article URL:<a href="http://dx.doi.org/10.3389/fimmu.2020.01527">http://dx.doi.org/10.3389/fimmu.2020.01527</a></p>
Human / Not Cited	<p>56-0048 was used in Flow cytometry/Cell sorting to study how the populations of NKT-cells differs following hematopoietic stem cell transplantation according to whether a patient retains any of their own immune cells or not.</p> <p>PloS one ( 2017; 11: ) <b>"Long-Term Stable Mixed Chimerism after Hematopoietic Stem Cell Transplantation in Patients with Non-Malignant Disease, Shall We Be Tolerant?"</b> Author(s):Stikvoort A,Sundin M,Uzunel M,Gertow J,Sundberg B,Schaffer M,Mattsson J,Uhlin M PubMed Article URL:<a href="http://dx.doi.org/10.1371/journal.pone.0154737">http://dx.doi.org/10.1371/journal.pone.0154737</a></p>
Human / Not Cited	<p>56-0048 was used in Flow cytometry/Cell sorting to define whether Intraepidermal Carcinoma and Squamous Cell Carcinoma have distinct immune profiles.</p> <p>PloS one ( 2016; 9: ) <b>"Comparative immune phenotypic analysis of cutaneous Squamous Cell Carcinoma and Intraepidermal Carcinoma in immune-competent individuals: proportional representation of CD8+ T-cells but not FoxP3+ Regulatory T-cells is associated with disease stage."</b> Author(s):Freeman A,Bridge JA,Maruthayanar P,Overgaard NH,Jung JW,Simpson F,Prow TW,Soyer HP,Frazer IH, Freeman M,Wells JW PubMed Article URL:<a href="http://dx.doi.org/10.1371/journal.pone.0110928">http://dx.doi.org/10.1371/journal.pone.0110928</a></p>
Rhesus monkey / Not Cited	<p>56-0048 was used in Flow cytometry/Cell sorting to investigate whether rejection of AAV-transduced hepatocytes is caused by AAV capsid-specific CD8(+) T cells, showing that responses to adeno-associated viruses differ between humans and nonhuman primates.</p> <p>Molecular therapy : the journal of the American Society of Gene Therapy ( 2011; 19: 2021) <b>"Capsid-specific T-cell responses to natural infections with adeno-associated viruses in humans differ from those of nonhuman primates."</b> Author(s):Li H,Lasaro MO,Jia B,Lin SW,Haut LH,High KA,Ertl HC PubMed Article URL:<a href="http://dx.doi.org/10.1038/mt.2011.81">http://dx.doi.org/10.1038/mt.2011.81</a></p>

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Mouse / Not Cited	<p>56-0048-41 was used in Flow Cytometry to show increased formation of Tfh precursors (pre-Tfh) but no associated increase in germinal centre (GC)-Tfh cells in aged mice, suggesting age-driven promotion of only early Tfh cell differentiation.</p> <p>Aging cell ( 2021; 20: )  <b>"Ageing promotes early T follicular helper cell differentiation by modulating expression of RBPJ."</b>            Author(s):Webb LMC,Fra-Bido S,Innocentin S,Matheson LS,Attaf N,Bignon A,Novarino J,Fazilleau N,Linterman MA            PubMed Article URL:<a href="http://dx.doi.org/10.1111/accel.13295">http://dx.doi.org/10.1111/accel.13295</a></p>
Human / Not Cited	<p>56-0048 was used in Flow cytometry/Cell sorting to investigate the developmental differences in immune function between human neonates and adults, showing that neonatal naive CD4+ T cells have enhanced activation-dependent signalling.</p> <p>Journal of immunology (Baltimore, Md. : 1950) ( 2013; 190: 2682)  <b>"Human neonatal naive CD4+ T cells have enhanced activation-dependent signaling regulated by the microRNA miR-181a."</b>            Author(s):Palin AC,Ramachandran V,Acharya S,Lewis DB            PubMed Article URL:<a href="http://dx.doi.org/10.4049/jimmunol.1202534">http://dx.doi.org/10.4049/jimmunol.1202534</a></p>
<b>1 Immunocytochemistry References</b>	
Species / Dilution	Summary
Human / Not Cited	<p>56-0048-41 was used in Immunocytochemistry to investigate the harnessing effect of interfacial affinity through site-selective chemical modification to optimize the function of antibodies that target membrane-proximal epitopes.</p> <p>Cell reports ( 2020; 32: )  <b>"Affinity for the Interface Underpins Potency of Antibodies Operating In Membrane Environments."</b>            Author(s):Rujas E,Insausti S,Leaman DP,Carravilla P,González-Resines S,Monceaux V,Sánchez-Eugenia R,García-Porras M,Iloro I,Zhang L,Elortza F,Julien JP,Saéz-Ciri6n A,Zwick MB,Eggeling C,Ojida A,Domene C,Caaveiro JMM,Nieva JL            PubMed Article URL:<a href="http://dx.doi.org/10.1016/j.celrep.2020.108037">http://dx.doi.org/10.1016/j.celrep.2020.108037</a></p>

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