

CD4 Monoclonal Antibody (OKT4 (OKT-4)),
 PerCP-Cyanine5.5, eBioscience™

Catalog Number 45-0048-41

Product data sheet

| Details | |
|--------------------|-------------------------------------|
| Size | 25 Tests |
| Host/Isotope | Mouse / IgG2b, kappa |
| Class | Monoclonal |
| Type | Antibody |
| Clone | OKT4 (OKT-4) |
| 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 | Bovine, Human, Mouse, Rhesus monkey |
| Tested Applications | |
| Flow Cytometry (Flow) | Dilution * 5 µL (0.25 µg)/test |
| Published Applications | |
| Flow Cytometry (Flow) | See 30 publications below |
| Immunocytochemistry (ICC/IF) | See 2 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 (0.25 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. Excitation: 488 nm; Emission: 695 nm; Laser: Blue Laser. Filtration: 0.2 µm post-manufacturing filtered.

Background/Target Information

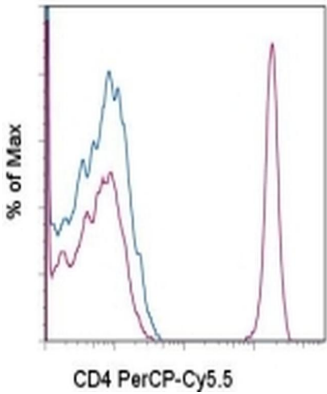
The CD4 antigen is involved in the recognition of MHC class II molecules and is a co-receptor for HIV. CD4 is primarily expressed in a subset of T-lymphocytes, also referred to as T helper cells, but may also be expressed by other cells in the immune system, such as monocytes, macrophages, and dendritic 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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CD4 Antibody (45-0048-41) in Flow

Staining of normal human peripheral blood cells with Mouse IgG2b K Isotype Control PerCP-Cyanine5-5 (Product # 45-4732-82) (blue histogram) or Anti-Human CD4 PerCP-Cyanine5-5 (purple histogram). Cells in the lymphocyte gate were used for analysis.

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30 Flow Cytometry References

| Species / Dilution | Summary |
|---------------------------|--|
| | 45-0048 was used in Flow cytometry/Cell sorting to characterise GM-CSF production by T cells of MS patients and to determine the effect of IFN- therapy on its production. |
| Human / Not Cited | Journal of immunology (Baltimore, Md. : 1950) (2015; 194: 5085) "Expression of GM-CSF in T Cells Is Increased in Multiple Sclerosis and Suppressed by IFN- Therapy." Author(s):Rasouli J,Ciric B,Imitola J,Gonnella P,Hwang D,Mahajan K,Mari ER,Safavi F,Leist TP,Zhang GX,Rostami A PubMed Article URL: http://dx.doi.org/10.4049/jimmunol.1403243 |
| | 45-0048 was used in Flow cytometry/Cell sorting to investigate the potential association between Th22 and the pathogenesis of obesity and type 2 diabetes. |
| Human / Not Cited | PloS one (2014; 9:) "Elevated peripheral frequencies of Th22 cells: a novel potent participant in obesity and type 2 diabetes." Author(s):Zhao R,Tang D,Yi S,Li W,Wu C,Lu Y,Hou X,Song J,Lin P,Chen L,Sun L PubMed Article URL: http://dx.doi.org/10.1371/journal.pone.0085770 |
| | 45-0048 was used in Flow cytometry/Cell sorting to assess whether high basal levels of immune activation and microbial translocation exist in pigtail macaques. |
| Rhesus monkey / Not Cited | Mucosal immunology (2010; 3: 387) "Compromised gastrointestinal integrity in pigtail macaques is associated with increased microbial translocation, immune activation, and IL-17 production in the absence of SIV infection." Author(s):Klatt NR,Harris LD,Vinton CL,Sung H,Briant JA,Tabb B,Morcock D,McGinty JW,Lifson JD,Lafont BA,Martin MA,Levine AD,Estes JD,Brenchley JM PubMed Article URL: http://dx.doi.org/10.1038/mi.2010.14 |
| | 45-0048-42 was used in Flow cytometry/Cell sorting to study how the bispecific scFv antibody r28M produced in transgenic cattle targets human melanoma |
| Bovine / Not Cited | PloS one (2016; 10:) "Large-Scale Purification of r28M: A Bispecific scFv Antibody Targeting Human Melanoma Produced in Transgenic Cattle." Author(s):Spiesberger K,Paulfranz F,Egger A,Reiser J,Vogl C,Rudolf-Scholik J,Mayrhofer C,Grosse-Hovest L,Brem G PubMed Article URL: http://dx.doi.org/10.1371/journal.pone.0140471 |
| | 45-0048 was used in Flow cytometry/Cell sorting to explore the potential of NB-PDT to stimulate the immune system. |
| Human / Not Cited | Cancers (2020; 12:) "The Potential of Nanobody-Targeted Photodynamic Therapy to Trigger Immune Responses." Author(s):Beltrán Hernández I,Angelier ML,Del Buono D'Ondes T,Di Maggio A,Yu Y,Oliveira S PubMed Article URL: http://dx.doi.org/10.3390/cancers12040978 |
| | 45-0048 was used in Flow cytometry/Cell sorting to examine the communities of bacteria within the gastrointestinal tract and systemic tissues of both healthy and SIV-infected Asian macaques. |
| Rhesus monkey / Not Cited | Mucosal immunology (2015; 8: 1009) "Dysbiotic bacteria translocate in progressive SIV infection." Author(s):Klase Z,Ortiz A,Deleage C,Mudd JC,Quiñones M,Schwartzman E,Klatt NR,Canary L,Estes JD,Brenchley JM PubMed Article URL: http://dx.doi.org/10.1038/mi.2014.128 |
| | 45-0048 was used in Flow cytometry/Cell sorting to assess the frequencies of various immune cells in diabetic patients with or without coronary atherosclerotic heart disease. |
| Human / Not Cited | Mediators of inflammation (2014; 2014:) "Increased peripheral proinflammatory T helper subsets contribute to cardiovascular complications in diabetic patients." Author(s):Zhao RX,Li WJ,Lu YR,Qin J,Wu CL,Tian M,He TY,Yi SN,Tang DQ,Sun L,Chen L PubMed Article URL: http://dx.doi.org/10.1155/2014/596967 |
| | 45-0048 was used in Flow cytometry/Cell sorting to evaluate the potential of the S.mansoni Sm29 antigen to change aspects of profiles of monocyte derived dendritic cells and lymphocytes from subjects with cutaneous leishmaniasis. |
| Human / Not Cited | Frontiers in immunology (2019; 9:) "<i>Schistosoma mansoni</i> rSm29 Antigen Induces a Regulatory Phenotype on Dendritic Cells and Lymphocytes From Patients With Cutaneous Leishmaniasis." Author(s):Lopes DM,Oliveira SC,Page B,Carvalho LP,Carvalho EM,Cardoso LS PubMed Article URL: http://dx.doi.org/10.3389/fimmu.2018.03122 |

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| | 45-0048 was used in Flow cytometry/Cell sorting to analyse the T cell response to acute lymphocytic choriomeningitis virus infection. |
| Human / Not Cited | Journal of virology (2011; 85: 11770) "Human CD8 and CD4 T cell memory to lymphocytic choriomeningitis virus infection." Author(s):Kotturi MF,Swann JA,Peters B,Arlehamn CL,Sidney J,Kolla RV,James EA,Akondy RS,Ahmed R,Kwok WW, Buchmeier MJ,Sette A PubMed Article URL: http://dx.doi.org/10.1128/JVI.05477-11 |
| | 45-0048 was used in Flow cytometry/Cell sorting to indicate that autologous NAb responses in mothers and infants do not protect against mother to child transmission. |
| Rhesus monkey / Not Cited | PLoS pathogens (2015; 11:) "The Expression of Functional Vpx during Pathogenic SIVmac Infections of Rhesus Macaques Suppresses SAMHD1 in CD4+ Memory T Cells." Author(s):Shingai M,Welbourn S,Brenchley JM,Acharya P,Miyagi E,Plishka RJ,Buckler-White A,Kwong PD,Nishimura Y, Strebel K,Martin MA PubMed Article URL: http://dx.doi.org/10.1371/journal.ppat.1004928 |
| | 45-0048 was used in Flow cytometry/Cell sorting to demonstrate that double-positive T-cells represent a highly reactive cell population during acute HIV infection. |
| Human / Not Cited | Journal of immunology (Baltimore, Md. : 1950) (2012; 188: 4289) "CD4+CD8+ T cells represent a significant portion of the anti-HIV T cell response to acute HIV infection." Author(s):Frahm MA,Picking RA,Kuruc JD,McGee KS,Gay CL,Eron JJ,Hicks CB,Tomaras GD,Ferrari G PubMed Article URL: http://dx.doi.org/10.4049/jimmunol.1103701 |
| | 45-0048 was used in Flow cytometry/Cell sorting to reveal an association between the destruction of intestinal CD4+ T-cell homeostasis and the level of systemic CD4+ T-cell activation. |
| Human / Not Cited | Journal of immunology (Baltimore, Md. : 1950) (2010; 185: 5169) "Disruption of intestinal CD4+ T cell homeostasis is a key marker of systemic CD4+ T cell activation in HIV-infected individuals." Author(s):Gordon SN,Cervasi B,Odorizzi P,Silverman R,Aberra F,Ginsberg G,Estes JD,Paiardini M,Frank I,Silvestri G PubMed Article URL: http://dx.doi.org/10.4049/jimmunol.1001801 |
| | 45-0048 was used in Flow cytometry/Cell sorting to study the effects of both controlled malaria infection, and human immunisation with biallelic blood-stage malaria viral-vectored vaccines, on the immune system. |
| Human / Not Cited | Journal of immunology (Baltimore, Md. : 1950) (2013; 190: 1135) "Assessment of immune interference, antagonism, and diversion following human immunization with biallelic blood-stage malaria viral-vectored vaccines and controlled malaria infection." Author(s):Elias SC,Collins KA,Halstead FD,Choudhary P,Bliss CM,Ewer KJ,Sheehy SH,Duncan CJ,Biswas S,Hill AV, Draper SJ PubMed Article URL: http://dx.doi.org/10.4049/jimmunol.1201455 |
| | 45-0048 was used in Flow cytometry/Cell sorting to demonstrate the safety of a human papillomavirus therapeutic vaccine, PepCan. |
| Human / Not Cited | Oncoimmunology (2015; 4:) "A phase I dose-escalation clinical trial of a peptide-based human papillomavirus therapeutic vaccine with <i>Candida</i> skin test reagent as a novel vaccine adjuvant for treating women with biopsy-proven cervical intraepithelial neoplasia 2/3." Author(s):Greenfield WW,Stratton SL,Myrick RS,Vaughn R,Donnalley LM,Coleman HN,Mercado M,Moerman-Herzog AM, Spencer HJ,Andrews-Collins NR,Hitt WC,Low GM,Manning NA,McKelvey SS,Smith D,Smith MV,Phillips AM,Quick CM, Jeffus SK,Hutchins LF,Nakagawa M PubMed Article URL: http://dx.doi.org/10.1080/2162402X.2015.1031439 |
| | 45-0048 was used in Flow cytometry/Cell sorting to characterise the specificity of T cell responses during acute and latent simian varicella virus infection. |
| Rhesus monkey / Not Cited | Journal of virology (2013; 87: 11751) "Genome-wide analysis of T cell responses during acute and latent simian varicella virus infections in rhesus macaques." Author(s):Haberthur K,Kraft A,Arnold N,Park B,Meyer C,Asquith M,Dewane J,Messaoudi I PubMed Article URL: http://dx.doi.org/10.1128/JVI.01809-13 |
| | 45-0048 was used in Flow cytometry/Cell sorting to show that SIV infection results in dysfunctional T-cell responses to neo and recall vaccinations. |
| Rhesus monkey / Not Cited | Blood (2011; 118: 5803) "SIV infection of rhesus macaques results in dysfunctional T- and B-cell responses to neo and recall Leishmania major vaccination." Author(s):Klatt NR,Vinton CL,Lynch RM,Canary LA,Ho J,Darrah PA,Estes JD,Seder RA,Moir SL,Brenchley JM PubMed Article URL: http://dx.doi.org/10.1182/blood-2011-07-365874 |

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| | 45-0048 was used in Flow cytometry/Cell sorting to generate a novel immuno-deficient mouse strain expressing human HLA molecules instead of mouse MHC molecules. |
| Human / Not Cited | <p>PloS one (2017; 12:)</p> <p>"Creation of an immunodeficient HLA-transgenic mouse (HUMAMICE) and functional validation of human immunity after transfer of HLA-matched human cells."</p> <p>Author(s):Zeng Y,Liu B,Rubio MT,Wang X,Ojcius DM,Tang R,Durrbach A,Ru Z,Zhou Y,Lone YC</p> <p>PubMed Article URL:http://dx.doi.org/10.1371/journal.pone.0173754</p> |
| Human / Not Cited | <p>45-0048-42 was used in flow cytometry to show that reply to suppressive activity of human regulatory T cells is maintained in the presence of TNF.</p> <p>Nature medicine (2016; 22: 18)</p> <p>"Reply to Suppressive activity of human regulatory T cells is maintained in the presence of TNF."</p> <p>Author(s):Nie H,Zheng Y,Li R,Zhang J</p> <p>PubMed Article URL:http://dx.doi.org/10.1038/nm.4018</p> |
| Human / Not Cited | <p>45-0048-42 was used in Flow cytometry/Cell sorting to provide a new strategy to improve the efficacy of ICB therapy in CRC treatment by inducing Th1-like Foxp3lo Treg cells.</p> <p>Journal for immunotherapy of cancer (2022; 10:)</p> <p>"Gallic acid induces T-helper-1-like T<sub>reg</sub> cells and strengthens immune checkpoint blockade efficacy."</p> <p>Author(s):Deng B,Yang B,Chen J,Wang S,Zhang W,Guo Y,Han Y,Li H,Dang Y,Yuan Y,Dai X,Zang Y,Li Y,Li B</p> <p>PubMed Article URL:http://dx.doi.org/10.1136/jitc-2021-004037</p> |
| Human / Not Cited | <p>45-0048 was used in Flow cytometry/Cell sorting to investigate the induction and regulation of IFN- and IL-17 during active human Mycobacterium tuberculosis infection.</p> <p>Journal of leukocyte biology (2012; 91: 991)</p> <p>"IL-17 and IFN- expression in lymphocytes from patients with active tuberculosis correlates with the severity of the disease."</p> <p>Author(s):Jurado JO,Pasquinelli V,Alvarez IB,Peña D,Rovetta AI,Tateosian NL,Romeo HE,Musella RM,Palmero D,Chuluyán HE,García VE</p> <p>PubMed Article URL:http://dx.doi.org/10.1189/jlb.1211619</p> |
| Human / Not Cited | <p>45-0048 was used in Flow cytometry/Cell sorting to study the functional regulation of T cells by human Fc receptor-like 3.</p> <p>Cell reports (2020; 30: 1292)</p> <p>"Human Fc Receptor-like 3 Inhibits Regulatory T Cell Function and Binds Secretory IgA."</p> <p>Author(s):Agarwal S,Kraus Z,Dement-Brown J,Alabi O,Starost K,Tolnay M</p> <p>PubMed Article URL:http://dx.doi.org/10.1016/j.celrep.2019.12.099</p> |
| Rhesus monkey / Not Cited | <p>45-0048 was used in Flow cytometry/Cell sorting to study differing subsets of T cells in HIV and Simian immunodeficiency virus-infected individuals.</p> <p>Blood (2010; 116: 4148)</p> <p>"Mechanisms underlying T-cell subset perturbations in SIV-infected Asian rhesus macaques."</p> <p>Author(s):Harris LD,Klatt NR,Vinton C,Briant JA,Tabb B,Ladell K,Lifson J,Estes JD,Price DA,Hirsch VM,Brenchley JM</p> <p>PubMed Article URL:http://dx.doi.org/10.1182/blood-2010-05-283549</p> |
| Human / Not Cited | <p>45-0048 was used in Flow cytometry/Cell sorting to show that HTLV-1 bZIP factor-induced TIGIT plays a pivotal role in attenuating host immune responses and shaping a microenvironment favourable to HTLV-1 in vitro.</p> <p>PLoS pathogens (2016; 12:)</p> <p>"HTLV-1 bZIP Factor Impairs Anti-viral Immunity by Inducing Co-inhibitory Molecule, T Cell Immunoglobulin and ITIM Domain (TIGIT)."</p> <p>Author(s):Yasuma K,Yasunaga J,Takemoto K,Sugata K,Mitobe Y,Takenouchi N,Nakagawa M,Suzuki Y,Matsuoka M</p> <p>PubMed Article URL:http://dx.doi.org/10.1371/journal.ppat.1005372</p> |
| Human / Not Cited | <p>45-0048 was used in Flow cytometry/Cell sorting to investigate the alterations in Mycobacterium tuberculosis T cell subsets in patients with active tuberculosis, showing reduced frequency of memory T cells and increased Th17 responses.</p> <p>Clinical and vaccine immunology : CVI (2012; 19: 1667)</p> <p>"Reduced frequency of memory T cells and increased Th17 responses in patients with active tuberculosis."</p> <p>Author(s):Marín ND,París SC,Rojas M,García LF</p> <p>PubMed Article URL:http://dx.doi.org/10.1128/CVI.00390-12</p> |
| Human / Not Cited | <p>45-0048 was used in Flow cytometry/Cell sorting to discover how liothyronine could serve as a potential candidate for cancer immunotherapy by blocking the immune checkpoint TIGIT/PVR.</p> <p>Cell communication and signaling : CCS (2020; 18:)</p> <p>"Repositioning liothyronine for cancer immunotherapy by blocking the interaction of immune checkpoint TIGIT /PVR."</p> <p>Author(s):Zhou X,Du J,Wang H,Chen C,Jiao L,Cheng X,Zhou X,Chen S,Gou S,Zhao W,Zhai W,Chen J,Gao Y</p> <p>PubMed Article URL:http://dx.doi.org/10.1186/s12964-020-00638-2</p> |

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| | 45-0048 was used in Flow cytometry/Cell sorting to identify antiviral pathways perturbed by CD8+ T-cell depletion that may contribute to noncytolytic control of SIV replication. |
| Rhesus monkey / Not Cited | Journal of virology (2013; 87: 433) "Transcriptional profiling of experimental CD8(+) lymphocyte depletion in rhesus macaques infected with simian immunodeficiency virus SIVmac239." Author(s):Bosinger SE,Jochems SP,Folkner KA,Hayes TL,Klatt NR,Silvestri G PubMed Article URL: http://dx.doi.org/10.1128/JVI.01746-12 |
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