CD8a Monoclonal Antibody (RPA-T8), PE, eBioscience™

Catalog Number **12-0088-41**

Product data sheet

Details	
Size	25 Tests
Host/Isotope	Mouse / IgG1, kappa
Class	Monoclonal
Type	Antibody
Clone	RPA-T8
Conjugate	PE
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	Rat, Mouse, Human, Not Applicable

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

Published Applications	
Flow Cytometry (Flow)	See 19 publications below
T-Cell Activation (TCA)	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 RPA-T8 monoclonal antibody reacts with the human CD8a molecule, an approximately 32-34 kDa cell surface receptor expressed either as a heterodimer with the CD8 beta chain (CD8 alpha/beta) or as a homodimer (CD8 alpha/alpha). A majority of thymocytes and a subpopulation of mature T cells and NK cells express CD8a. CD8 binds to MHC class I and through its association with protein tyrosine kinase p56lck plays a role in T-cell development and activation of mature T cells. Applications Reported:The RPA-T8 antibody been reported for use in flow cytometric analysis. Applications Tested: Has been pre-titrated and tested by flow cytometric analysis of normal human peripheral blood cells. This can be used at test size: 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. It is recommended that the antibody be carefully titrated for optimal performance in the assay of interest. The pre-titrated test size contains BSA and/or gelatin for protein stabilization. Excitation: 488-561 nm; Emission: 578 nm; Laser: Blue Laser, Green Laser, Yellow-Green Laser. Filtration: 0.2 µm post-manufacturing filtered.

Background/Target Information

Cluster of differentiation 8 (CD8), a type I transmembrane glycoprotein of the immunoglobulin family of receptors, plays an integral role in signal transduction, and T cell differentiation and activation. CD8 is predominantly expressed on T cells as a disulfide-linked heterodimer of CD8alpha and CD8beta, where it functions as a co-receptor, along with T cell receptor (TCR), for major histocompatibilty complex class I (MHC-I) molecules; whereas its counterpart, CD4, acts as a co-receptor for MHC-II molecules. CD8 exists on the cell surface, where the CD8alpha chain is essential for binding to MHC-I. CD8 is also expressed on a subset of T cells, NK cells, monocytes and dendritic cells as disulfide-linked homodimers of CD8alpha. Ligation of MHC-I/peptide complexes presented by antigen-presenting cells (APCs), triggers the recruitment of lymphocyte-specific protein tyrosine kinase (Lck), which leads to lymphokine production, motility and cytotoxic T lymphocyte (CTL) activation. Once activated, CTLs play a crucial role in the clearance of pathogens and tumor cells. Differentiation of naive CD8+ T cells into CTLs is strongly enhanced by IL-2, IL-12 and TGF-beta1.

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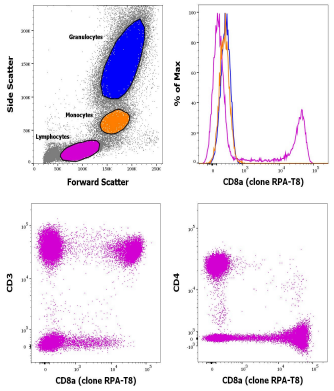
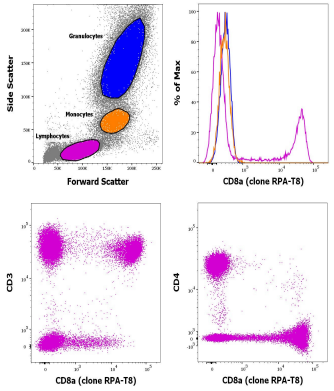
Product Images For CD8a Monoclonal Antibody (RPA-T8), PE, eBioscience™



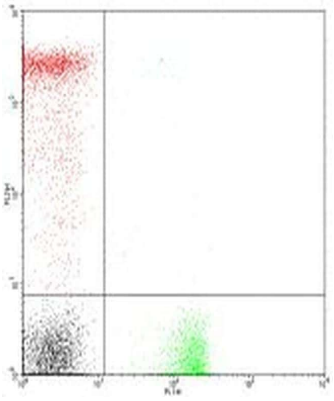
CD8a Antibody (12-0088-41)

Staining of human peripheral blood mononuclear cells with CD45 Pacific Blue, CD3 APC, CD8a PE and CD4 PerCP-Cy5.5. As expected based on known relative expression patterns, CD4 clone OKT4 (OKT-4) stains a subset of lymphocytes (pink), but not monocytes (orange) and granulocytes (blue). {RE}



CD8a Antibody (12-0088-41) in Flow

Staining of human peripheral blood mononuclear cells with CD45 Pacific Blue, CD3 APC, CD8a PE and CD4 PerCP-Cy5.5. As expected based on known relative expression patterns, CD4 clone OKT4 (OKT-4) stains a subset of lymphocytes (pink), but not monocytes (orange) and granulocytes (blue).



CD8a Antibody (12-0088-41) in Flow

Staining of normal human peripheral blood cells with Anti-Human CD4 FITC (Product # 11-0049-42) and Anti-Human CD8a PE.

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PubMed References For CD8a Monoclonal Antibody (RPA-T8), PE, eBioscience™

19 Flow Cytometry References

Species / Dilution	Summary
Human / Not Cited	12-0088 was used in Flow cytometry/Cell sorting to indicate that HDL might modulate the expression of several key components of the inflammasomes during HIV-1 infection, suggesting a novel role of HDL in modifying the inflammatory state and consequently, the progression of HIV-1 infection. Frontiers in immunology (2022; 9:) **"Lower High-Density Lipoproteins Levels During Human Immunodeficiency Virus Type 1 Infection Are Associated With Increased Inflammatory Markers and Disease Progression."** Author(s):Marín-Palma D,Castro GA,Cardona-Arias JA,Urcuqui-Inchima S,Hernandez JC PubMed Article URL:http://dx.doi.org/10.3389/fimmu.2018.01350
Human / Not Cited	12-0088 was used in Flow cytometry/Cell sorting to show that Pelareorep leads to a clear recurrent immune stimulatory response with cytotoxic T-cell activation, and homes and replicates in patients with KRAS-mutated colorectal cancer. Molecular cancer therapeutics (2020; 19: 1148) **"Elucidation of Pelareorep Pharmacodynamics in A Phase I Trial in Patients with KRAS-Mutated Colorectal Cancer."** Author(s):Goel S,Ocean AJ,Parakrama RY,Ghalib MH,Chaudhary I,Shah U,Viswanathan S,Kharkwal H,Coffey M,Maitra R PubMed Article URL:http://dx.doi.org/10.1158/1535-7163.MCT-19-1117
Not Applicable / Not Cited	Published figure using CD8a monoclonal antibody (Product # 12-0088-42) in Flow Cytometry Molecular therapy. Nucleic acids (2020; 21: 656) **"Preventing ATP Degradation by ASO-Mediated Knockdown of CD39 and CD73 Results in A2aR-Independent Rescue of T Cell Proliferation."** Author(s):Festag J,Thelemann T,Schell M,Raith S,Michel S,Jaschinski F,Klar R PubMed Article URL:http://dx.doi.org/10.1016/j.omtn.2020.06.020
Not Applicable / Not Cited Human / Not Cited	12-0088-42 was used in Flow Cytometry to show the feasibility and efficacy of human MUC16 ectodomain- specific BiTEDs and provide a basis for the combination with anti-VEGF therapy for ovarian cancer. Frontiers in immunology (2021; 12:) **"Bispecific T-Cell Engaging Antibodies Against MUC16 Demonstrate Efficacy Against Ovarian Cancer in Monotherapy and in Combination With PD-1 and VEGF Inhibition."** Author(s):Yeku OO,Rao TD,Laster I,Kononenko A,Purdon TJ,Wang P,Cui Z,Liu H,Brentjens RJ,Spriggs D PubMed Article URL:http://dx.doi.org/10.3389/fimmu.2021.663379
Human / Not Cited	12-0088-42 was used in Flow Cytometry to find that the CAR-T-cells demonstrated clear TEM8-specific cytotoxic and cytokine release responses in vitro, but when injected into healthy C57BL6 and NSG mice they rapidly and selectively disappeared from the circulation and in most cases caused rapid toxicity. PloS one (2020; 14:) **"TEM8/ANTXR1-specific CAR T cells mediate toxicity in vivo."** Author(s):Petrovic K,Robinson J,Whitworth K,Jinks E,Shaaban A,Lee SP PubMed Article URL:http://dx.doi.org/10.1371/journal.pone.0224015
Human / Not Cited	12-0088 was used in Flow cytometry/Cell sorting to report that Gal-9 expression in nasopharyngeal carcinoma (NPC) cells enhances the generation of MDreport that Gal-9 expression in nasopharyngeal carcinoma (NPC) cells enhances the generation of MDSCs (CD33+CD11b+HLA-DR-) from CD33+ bystander cells. SCs (CD33+CD11b+HLA-DR-) from CD33+ bystander cells. Oncogenesis (2020; 9:) **"Galectin-9 promotes a suppressive microenvironment in human cancer by enhancing STING degradation."** Author(s):Zhang CX,Huang DJ,Baloche V,Zhang L,Xu JX,Li BW,Zhao XR,He J,Mai HQ,Chen QY,Zhang XS,Busson P,Cui J,Li J PubMed Article URL:http://dx.doi.org/10.1038/s41389-020-00248-0
Human / Not Cited	12-0088 was used in Flow cytometry/Cell sorting to show that tumour-derived exosomes promote tumour progression and T-cell dysfunction through regulation of exosomal microRNAs in human carcinomas. Oncotarget (2014; 5: 5439) **"Tumor-derived exosomes promote tumor progression and T-cell dysfunction through the regulation of enriched exosomal microRNAs in human nasopharyngeal carcinoma."** Author(s):Ye SB,Li ZL,Luo DH,Huang BJ,Chen YS,Zhang XS,Cui J,Zeng YX,Li J PubMed Article URL:http://dx.doi.org/10.18632/oncotarget.2118

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	12-0088 was used in Flow cytometry/Cell sorting to show that the V22G mutation of Unc119 represents a novel genetic defect in ICL.
Human / Not Cited	Blood (2012; 119: 1399) **"A mutation in the human Uncoordinated 119 gene impairs TCR signaling and is associated with CD4 lymphopenia."** Author(s):Gorska MM,Alam R PubMed Article URL:http://dx.doi.org/10.1182/blood-2011-04-350686
	12-0088-42 was used in Flow cytometry/Cell sorting to investigate Derp1 in dust mite allergies.
Mouse / Not Cited	Scandinavian journal of immunology (2023; 97:) **"Targeted suppression of Dpt-specific B cells in humanized Rag2- c- mouse model of HDM allergy."** Author(s):Ralchev NR,Kerekov N,Mihaylova N,Kremlitzka M,Hristova D,Dzhorev J,Erdei A,Tchorbanov AI PubMed Article URL:http://dx.doi.org/10.1111/sji.13241
	12-0088 was used in Flow cytometry to study the expression of PD-1 on exhausted T cells as well as virus specific memory CD8+ T cells in the bone marrow of myeloma patients.
Human / Not Cited	Oncotarget (2018; 9: 32024) **"PD1 is expressed on exhausted T cells as well as virus specific memory CD8+ T cells in the bone marrow of myeloma patients."** Author(s):Sponaas AM,Yang R,Rustad EH,Standal T,Thoresen AS,Dao Vo C,Waage A,Slørdahl TS,Børset M,Sundan A PubMed Article URL:http://dx.doi.org/10.18632/oncotarget.25882
	12-0088-42 was used in Flow cytometry/Cell sorting to indicate that the combined use of PDO and PDX models can guide the clinical treatment course for gallbladder cancer patients to achieve individualized and effective treatment.
Mouse / Not Cited	Frontiers in oncology (2023; 12:) **"Screening of an individualized treatment strategy for an advanced gallbladder cancer using patient-derived tumor xenograft and organoid models."** Author(s):Tan D,An J,Gong M,Wang H,Li H,Meng H,Zhang C,Zhao Y,Ge X,Shi C PubMed Article URL:http://dx.doi.org/10.3389/fonc.2022.1043479
	12-0088 was used in Flow cytometry/Cell sorting to evaluate the nature of immune response by determining the cytokine expression pattern in peripheral circulation along with the distribution of antigen presenting cells (APCs) and activated T lymphocytes.
Human / Not Cited	BMC cancer (2020; 20:) **"Immune characterization of metastatic colorectal cancer patients post reovirus administration."** Author(s):Parakrama R,Fogel E,Chandy C,Augustine T,Coffey M,Tesfa L,Goel S,Maitra R PubMed Article URL:http://dx.doi.org/10.1186/s12885-020-07038-2
	12-0088-42 was used in Flow cytometry/Cell sorting to describe the use of mRNA sequencing via cross-linker regulated intracellular phenotype (CLInt-Seq) for efficient recovery of antigen-specific TCRs in cells stained for combinations of intracellular proteins such as cytokines or transcription factors.
Human / Not Cited	Proceedings of the National Academy of Sciences of the United States of America (2021; 118:) **"Droplet-based mRNA sequencing of fixed and permeabilized cells by CLInt-seq allows for antigen-specific TCR cloning."** Author(s):Nesterenko PA,McLaughlin J,Cheng D,Bangayan NJ,Burton Sojo G,Seet CS,Qin Y,Mao Z,Obusan MB,Phillips JW,Witte ON PubMed Article URL:http://dx.doi.org/10.1073/pnas.2021190118
	12-0088 was used in Flow cytometry/Cell sorting to analyse Treg frequency and phenotype in 11 HIV-infected individuals enrolled in a single, prospective clinical trial.
Human / Not Cited	PloS one (2012; 6:) **"Frequency of circulating regulatory T cells increases during chronic HIV infection and is largely controlled by highly active antiretroviral therapy."** Author(s):Presicce P,Orsborn K,King E,Pratt J,Fichtenbaum CJ,Chougnet CA PubMed Article URL:http://dx.doi.org/10.1371/journal.pone.0028118
	12-0088-42 was used in Flow Cytometry to investigate the role of stimulator of interferon genes (STING) in regulation of myeloid-derived suppressor cell differentiation and antitumor immunity in Epstein-Barr virus-associated nasopharyngeal carcinomas.
Human / Not Cited	Cell death and differentiation (2019; 26: 2314) **"STING signaling remodels the tumor microenvironment by antagonizing myeloid-derived suppressor cell expansion."** Author(s):Zhang CX,Ye SB,Ni JJ,Cai TT,Liu YN,Huang DJ,Mai HQ,Chen QY,He J,Zhang XS,Zeng YX,Li J,Cui J PubMed Article URL:http://dx.doi.org/10.1038/s41418-019-0302-0

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Human / Not Cited	12-0088 was used in Flow cytometry/Cell sorting to establish the role of Bax and Bak in viable T cell function. Immunity (2007; 27: 268) **"The proapoptotic factors Bax and Bak regulate T Cell proliferation through control of endoplasmic reticulum Ca (2+) homeostasis."** Author(s):Jones RG,Bui T,White C,Madesh M,Krawczyk CM,Lindsten T,Hawkins BJ,Kubek S,Frauwirth KA,Wang YL, Conway SJ,Roderick HL,Bootman MD,Shen H,Foskett JK,Thompson CB PubMed Article URL:http://dx.doi.org/10.1016/j.immuni.2007.05.023
Human / Not Cited	12-0088-42 was used in Flow Cytometry to synthesize and expand upon methodologies to generate, isolate, and engineer human T cells with tumor-reactive TCRs for adoptive cell therapy. Current protocols in immunology (2020; 129:) **"T Cell Receptor Engineered Lymphocytes for Cancer Therapy."** Author(s):Rollins MR,Spartz EJ,Stromnes IM PubMed Article URL:http://dx.doi.org/10.1002/cpim.97
Human / Not Cited	12-0088-42 was used in Flow Cytometry to explore the possibility of targeting activated human blood T cells ex vivo, using the concept of photodynamic therapy (PDT) with 5-aminolevulinic acid (ALA), a precursor of an endogenously synthesized photosensitizer protoporphyrin IX (PpIX) in combination with blue light. Cancers (2020; 12:) **"Selective Killing of Activated T Cells by 5-Aminolevulinic Acid Mediated Photodynamic Effect: Potential Improvement of Extracorporeal Photopheresis."** Author(s):Darvekar S,Juzenas P,Oksvold M,Kleinauskas A,Holien T,Christensen E,Stokke T,Sioud M,Peng Q PubMed Article URL:http://dx.doi.org/10.3390/cancers12020377
Human / Not Cited	12-0088 was used in Flow cytometry/Cell sorting to examine whether human maternal T cells express PDCD1. Biology of reproduction (2008; 79: 562) **"Expression and function of PDCD1 at the human maternal-fetal interface."** Author(s):Taglauer ES,Trikhacheva AS,Slusser JG,Petroff MG PubMed Article URL:http://dx.doi.org/10.1095/biolreprod.107.066324

1 T-Cell Activation References

Species / Dilution	Summary
Human / Not Cited	12-0088-42 was used in T-Cell Activation to show that SAA, CRP, and PCT were specific markers for diagnosing early MP infection in children. Journal of clinical laboratory analysis (2022; 36:) **"Serum amyloid a, C-reactive protein, and procalcitonin levels in children with Mycoplasma pneumoniae infection."** Author(s):Jiang Y,Wang W,Zhang Z,Ma X,Sang Y,Wang J,Xu G,Feng Q,Zhao S PubMed Article URL:http://dx.doi.org/10.1002/jcla.24265

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