

CD8a Monoclonal Antibody (HIT8a), PE,
eBioscience™

Catalog Number12-0089-41

Product data sheet

Details		Species Reactivity	
Size	25 Tests	Species reactivity	Human
Host/Isotope	Mouse / IgG1, kappa	Published species	Human, Mouse, Not Applicable
Class	Monoclonal	Tested ApplicationsDilution *	
Type	Antibody	Flow Cytometry (Flow)	5 µL (0.06 µg)/test
Clone	HIT8a	Published Applications	
Conjugate	PE	Flow Cytometry (Flow)	See 6 publications below
Form	Liquid	* 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.	
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!		

Product specific information

Description: The HIT8a 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 HIT8a antibody has been reported for use in flow cytometric analysis. Applications Tested: This HIT8a antibody has been pre-titrated and tested by flow cytometric analysis of normal human peripheral blood cells. This can be used at 5 µL (0.06 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: 488-561 nm; Emission: 578 nm; Laser: Blue Laser, Green Laser, Yellow-Green Laser. Filtration: 0.2 µm post-manufacturing filtered.

Background/Target Information

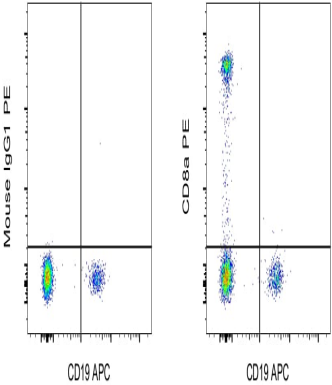
Cluster of differentiation 8 (CD8), a type I transmembrane glycoprotein of the immunoglobulin family of receptors, plays an integral role in signal transduction, and T cell differentiation and activation. CD8 is predominantly expressed on T cells as a disulfide-linked heterodimer of CD8alpha and CD8beta, where it functions as a co-receptor, along with T cell receptor (TCR), for major histocompatibility 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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CD8a Antibody (12-0089-41) in Flow

Normal human peripheral blood cells were stained with CD19 Monoclonal Antibody, APC (Product # 17-0199-42) and Mouse IgG1 kappa Isotype Control, PE (Product # 12-4714-82) (left) or CD8a Monoclonal Antibody, PE (right). Cells in the lymphocyte gate were used for analysis.

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PubMed References For CD8a Monoclonal Antibody (HIT8a), PE, eBioscience™

6 Flow Cytometry References

Species / Dilution	Summary
Human / Not Cited	12-0089-42 was used in Flow Cytometry to reveal a critical accessory role for the homeostatic function of a vital organ in optimizing tissue defense.
	Cell (2017; 170: 860) "Renal Sodium Gradient Orchestrates a Dynamic Antibacterial Defense Zone." Author(s):Berry MR,Mathews RJ,Ferdinand JR,Jing C,Loudon KW,Wlodek E,Dennison TW,Kuper C,Neuhofer W, Clatworthy MR PubMed Article URL:http://dx.doi.org/10.1016/j.cell.2017.07.022
Human / Not Cited	12-0089 was used in Flow cytometry/Cell sorting to evaluate the role of PD-1-PD-L1 pathway in CD8(+) T-cell functions in tumour-draining lymph nodes (TDLNs) and tumours of CRC patients.
	British journal of cancer (2014; 111: 1391) "PD-1(+) CD8(+) T cells are exhausted in tumours and functional in draining lymph nodes of colorectal cancer patients." Author(s):Wu X,Zhang H,Xing Q,Cui J,Li J,Li Y,Tan Y,Wang S PubMed Article URL:http://dx.doi.org/10.1038/bjc.2014.416
Human / Not Cited Mouse / Not Cited	12-0089 was used in Flow cytometry/Cell sorting to suggest that the CD3xPDL1 BiTE may be efficacious for patients with PDL1(+) solid tumors, in combination with other immunotherapies that do not specifically neutralize PD1 pathway-mediated immune suppression.
	Oncotarget (2017; 8: 57964) "CD3xPDL1 bi-specific T cell engager (BiTE) simultaneously activates T cells and NKT cells, kills PDL1⁺ tumor cells, and extends the survival of tumor-bearing humanized mice." Author(s):Horn LA,Ciavattone NG,Atkinson R,Woldergerima N,Wolf J,Clements VK,Sinha P,Poudel M,Ostrand-Rosenberg S PubMed Article URL:http://dx.doi.org/10.18632/oncotarget.19865
Human / Not Cited	12-0089 was used in Flow cytometry/Cell sorting to study the relative contributions of the main metabolic pathways to functional responses in human CD4+ and CD8+ T cells.
	Frontiers in immunology (2019; 8:) "Metabolic Adaptation of Human CD4⁺ and CD8⁺ T-Cells to T-Cell Receptor-Mediated Stimulation." Author(s):Jones N,Cronin JG,Dolton G,Panetti S,Schauenburg AJ,Galloway SAE,Sewell AK,Cole DK,Thornton CA, Francis NJ PubMed Article URL:http://dx.doi.org/10.3389/fimmu.2017.01516
Mouse / Not Cited	12-0089 was used in Flow cytometry/Cell sorting to investigate the potential of a previously uncharacterized property of natural human adenovirus infection to dictate, modulate and/or alter the course of HCV infection upon exposure.
	PloS one (2016; 11:) "Heterologous Immunity between Adenoviruses and Hepatitis C Virus: A New Paradigm in HCV Immunity and Vaccines." Author(s):Singh S,Vedi S,Samrat SK,Li W,Kumar R,Agrawal B PubMed Article URL:http://dx.doi.org/10.1371/journal.pone.0146404
Human / Not Cited	12-0089 was used in Flow cytometry/Cell sorting to study how ex vivo-isolated thymocytes produced negligible IFN- and lacked cytolytic activity against leukemia cells.
	Journal of immunology (Baltimore, Md. : 1950) (2014; 192: 2237) "Human thymocytes are functionally immature and differentiate into cytotoxic type 1 effector T cells upon IL-2/IL-15 signaling." Author(s):Ribot JC,Ribeiro ST,Correia DV,Sousa AE,Silva-Santos B PubMed Article URL:http://dx.doi.org/10.4049/jimmunol.1303119

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