

CD45 Monoclonal Antibody (HI30), Qdot™ 655

Catalog Number

Q22154

Product data sheet

Details		Species Reactivity	
Size	25 µL	Species reactivity	Human
Host/Isotope	Mouse / IgG1	Published species	Human, Not Applicable
Class	Monoclonal	Tested Applications	
Type	Antibody	Flow Cytometry (Flow)	Dilution * Assay-dependent
Clone	HI30	Published Applications	
Immunogen	CD45 antigen	Flow Cytometry (Flow)	See 2 publications below
Conjugate	Qdot™ 655	Miscellaneous PubMed (Misc)	See 1 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.	
Purification	purified		
Storage buffer	0.05M borate, pH 8.3, with 1M betaine		
Contains	0.05% sodium azide		
Storage Conditions	4° C		

Background/Target Information

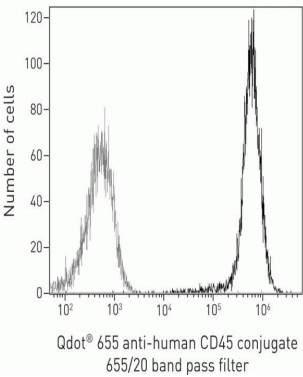
CD45 (LCA, leukocyte common antigen) is a receptor-type protein tyrosine phosphatase (PTP) ubiquitously expressed in all nucleated hematopoietic cells, comprising approximately 10% of all surface proteins in lymphocytes. CD45 is absent on non-hematopoietic cell lines, normal and malignant, non-hematopoietic tissues. CD45 glycoprotein is crucial in lymphocyte development and antigen signaling, serving as an important regulator of Src-family kinases. CD45 protein exists as multiple isoforms as a result of alternative splicing, differ in their extracellular domains but share identical transmembrane and cytoplasmic domains. CD45RA is an isoform of the CD45 complex and has restricted expression between different subtypes of lymphoid cells. CD45 isoforms differ in their ability to translocate into the glycosphingolipid-enriched membrane domains and their expression depends on cell type and physiological state of the cell. CD45 has been shown to be an essential regulator of T- and B-cell antigen receptor signaling and suppresses JAK kinases to regulate cytokine receptor signaling. CD45 is also important in promoting cell survival by modulating integrin-mediated signal transduction pathway, DNA fragmentation during apoptosis and inhibition or upregulation of various immunological functions.

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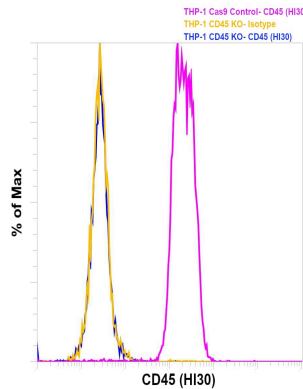
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CD45 Antibody (Q22154) in Flow

Histogram overlay plot of gated human lymphocytes, the black line represents cells labeled with CD45 Mouse Anti-Human mAb (clone HI30), Qdot® 655 Conjugate and the gray line represents unstained cells. Samples were acquired and analyzed using 405 nm excitation and a 660/20 band pass emission filter using the Attune® Acoustic Cytometer Blue/Violet option.



CD45 Antibody (Q22154)

Antibody clone (HI30) specificity was demonstrated by CRISPR-Cas9 mediated knockout of target protein. Loss of signal was observed for target protein in HI30 KO cells (blue histogram) compared to the control Cas9 cells (pink histogram) using CD45 antibody (HI30). The Yellow histogram represents staining with the isotype control. {KO}

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PubMed References For CD45 Monoclonal Antibody (HI30), Qdot™ 655

2 Flow Cytometry References

Species / Dilution	Summary
Human / Not Cited	Q22154 was used in flow cytometry to investigate the dynamics and characteristics of natural killer cell types in the human ocular mucosal surface in situ during infection with group D human adenoviruses.
	Mucosal immunology (2016; 9: 159) "Dynamic change in natural killer cell type in the human ocular mucosa in situ as means of immune evasion by adenovirus infection." Author(s):Yawata N,Selva KJ,Liu YC,Tan KP,Lee AW,Siak J,Lan W,Vania M,Arundhati A,Tong L,Li J,Mehta JS,Yawata M PubMed Article URL: http://dx.doi.org/10.1038/mi.2015.47
Not Applicable / Not Cited	Q22154 was used in flow cytometry to find Munc13-4 is highly expressed in differentiated human natural killer cells and effector CD8(+) T lymphocytes
	The Journal of experimental medicine (2014; 211: 1079) "Transcriptional regulation of Munc13-4 expression in cytotoxic lymphocytes is disrupted by an intronic mutation associated with a primary immunodeficiency." Author(s):Cichocki F,Schlums H,Li H,Stache V,Holmes T,Lenvik TR,Chiang SC,Miller JS,Meeths M,Anderson SK,Bryceson YT PubMed Article URL: http://dx.doi.org/10.1084/jem.20131131

1 Miscellaneous PubMed References

Species / Dilution	Summary
Human / Not Cited	Q22154 was used in flow cytometry to characterize stem cells isolated and expanded from the human dental pulp
	Journal of biomedicine & biotechnology (2011; 2010:) "Telomere attrition occurs during ex vivo expansion of human dental pulp stem cells." Author(s):Mokry J,Soukup T,Micuda S,Karbanova J,Vissek B,Brcakova E,Suchanek J,Bouchal J,Vokurkova D,Ivancakova R PubMed Article URL: http://dx.doi.org/10.1155/2010/673513

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