

# CD45R Monoclonal Antibody (RA3-6B2), APC

Catalog NumberRM2605

Product data sheet

Details		Species Reactivity	
Size	500 µL	Species reactivity	Mouse
Host/Isotope	Rat / IgG2a, kappa	Published species	Mouse, Not Applicable
Class	Monoclonal	Tested Applications	
Type	Antibody	Flow Cytometry (Flow)	Dilution * Assay-dependent
Clone	RA3-6B2	Published Applications	
Immunogen	exon A-specific epitope on CD45	Flow Cytometry (Flow)	See 9 publications below
Conjugate	APC	Miscellaneous PubMed (Misc)	See 7 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	PBS		
Contains	0.1% sodium azide		
Storage Conditions	4° C		

## Background/Target Information

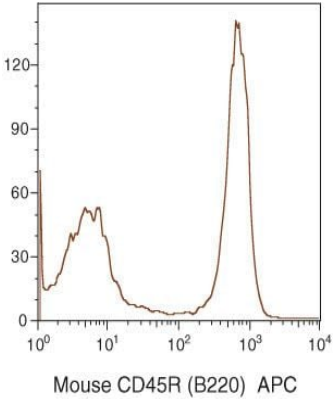
CD45R (PTPRC) is a member of the protein tyrosine phosphatase (PTP) family. PTPs are known to be signaling molecules that regulate a variety of cellular processes including cell growth, differentiation, mitotic cycle, and oncogenic transformation. CD45 contains an extracellular domain, a single transmembrane segment and two tandem intracytoplasmic catalytic domains. CD45 is specifically expressed in hematopoietic cells and has been shown to be an essential regulator of T- and B-cell antigen receptor signaling. CD45 glycoprotein is crucial in lymphocyte development and antigen signaling, serving as an important regulator of Src-family kinases. CD45 protein exists in multiple isoforms as a result of alternative splicing, and these isoforms differ in their extracellular domains, but share identical transmembrane and cytoplasmic domains. Further, these 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. In addition to its role in immunoreceptor signaling, CD45 is important in promoting cell survival by modulating integrin-mediated signal transduction pathway and is also involved in DNA fragmentation during apoptosis. CD45RA is an isoform of the CD45 complex and has restricted expression between different subtypes of lymphoid cells. Diseases associated with CD45 dysfunction include Severe Combined Immunodeficiency (T-cell negative, B-Cell Negative) and Hepatitis C.

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**CD45R Antibody (RM2605) in Flow**

Fresh mouse splenocytes were stained using APC of rat anti-mouse CD45R (B220) antibody (clone: RA3-6B2). The negative control profiles represent unstained cells.

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PubMed References For CD45R Monoclonal Antibody (RA3-6B2), APC

9 Flow Cytometry References

Species / Dilution	Summary
	RM2605 was used in Flow cytometry/Cell sorting to study how abasic sites are converted into single-stranded breaks and, subsequently, double-stranded breaks.
Mouse / Not Cited	The Journal of experimental medicine ( 2007; 204: 3017) <b>"APE1- and APE2-dependent DNA breaks in immunoglobulin class switch recombination."</b> Author(s):Guikema JE,Linehan EK,Tsuchimoto D,Nakabeppu Y,Strauss PR,Stavnezer J,Schrader CE PubMed Article URL: <a href="http://dx.doi.org/10.1084/jem.20071289">http://dx.doi.org/10.1084/jem.20071289</a>
	RM2605 was used in flow cytometry to describe the pathogenesis of influenza A virus and Sendai virus in ISG15 knockout mice
Mouse / Not Cited	Journal of virology ( 2015; 89: 337) <b>"Novel mode of ISG15-mediated protection against influenza A virus and Sendai virus in mice."</b> Author(s):Morales DJ,Monte K,Sun L,Struckhoff JJ,Agapov E,Holtzman MJ,Stappenbeck TS,Lenschow DJ PubMed Article URL: <a href="http://dx.doi.org/10.1128/JVI.02110-14">http://dx.doi.org/10.1128/JVI.02110-14</a>
	RM2605 was used in Flow cytometry/Cell sorting to demonstrate that the reactive oxygen species scavenger N-acetylcysteine inhibits immunoglobulin class switch recombination.
Mouse / Not Cited	Journal of immunology (Baltimore, Md. : 1950) ( 2010; 184: 6177) <b>"p53 represses class switch recombination to IgG2a through its antioxidant function."</b> Author(s):Guikema JE,Schrader CE,Brodsky MH,Linehan EK,Richards A,El Falaky N,Li DH,Sluss HK,Szomolanyi-Tsuda E,Stavnezer J PubMed Article URL: <a href="http://dx.doi.org/10.4049/jimmunol.0904085">http://dx.doi.org/10.4049/jimmunol.0904085</a>
	RM2605 was used in flow cytometry to demonstrate that the effects of Toll-like receptors on autoimmunity occur in the established repertoire and not during B cell development
Not Applicable / Not Cited	European journal of immunology ( 2006; 36: 1404) <b>"TLR4, TLR9 and MyD88 are not required for the positive selection of autoreactive B cells into the primary repertoire."</b> Author(s):Silver K,Ferry H,Crockford T,Cornall RJ PubMed Article URL: <a href="http://dx.doi.org/10.1002/eji.200636019">http://dx.doi.org/10.1002/eji.200636019</a>
	RM2605 was used in flow cytometry to identify key signals required for the exponential expansion of specific CD8 positive mouse T cells in vivo
Not Applicable / Not Cited	Journal of immunology (Baltimore, Md. : 1950) ( 2008; 181: 3422) <b>"Combined triggering of dendritic cell receptors results in synergistic activation and potent cytotoxic immunity."</b> Author(s):Wells JW,Cowled CJ,Farzaneh F,Noble A PubMed Article URL: <a href="http://dx.doi.org/10.4049/jimmunol.181.5.3422">http://dx.doi.org/10.4049/jimmunol.181.5.3422</a>
	RM2605 was used in flow cytometry to investigate IgA production by different B cell subsets
Not Applicable / Not Cited	Journal of immunology (Baltimore, Md. : 1950) ( 2006; 177: 6025) <b>"Enhanced IgA class switching in marginal zone and B1 B cells relative to follicular/B2 B cells."</b> Author(s):Kaminski DA,Stavnezer J PubMed Article URL: <a href="http://dx.doi.org/10.4049/jimmunol.177.9.6025">http://dx.doi.org/10.4049/jimmunol.177.9.6025</a>
	RM2605 was used in flow cytometry to compare Ig class switching in different inbred mice
Not Applicable / Not Cited	International immunology ( 2007; 19: 545) <b>"Antibody class switching differs among SJL, C57BL/6 and 129 mice."</b> Author(s):Kaminski DA,Stavnezer J PubMed Article URL: <a href="http://dx.doi.org/10.1093/intimm/dxm020">http://dx.doi.org/10.1093/intimm/dxm020</a>
	RM2605 was used in Flow cytometry/Cell sorting to assess the role of Mut S homologue 5 in Ig class switch recombination.
Mouse / Not Cited	Journal of immunology (Baltimore, Md. : 1950) ( 2008; 181: 8450) <b>"Reassessment of the role of Mut S homolog 5 in Ig class switch recombination shows lack of involvement in cis- and trans-switching."</b> Author(s):Guikema JE,Schrader CE,Leus NG,Ucher A,Linehan EK,Werling U,Edelmann W,Stavnezer J PubMed Article URL: <a href="http://dx.doi.org/10.4049/jimmunol.181.12.8450">http://dx.doi.org/10.4049/jimmunol.181.12.8450</a>

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	RM2605 was used in flow cytometry to elucidate the mechanism of hyper-IFN-alpha production using New Zealand Black mice
Not Applicable / Not Cited	Journal of immunology (Baltimore, Md. : 1950) ( 2004; 173: 5283) <b>"Expansion of bone marrow IFN-alpha-producing dendritic cells in New Zealand Black (NZB) mice: high level expression of TLR9 and secretion of IFN-alpha in NZB bone marrow."</b> Author(s):Lian ZX,Kikuchi K,Yang GX,Ansari AA,Ikehara S,Gershwin ME PubMed Article URL: <a href="http://dx.doi.org/10.4049/jimmunol.173.8.5283">http://dx.doi.org/10.4049/jimmunol.173.8.5283</a>
<b>7 Miscellaneous PubMed References</b>	
<b>Species / Dilution</b>	<b>Summary</b>
	RM2605 was used in flow cytometry to generate and characterize Id3 conditional T cell knock out mice
Mouse / Not Cited	Immunology letters ( 2011; 135: 34) <b>"Modeling Sjögren's syndrome with Id3 conditional knockout mice."</b> Author(s):Guo Z,Li H,Han M,Xu T,Wu X,Zhuang Y PubMed Article URL: <a href="http://dx.doi.org/10.1016/j.imlet.2010.09.009">http://dx.doi.org/10.1016/j.imlet.2010.09.009</a>
	RM2605 was used in flow cytometry to develop a nonmyeloablative host conditioning regimen for transplantation.
Mouse / Not Cited	Journal of immunology (Baltimore, Md. : 1950) ( 2001; 167: 2087) <b>"Predominance of NK1.1+TCR alpha beta+ or DX5+TCR alpha beta+ T cells in mice conditioned with fractionated lymphoid irradiation protects against graft-versus-host disease: "natural suppressor" cells."</b> Author(s):Lan F,Zeng D,Higuchi M,Huie P,Higgins JP,Strober S PubMed Article URL: <a href="http://dx.doi.org/10.4049/jimmunol.167.4.2087">http://dx.doi.org/10.4049/jimmunol.167.4.2087</a>
	RM2605 was used in flow cytometry to test if a total lymphoid irradiation and anti-thymocyte serum regimen can prevent graft verses host disease.
Mouse / Not Cited	Biology of blood and marrow transplantation : journal of the American Society for Blood and Marrow Transplantation ( 2003; 9: 355) <b>"Host conditioning with total lymphoid irradiation and antithymocyte globulin prevents graft-versus-host disease: the role of CD1-reactive natural killer T cells."</b> Author(s):Lan F,Zeng D,Higuchi M,Higgins JP,Strober S PubMed Article URL: <a href="http://dx.doi.org/10.1016/s1083-8791(03)00108-3">http://dx.doi.org/10.1016/s1083-8791(03)00108-3</a>
	RM2605 was used in flow cytometry to explore the role of E2A in T cell lineage.
Mouse / Not Cited	Journal of immunology (Baltimore, Md. : 1950) ( 2002; 168: 3923) <b>"An analysis of T cell intrinsic roles of E2A by conditional gene disruption in the thymus."</b> Author(s):Pan L,Hanrahan J,Li J,Hale LP,Zhuang Y PubMed Article URL: <a href="http://dx.doi.org/10.4049/jimmunol.168.8.3923">http://dx.doi.org/10.4049/jimmunol.168.8.3923</a>
	RM2605 was used in flow cytometry to examine multipotent progenitors from early fetuses.
Mouse / Not Cited	Journal of immunology (Baltimore, Md. : 1950) ( 2001; 166: 3290) <b>"Immature multipotent hemopoietic progenitors lacking long-term bone marrow-reconstituting activity in the aorta-gonad-mesonephros region of murine day 10 fetuses."</b> Author(s):Ohmura K,Kawamoto H,Lu M,Ikawa T,Ozaki S,Nakao K,Katsura Y PubMed Article URL: <a href="http://dx.doi.org/10.4049/jimmunol.166.5.3290">http://dx.doi.org/10.4049/jimmunol.166.5.3290</a>
	RM2605 was used in flow cytometry to investigate homeostatic B cell proliferation.
Mouse / Not Cited	Journal of immunology (Baltimore, Md. : 1950) ( 2002; 169: 6795) <b>"Naive B lymphocytes undergo homeostatic proliferation in response to B cell deficit."</b> Author(s):Cabatingan MS,Schmidt MR,Sen R,Woodland RT PubMed Article URL: <a href="http://dx.doi.org/10.4049/jimmunol.169.12.6795">http://dx.doi.org/10.4049/jimmunol.169.12.6795</a>
	RM2605 was used in flow cytometry to test if specific subsets of cells in allogeneic bone marrow transplants can treat the BCL(1) B-cell lymphoma without inducing graft verses host disease.
Mouse / Not Cited	Blood ( 2001; 97: 3458) <b>"Allogeneic bone marrow cells that facilitate complete chimerism and eliminate tumor cells express both CD8 and T-cell antigen receptor-alphabeta."</b> Author(s):Lan F,Zeng D,Huie P,Higgins JP,Strober S PubMed Article URL: <a href="http://dx.doi.org/10.1182/blood.v97.11.3458">http://dx.doi.org/10.1182/blood.v97.11.3458</a>

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