



CD44 Monoclonal Antibody (IM7), APC, eBioscience™

Catalog Number 17-0441-81 Product data sheet

Details		Species Reactivity	
Size	50 µg	Species reactivity	Human, Mouse
Host/Isotope	Rat / IgG2b, kappa	Published species	Dog, Fruit fly, Non-human primate, Bacteria, Mouse, Human, Not
Class	Monoclonal		Applicable
Туре	Antibody	Tested Applications	Dilution *
Clone	IM7	Flow Cytometry (Flow)	0.06 μg/test
Conjugate	APC	Published Applications	
Form	Liquid	Flow Cytometry (Flow)	See 118 publications below
Concentration	0.2 mg/mL	Immunocytochemistry (ICC/IF)	See 2 publications below
Purification	Affinity chromatography	Miscellaneous PubMed (Misc)	See 1 publications below
Storage buffer	PBS, pH 7.2	* Suggested working dilutions are given as a guide only. It is recor	nmended that the user titrate the product for use in their own
Contains	0.09% sodium azide	experiment using appropriate negative and positive controls.	
Storage Conditions	4° C, store in dark, DO NOT FREEZE!		

Product specific information

Description: The IM7 monoclonal antibody reacts with all isoforms of mouse CD44 (Pgp-1). CD44 is expressed by hematopoietic and non-hematopoietic cells. Bone marrow myeloid cells and memory T cells highly express this antigen and peripheral B and T cells can upregulate the expression of CD44. CD44 functions as an adhesion molecule through its binding to hyaluronate, an extracellular matrix component. Applications Reported: The IM7 antibody has been reported for use in flow cytometric analysis. Applications Tested: The IM7 antibody has been tested by flow cytometric analysis of mouse bone marrow cells and splenocytes. This can be used at less than or equal to 0.06 μ g per test. A test is defined as the amount (μ g) of antibody that will stain a cell sample in a final volume of 100 μ L. 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. Excitation: 633-647 nm; Emission: 660 nm; Laser: Red Laser. Filtration: 0.2 μ m post-manufacturing filtered.

Background/Target Information

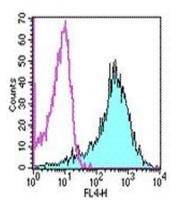
CD44 cell surface antigen is a 100 kDa type 1 transmembrane glycoprotein widely expressed on human leucocytes, white matter of the brain and by some epithelial cells of the intestine and breast. Several isoforms of CD44 exist, including the predominant CD44H isoform detected in many normal tissues. CD44 is a receptor for hyaluronic acid (HA) and is involved in cell-cell interactions, cell adhesion and migration. CD44 also participates in a wide variety of cellular functions including lymphocyte activation, recirculation and homing. CD44 expression may be up-regulated upon some carcinomas, and it has been speculated that this may be related to metastatic potential. CD44 is expressed by hematopoietic, non-hematopoietic cells, epithelial tissues, and to filopodia in cultured keratinocytes. Further, bone marrow myeloid cells and memory T cells express CD44 at high levels, and peripheral B and T cells can upregulate the expression of CD44 in response to certain stimulatory events. Transcripts for the CD44 gene undergo complex alternative splicing that results in many functionally distinct isoforms, however, the full-length nature of some of these variants have not been determined. Alternative splicing is the basis for the structural and functional diversity of the CD44 protein. Diseases associated with CD44 dysfunction include superficial keratitis and lichen sclerosus. CD44 also may be related to tumor metastasis formation.

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Product Images For CD44 Monoclonal Antibody (IM7), APC, eBioscience™



CD44 Antibody (17-0441-81) in Flow

Staining of C57BL/6 splenocytes with staining buffer (autofluorescence) (open histogram) or 0.03 µg of Anti-Human /Mouse CD44 APC (filled histogram). Total viable cells were used for analysis.

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118 Flow Cytometry Re	For CD44 Monoclonal Antibody (IM7), APC, eBioscience™
Species / Dilution	Summary
opecies / Dilution	17-0441 was used in Flow cytometry/Cell sorting to reveal the selective upregulation of Helios during Th2 and TFh responses to alum-protein vaccines.
Mouse / Not Cited	PloS one (2011; 6:) "Helios is associated with CD4 T cells differentiating to T helper 2 and follicular helper T cells in vivo independently of Foxp3 expression." Author(s):Serre K,Bénézech C,Desanti G,Bobat S,Toellner KM,Bird R,Chan S,Kastner P,Cunningham AF,Maclennan IC, Mohr E PubMed Article URL:http://dx.doi.org/10.1371/journal.pone.0020731
	17-0441 was used in Flow cytometry/Cell sorting to report that local control of IL-6 trans signalling regulates the effector characteristics of the T cell infiltrate and promotes the maintenance of IL-17A-secreting CD4(+) T cells.
Mouse / Not Cited	Journal of immunology (Baltimore, Md.: 1950) (2010; 184: 2130) "Loss of CD4+ T cell IL-6R expression during inflammation underlines a role for IL-6 trans signaling in the local maintenance of Th17 cells." Author(s):Jones GW,McLoughlin RM,Hammond VJ,Parker CR,Williams JD,Malhotra R,Scheller J,Williams AS,Rose-John S,Topley N,Jones SA PubMed Article URL:http://dx.doi.org/10.4049/jimmunol.0901528
	17-0441 was used in Flow cytometry/Cell sorting to establish a multifaceted role for JMJD3, placing it as a key partner of KLF4 and a scaffold that assists chromatin interactions and activates gene transcription.
Mouse / Not Cited	Nature communications (2020; 11:) "JMJD3 acts in tandem with KLF4 to facilitate reprogramming to pluripotency." Author(s):Huang Y,Zhang H,Wang L,Tang C,Qin X,Wu X,Pan M,Tang Y,Yang Z,Babarinde IA,Lin R,Ji G,Lai Y,Xu X,Su J, Wen X,Satoh T,Ahmed T,Malik V,Ward C,Volpe G,Guo L,Chen J,Sun L,Li Y,Huang X,Bao X,Gao F,Liu B,Zheng H,Jauch R,Lai L,Pan G,Chen J,Testa G,Akira S,Hu J,Pei D,Hutchins AP,Esteban MA,Qin B PubMed Article URL:http://dx.doi.org/10.1038/s41467-020-18900-z
	17-0441 was used in Flow cytometry/Cell sorting to study increased hematopoietic cells in the mertk-/- mouse peritoneal cavity as a result of augmented migration.
Mouse / Not Cited	Journal of immunology (Baltimore, Md. : 1950) (2010; 184: 6637) "Increased hematopoietic cells in the mertk-/- mouse peritoneal cavity: a result of augmented migration." Author(s):Williams JC,Wagner NJ,Earp HS,Vilen BJ,Matsushima GK PubMed Article URL:http://dx.doi.org/10.4049/jimmunol.0902784
	17-0441 was used in Flow cytometry/Cell sorting to develop a novel imiquimod formulation with feasible pharmaceutical properties and immunological efficacy.
Mouse / Not Cited	PloS one (2015; 9:) "Efficacy of imiquimod-based transcutaneous immunization using a nano-dispersed emulsion gel formulation." Author(s):Stein P,Gogoll K,Tenzer S,Schild H,Stevanovic S,Langguth P,Radsak MP PubMed Article URL:http://dx.doi.org/10.1371/journal.pone.0102664
	17-0441 was used in Flow cytometry/Cell sorting to study the effect of prostaglandin E2 on the function of Th17 cells during differentiation.
Mouse / Not Cited	Immunity (2012; 36: 668) "Prostaglandin E2 suppresses antifungal immunity by inhibiting interferon regulatory factor 4 function and interleukin-17 expression in T cells." Author(s):Valdez PA,Vithayathil PJ,Janelsins BM,Shaffer AL,Williamson PR,Datta SK PubMed Article URL:http://dx.doi.org/10.1016/j.immuni.2012.02.013
Mouse / Not Cited	17-0441 was used in Flow cytometry/Cell sorting to serve as a paradigm to understand the molecular basis of cell-type-specific non-replicative functions of the ubiquitous POLE complex.
	Cell reports (2020; 31:) "Lymphocyte-Specific Function of the DNA Polymerase Epsilon Subunit Pole3 Revealed by Neomorphic Alleles." Author(s):Siamishi I,Iwanami N,Clapes T,Trompouki E,O'Meara CP,Boehm T PubMed Article URL:http://dx.doi.org/10.1016/j.celrep.2020.107756
	17-0441 was used in Flow cytometry/Cell sorting to compare the ability of WT and transgenic, immune-compromised mice to reject EL4 thymoma cells.
Mouse / Not Cited	Journal of immunotoxicology (2014; 11: 393) "Immune selection of tumor cells in TCR -chain transgenic mice." Author(s):Silaeva YY,Grinenko TS,Vagida MS,Kalinina AA,Khromykh LM,Kazansky DB PubMed Article URL:http://dx.doi.org/10.3109/1547691X.2013.861548

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	17-0441 was used in Flow cytometry/Cell sorting to infer that OCT4 expression may have a direct effect on partial cardiomyocyte reprogramming of mesenchymal stromal cells.
Mouse / 1:50	PloS one (2017; 12:) "OCT4 expression mediates partial cardiomyocyte reprogramming of mesenchymal stromal cells." Author(s):Yannarelli G,Pacienza N,Montanari S,Santa-Cruz D,Viswanathan S,Keating A PubMed Article URL:http://dx.doi.org/10.1371/journal.pone.0189131
	17-0441 was used in Flow cytometry/Cell sorting to study the Th17 biased antibody-independent immunity to group A streptococci cross-serotype protection.
Mouse / Not Cited	PloS one (2015; 9:) "Sortase A induces Th17-mediated and antibody-independent immunity to heterologous serotypes of group A streptococci." Author(s):Fan X,Wang X,Li N,Cui H,Hou B,Gao B,Cleary PP,Wang B PubMed Article URL:http://dx.doi.org/10.1371/journal.pone.0107638
	17-0441 was used in Flow cytometry/Cell sorting to investigate the mechanism by which E and Id proteins control the development of invariant NKT sublineages after positive selection.
Mouse / Not Cited	Journal of immunology (Baltimore, Md. : 1950) (2014; 192: 2227) "E and Id proteins influence invariant NKT cell sublineage differentiation and proliferation." Author(s):D'Cruz LM,Stradner MH,Yang CY,Goldrath AW PubMed Article URL:http://dx.doi.org/10.4049/jimmunol.1302904
	17-0441 was used in Flow cytometry/Cell sorting to analyse the function and population dynamics of newly emigrated T-cells in aged mice.
Mouse / Not Cited	Proceedings of the National Academy of Sciences of the United States of America (2006; 103: 8447) "Thymic output in aged mice." Author(s):Hale JS,Boursalian TE,Turk GL,Fink PJ PubMed Article URL:http://dx.doi.org/10.1073/pnas.0601040103
Mouse / Not Cited	17-0441 was used in Flow cytometry/Cell sorting to determine how the generation of immunity is affected by vaccination dosage and frequency.
	Frontiers in immunology (2019; 9:) "Varying Immunizations With <i>Plasmodium</i> Radiation-Attenuated Sporozoites Alter Tissue-Specific CD8 ⁺ T Cell Dynamics." Author(s):Frank R,Gabel M,Heiss K,Mueller AK,Graw F PubMed Article URL:http://dx.doi.org/10.3389/fimmu.2018.01137
	17-0441 was used in Flow cytometry/Cell sorting to evaluate in vitro and in vivo antigen presentation by coxsackievirus B3, showing that it inhibits antigen presentation in vivo.
Mouse / Not Cited	PLoS pathogens (2009; 5:) "Coxsackievirus B3 inhibits antigen presentation in vivo, exerting a profound and selective effect on the MHC class I pathway." Author(s):Kemball CC,Harkins S,Whitmire JK,Flynn CT,Feuer R,Whitton JL PubMed Article URL:http://dx.doi.org/10.1371/journal.ppat.1000618
	17-0441 was used in Flow cytometry/Cell sorting to study the role of hCCX-CKR in hCXCR3-induced chemotaxis.
Human / Not Cited	British journal of pharmacology (2013; 168: 1375) "Inhibition of CXCR3-mediated chemotaxis by the human chemokine receptor-like protein CCX-CKR." Author(s):Vinet J,van Zwam M,Dijkstra IM,Brouwer N,van Weering HR,Watts A,Meijer M,Fokkens MR,Kannan V,Verzijl D, Vischer HF,Smit MJ,Leurs R,Biber K,Boddeke HW PubMed Article URL:http://dx.doi.org/10.1111/bph.12042
	17-0441 was used in Flow cytometry/Cell sorting to study the effect of Mer receptor tyrosine kinase deficiency on the clearance of apoptotic cells.
Mouse / Not Cited	Journal of immunology (Baltimore, Md.: 1950) (2013; 190: 1433) "Prolonged apoptotic cell accumulation in germinal centers of Mer-deficient mice causes elevated B cell and CD4+ Th cell responses leading to autoantibody production." Author(s):Khan TN,Wong EB,Soni C,Rahman ZS PubMed Article URL:http://dx.doi.org/10.4049/jimmunol.1200824
	17-0441 was used in Flow cytometry/Cell sorting to identify some of the genetic targets of T-bet during V14i NKT-cell lineage development.
Mouse / Not Cited	Blood (2006; 107: 2797) "T-bet concomitantly controls migration, survival, and effector functions during the development of Valpha14i NKT cells." Author(s):Matsuda JL,Zhang Q,Ndonye R,Richardson SK,Howell AR,Gapin L PubMed Article URL:http://dx.doi.org/10.1182/blood-2005-08-3103

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	17-0441 was used in Flow cytometry/Cell sorting to evaluate whether the biological activity of G-CSF can be improved by pre-association with anti-G-CSF monoclonal antibodies prior to injection.
Mouse / Not Cited	Journal of hematology & oncology (2013; 6:) "G-CSF/anti-G-CSF antibody complexes drive the potent recovery and expansion of CD11b+Gr-1+ myeloid cells without compromising CD8+ T cell immune responses." Author(s):Rubinstein MP,Salem ML,Doedens AL,Moore CJ,Chiuzan C,Rivell GL,Cole DJ,Goldrath AW PubMed Article URL:http://dx.doi.org/10.1186/1756-8722-6-75
	17-0441-83 was used in Flow Cytometry to compare the abilities of BTLA and PD-1 to recruit effector molecules and to regulate T cell signalling.
Mouse / Not Cited	The Journal of cell biology (2020; 219:) "PD-1 and BTLA regulate T cell signaling differentially and only partially through SHP1 and SHP2." Author(s):Xu X,Hou B,Fulzele A,Masubuchi T,Zhao Y,Wu Z,Hu Y,Jiang Y,Ma Y,Wang H,Bennett EJ,Fu G,Hui E PubMed Article URL:http://dx.doi.org/10.1083/jcb.201905085
	17-0441 was used in Flow cytometry/Cell sorting to investigate significant markers for breast cancer stem cells, such as (SSEA-3) and 3GalT5.
Human / Not Cited	Proceedings of the National Academy of Sciences of the United States of America (2016; 113: 960) "Stage-specific embryonic antigen-3 (SSEA-3) and 3GalT5 are cancer specific and significant markers for breast cancer stem cells." Author(s):Cheung SK,Chuang PK,Huang HW,Hwang-Verslues WW,Cho CH,Yang WB,Shen CN,Hsiao M,Hsu TL,Chang CF,Wong CH PubMed Article URL:http://dx.doi.org/10.1073/pnas.1522602113
	17-0441 was used in Flow cytometry/Cell sorting to show that Isoniazid treatment of Mycobacterium tuberculosis treatment is associated with immune impairment.
Mouse / Not Cited	The Journal of biological chemistry (2014; 289: 30190) "Isoniazid induces apoptosis of activated CD4+ T cells: implications for post-therapy tuberculosis reactivation and reinfection." Author(s):Tousif S,Singh DK,Ahmad S,Moodley P,Bhattacharyya M,Van Kaer L,Das G PubMed Article URL:http://dx.doi.org/10.1074/jbc.C114.598946
	17-0441 was used in Flow cytometry/Cell sorting to investigate the systemic immune status of innate and adaptive immunity at 30, 180, 360 days post-infection in mice infected with E. granulousus.
Mouse / Not Cited	PloS one (2014; 8:) "Surveillance on the status of immune cells after Echinnococcus granulosus protoscoleces infection in Balb/c mice." Author(s):Pan W,Zhou HJ,Shen YJ,Wang Y,Xu YX,Hu Y,Jiang YY,Yuan ZY,Ugwu CE,Cao JP PubMed Article URL:http://dx.doi.org/10.1371/journal.pone.0059746
	17-0441 was used in Flow cytometry/Cell sorting to show that the activity of nuclear factors of activated T cells-c1 supports the acute rejection of heterotopic heart allografts.
Mouse / Not Cited	Frontiers in immunology (2019; 9:) "The Transcription Factor NFATc1 Supports the Rejection of Heterotopic Heart Allografts." Author(s):Baur J,Otto C,Steger U,Klein-Hessling S,Muhammad K,Pusch T,Murti K,Wismer R,Germer CT,Klein I,Müller N, Serfling E,Avots A PubMed Article URL:http://dx.doi.org/10.3389/fimmu.2018.01338
	17-0441 was used in Flow cytometry/Cell sorting to define the involvement of ceramides in the T-cell response to alloantigens present after allogeneic haematopoietic cell transplantation.
Mouse / Not Cited	JCI insight (2017; 2:) "Ceramide synthesis regulates T cell activity and GVHD development." Author(s):Sofi MH,Heinrichs J,Dany M,Nguyen H,Dai M,Bastian D,Schutt S,Wu Y,Daenthanasanmak A,Gencer S,Zivkovic A,Szulc Z,Stark H,Liu C,Chang YJ,Ogretmen B,Yu XZ PubMed Article URL:http://dx.doi.org/10.1172/jci.insight.91701
	17-0441 was used in Flow cytometry/Cell sorting to generate a novel mouse model to allow the study of primary antigen- specific T cells.
Mouse / Not Cited	Frontiers in immunology (2016; 7:) "Generation of the First TCR Transgenic Mouse with CD4(+) T Cells Recognizing an Anti-inflammatory Regulatory T Cell-Inducing Hsp70 Peptide." Author(s):Jansen MA,van Herwijnen MJ,van Kooten PJ,Hoek A,van der Zee R,van Eden W,Broere F PubMed Article URL:http://dx.doi.org/10.3389/fimmu.2016.00090

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17-0441 was used in Flow cytometry/Cell sorting to test the hypothesis that Tbx1 negatively regulates thymic epithelial cell growth and differentiation.
Development (Cambridge, England) (2014; 141: 2950) "Ectopic TBX1 suppresses thymic epithelial cell differentiation and proliferation during thymus organogenesis." Author(s):Reeh KA,Cardenas KT,Bain VE,Liu Z,Laurent M,Manley NR,Richie ER PubMed Article URL:http://dx.doi.org/10.1242/dev.111641
17-0441 was used in Flow cytometry/Cell sorting to demonstrate a critical role for lung ILCs in restoring airway epithelial integrity and tissue homeostasis after viral replication.
Nature immunology (2011; 12: 1045) "Innate lymphoid cells promote lung-tissue homeostasis after infection with influenza virus." Author(s):Monticelli LA,Sonnenberg GF,Abt MC,Alenghat T,Ziegler CG,Doering TA,Angelosanto JM,Laidlaw BJ,Yang CY, Sathaliyawala T,Kubota M,Turner D,Diamond JM,Goldrath AW,Farber DL,Collman RG,Wherry EJ,Artis D PubMed Article URL:http://dx.doi.org/10.1031/ni.2131
17-0441-82 was used in flow cytometry to study Mif-/- and Mif-2-/- mice to polymicrobial sepsis and observed a survival benefit with Mif but not Mif-2 deficiency.
The Journal of clinical investigation (2021; 131:) "MIF but not MIF-2 recruits inflammatory macrophages in an experimental polymicrobial sepsis model." Author(s):Tilstam PV,Schulte W,Holowka T,Kim BS,Nouws J,Sauler M,Piecychna M,Pantouris G,Lolis E,Leng L, Bernhagen J,Fingerle-Rowson G,Bucala R PubMed Article URL:http://dx.doi.org/10.1172/JCI127171
17-0441 was used in Flow cytometry/Cell sorting to investigate how blocking the HLA-DR2b allele with small molecule inhibitors may offer a promising therapeutic strategy for the treatment of multiple sclerosis.
Journal of immunology (Baltimore, Md.: 1950) (2013; 191: 5074) "Small molecule inhibitor of antigen binding and presentation by HLA-DR2b as a therapeutic strategy for the treatment of multiple sclerosis." Author(s):Ji N,Somanaboeina A,Dixit A,Kawamura K,Hayward NJ,Self C,Olson GL,Forsthuber TG PubMed Article URL:http://dx.doi.org/10.4049/jimmunol.1300407
17-0441 was used in Flow cytometry/Cell sorting to study how Notch/Delta signaling is not sufficient for T-lineage specification and commitment, but can be permissive for the maintenance and proliferation of uncommitted progenitors.
Genes & development (2005; 19: 965) "Delayed, asynchronous, and reversible T-lineage specification induced by Notch/Delta signaling." Author(s):Taghon TN,David ES,Zúñiga-Pflücker JC,Rothenberg EV PubMed Article URL:http://dx.doi.org/10.1101/gad.1298305
17-0441 was used in Flow cytometry/Cell sorting to suggest that targeting antigens to FcRs on DCs may be a promising approach to raise immunogenic or tolerogenic T cell responses to antigens of choice.
The Journal of experimental medicine (2017; 214: 1509) "DC subset-specific induction of T cell responses upon antigen uptake via Fc receptors in vivo." Author(s):Lehmann CHK,Baranska A,Heidkamp GF,Heger L,Neubert K,Lühr JJ,Hoffmann A,Reimer KC,Brückner C,Beck S,Seeling M,Kießling M,Soulat D,Krug AB,Ravetch JV,Leusen JHW,Nimmerjahn F,Dudziak D PubMed Article URL:http://dx.doi.org/10.1084/jem.20160951
17-0441-82 was used in Flow Cytometry to identify a functional circular RNA, termed circRNA activating MAFF (cia-MAF), that is robustly expressed in liver cancer and liver Liver tumor-initiating cells.
The Journal of clinical investigation (2021; 131:) "Circular RNA cia-MAF drives self-renewal and metastasis of liver tumor-initiating cells via transcription factor MAFF." Author(s):Chen Z,Lu T,Huang L,Wang Z,Yan Z,Guan Y,Hu W,Fan Z,Zhu P PubMed Article URL:http://dx.doi.org/10.1172/JCl148020
17-0441 was used in Flow cytometry/Cell sorting to study the role of CD8 T cells in resistance to mycobacterial infections.
European journal of immunology (2014; 44: 1699) "High-frequency vaccine-induced CD8 T cells specific for an epitope naturally processed during infection with Mycobacterium tuberculosis do not confer protection." Author(s):Lindenstrøm T,Aagaard C,Christensen D,Agger EM,Andersen P PubMed Article URL:http://dx.doi.org/10.1002/eji.201344358
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2 Immunocytochemistr	y References

2 Immunocytochemistry References	
Species / Dilution	Summary
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1 Miscellaneous PubMed References		
Species / Dilution	Summary	
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