

Technical Data Sheet

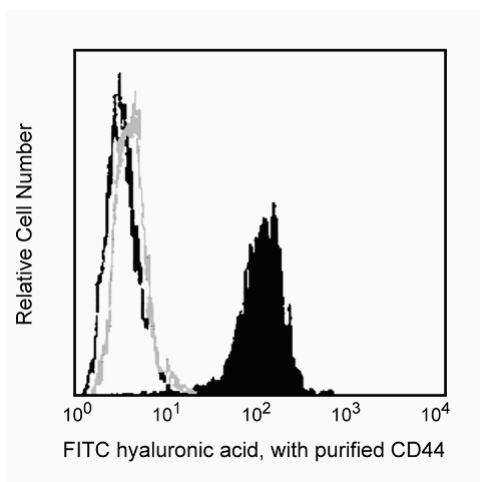
Purified Rat Anti-Mouse CD44

Product Information

Material Number:	558739
Alternate Name:	Pgp-1, H-CAM, Ly-24
Size:	0.1 mg
Concentration:	0.5 mg/ml
Clone:	KM114
Immunogen:	(C57BL/6 x DBA/2)F1 mouse bone marrow-derived stromal cell clone BMS2
Isotype:	Rat (LOU) IgG1, κ
Reactivity:	QC Testing: Mouse
Storage Buffer:	Aqueous buffered solution containing $\leq 0.09\%$ sodium azide.

Description

The KM114 antibody reacts with an epitope on both alloantigens and all isoforms of the CD44 glycoprotein (Pgp-1, Ly-24). The KM114 hybridoma was produced at the same time as the published clone KM201, and the mAb recognizes a different epitope from that recognized by mAb IM7. The standard form of CD44, lacking variable exons and referred to as CD44H or CD44S, is widely expressed on hematopoietic and non-hematopoietic cells. CD44 isoforms encoded by variable exons are expressed on epithelial cells, but only at low levels on most leukocytes. Mice with the Ly-24.1 alloantigen (e.g., BALB/c, CBA/J, DBA/1, DBA/2) have relatively large subsets of CD44H+ T lymphocytes, while Ly-24.2 strains (e.g., A, AKR, CBA/N, C3H/He, C57BL, C57BR, C57L, C58, NZB, SJL, SWR, 129) have lower expression of CD44H on T cells. CD44 is a cell adhesion receptor, and its ligand, hyaluronate, is a common component of extracellular matrices. Differential glycosylation of CD44 influences its binding to hyaluronate. Additional ligands include the cell-surface form of CD74 and the cytokine osteopontin (Eta-1).10 Bone marrow- and thymus-derived progenitor cells capable of repopulating the thymus express CD44. In the periphery, the level of CD44 expression increases upon activation of B lymphocytes, CD4+ T cells, and CD8+ T cells; and memory cells can be recognized by their CD44[hi] phenotype. KM114 antibody can be used in ELISA to detect soluble CD44, and it is effective for in vitro blocking of hyaluronate recognition by CD44. It has been reported that KM114 mAb cross-reacts with CD44 of the Chinese hamster, *Cricetulus griseus*, but not human CD44.



Blocking of hyaluronate binding by KM114 antibody. The BALB/c B-cell hybridoma BM-2 was incubated with fluorescein-conjugated hyaluronic acid (FHA) in the absence (filled histogram) or presence (open histogram) of purified antimouse CD44 antibody KM114 (Cat. no. 558739, at 6 μ g/ml). The grey line is the profile of cells without F-HA. Flow cytometry was performed on a BD FACScan™ Flow Cytometry System.

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography. Store undiluted at 4° C.

BD Biosciences

www.bdbiosciences.com

United States	Canada	Europe	Japan	Asia Pacific	Latin America/Caribbean
877.232.8995	888.259.0187	32.53.720.550	0120.8555.90	65.6861.0633	55.11.5185.9995

For country-specific contact information, visit www.bdbiosciences.com/how_to_order/

Conditions: The information disclosed herein is not to be construed as a recommendation to use the above product in violation of any patents. BD Biosciences will not be held responsible for patent infringement or other violations that may occur with the use of our products. Purchase does not include or carry any right to resell or transfer this product either as a stand-alone product or as a component of another product. Any use of this product other than the permitted use without the express written authorization of Becton Dickinson and Company is strictly prohibited.

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Not for resale.

BD, BD Logo and all other trademarks are the property of Becton, Dickinson and Company. ©2007 BD



Application Notes

Application

Flow cytometry	Routinely Tested
Western blot	Tested During Development
Immunohistochemistry-formalin (antigen retrieval required)	Tested During Development
Immunohistochemistry-frozen	Tested During Development
Blocking	Reported
ELISA	Reported

Recommended Assay Procedure:

For quantitation of soluble CD44, a sandwich ELISA using purified IM7 antibody (Cat. no. 553131) for capture and biotinylated KM114 mAb for detection has been described. For IHC, we recommend the use of purified IM7 mAb in our special formulation for immunohistochemistry, Cat. no. 550538.

Suggested Companion Products

Catalog Number	Name	Size	Clone
550538	Purified Rat Anti-Mouse CD44	1.0 ml	IM7
553131	Purified Rat Anti-Mouse CD44	0.5 mg	IM7
559072	Purified Rat IgG1, κ Isotype Control	0.25 mg	R3-34
554016	FITC Goat Anti-Rat Igs	0.5 mg	Polyclonal

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharming/en/protocols for technical protocols.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.

References

Bendelac A. Mouse NK1+ T cells. *Curr Opin Immunol.* 1995; 7(3):367-374.(Biology)
Castro A, Bono MR, Simon V, Vargas L, Roseblatt M. Spleen-derived stromal cells. Adhesion molecules expression and lymphocyte adhesion to reticular cells. *Eur J Cell Biol.* 1997; 74(4):321-328.(Biology)
Godfrey DI, Kennedy J, Suda T, Zlotnik A. A developmental pathway involving four phenotypically and functionally distinct subsets of CD3-CD4-CD8- triple-negative adult mouse thymocytes defined by CD44 and CD25 expression. *J Immunol.* 1993; 150(10):4244-4252.(Biology)
Kanamori Y, Ishimaru K, Nanno M. Identification of novel lymphoid tissues in murine intestinal mucosa where clusters of c-kit+ IL-7R+ Thy1+ lympho-hemopoietic progenitors develop. *J Exp Med.* 1996; 184(4):1449-1459.(Biology)
Katoh S, McCarthy JB, Kincade PW. Characterization of soluble CD44 in the circulation of mice. Levels are affected by immune activity and tumor growth. *J Immunol.* 1994; 153(8):3440-3449.(Clone-specific: ELISA)
Katoh S, Zheng Z, Oritani K, Shimozato T, Kincade PW. Glycosylation of CD44 negatively regulates its recognition of hyaluronan. *J Exp Med.* 1995; 182(2):419-429.(Clone-specific: Blocking)
Lesley J, Hyman R, Kincade PW. CD44 and its interaction with extracellular matrix. *Adv Immunol.* 1993; 54:271-335.(Biology)
Lynch F, Ceredig R. Mouse strain variation in Ly-24 (Pgp-1) expression by peripheral T cells and thymocytes: implications for T cell differentiation. *Eur J Immunol.* 1989; 19(2):223-229.(Biology)
MacDonald HR, Budd RC, Cerottini JC. Pgp-1 (Ly 24) as a marker of murine memory T lymphocytes. *Curr Top Microbiol Immunol.* 1990; 159:97-109.(Biology)
Miyake K, Medina KL, Hayashi S, Ono S, Hamaoka T, Kincade PW. Monoclonal antibodies to Pgp-1/CD44 block lympho-hemopoiesis in long-term bone marrow cultures. *J Exp Med.* 1990; 171(2):477-488.(Immunogen)
Murakami S, Miyake K, June CH, Kincade PW, Hodes RJ. IL-5 induces a Pgp-1 (CD44) bright B cell subpopulation that is highly enriched in proliferative and Ig secretory activity and binds to hyaluronate. *J Immunol.* 1990; 145(11):3618-3627.(Biology)
Naor D, Sionov RV, Ish-Shalom D. CD44: structure, function, and association with the malignant process. *Adv Cancer Res.* 1997; 71:241-319.(Biology)
Naujokas MF, Morin M, Anderson MS, Peterson M, Miller J. The chondroitin sulfate form of invariant chain can enhance stimulation of T cell responses through interaction with CD44. *Cell.* 1993; 74(2):257-268.(Biology)
Sprent J, Tough DF. Lymphocyte life-span and memory. *Science.* 1994; 265(5177):1395-1400.(Biology)
Weber GF, Ashkar S, Glimcher MJ, Cantor H. Receptor-ligand interaction between CD44 and osteopontin (Eta-1). *Science.* 1996; 271(5248):509-512.(Biology)
Zheng Z, Katoh S, He Q, et al. Monoclonal antibodies to CD44 and their influence on hyaluronan recognition. *J Cell Biol.* 1995; 130(2):485-495.(Biology)