

Technical Data Sheet

FITC Rat Anti-Mouse CD44

Product Information

Material Number:	561859
Alternate Name:	Pgp-1, H-CAM, Ly-24
Size:	0.1 mg
Concentration:	0.5 mg/ml
Clone:	IM7
Immunogen:	Dexamethasone-induced cells of the SJL mouse spontaneous myeloid leukemia M1
Isotype:	Rat IgG2b, κ
Reactivity:	QC Testing: Mouse
Storage Buffer:	Aqueous buffered solution containing protein stabilizer and $\leq 0.09\%$ sodium azide.

Description

The IM7 antibody reacts with an epitope on both alloantigens and all isoforms of the CD44 glycoprotein (Pgp-1, Ly-24). 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/6, C57BR/6, C57L, C58, NZB, SJL, SWR, 129) have few CD44H+ T cells. CD44 is a cell adhesion receptor, and its principal 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). 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; memory cells can be recognized by their CD44[hi] phenotype. The IM7 mAb inhibits established collagen-induced arthritis in DBA/1 mice. Moreover, it prevents CNS inflammation and clinical symptoms of experimental autoimmune encephalomyelitis. In contrast, the same antibody exacerbates experimental autoimmune thyroiditis in CBA/J mice. The IM7 mAb recognizes a different epitope from that recognized by mAb KM114 (Cat. No. 558739), and the antibody pair can be used in ELISA to detect soluble CD44. It has been observed that IM7 antibody cross-reacts with human, dog, cat, horse, cow, and pig leukocytes. Anti-human CD44, clone G44-26 (Cat. No. 555476), and IM7 antibody compete for binding to human peripheral blood lymphocytes.

Preparation and Storage

Store undiluted at 4°C and protected from prolonged exposure to light. Do not freeze.

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

The antibody was conjugated with FITC under optimum conditions, and unreacted FITC was removed.

Application Notes

Application

Flow cytometry	Routinely Tested
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Suggested Companion Products

Catalog Number	Name	Size	Clone
553988	FITC Rat IgG2b, κ Isotype Control	0.25 mg	A95-1
554656	Stain Buffer (FBS)	500 ml	(none)

Product Notices

- Since applications vary, each investigator should titrate the reagent to obtain optimal results.
- Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
- 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.
- For fluorochrome spectra and suitable instrument settings, please refer to our Fluorochrome Web Page at www.bdbiosciences.com/colors.

References

Bendelac A. Mouse NK1+ T cells. *Curr Opin Immunol*. 1995; 7(3):367-374. (Biology)
 Brocke S, Piercy C, Steinman L, Weissman IL, Vermaaa T. Antibodies to CD44 and integrin $\alpha 4$, but not L-selectin, prevent central nervous system inflammation and experimental encephalomyelitis by blocking secondary leukocyte recruitment. *Proc Natl Acad Sci U S A*. 1999; 96(12):6896-6901. (Clone-specific)
 Budd RC, Cerottini JC, Horvath C, et al. Distinction of virgin and memory T lymphocytes. Stable acquisition of the Pgp-1 glycoprotein concomitant with antigenic stimulation. *J Immunol*. 1987; 138(10):3120-3129. (Biology)

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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)

Hathcock KS, Hirano H, Murakami S, Hodes RJ. CD44 expression on activated B cells. Differential capacity for CD44-dependent binding to hyaluronic acid. *J Immunol.* 1993; 151(12):6712-6722. (Biology)

Hyman R, Lesley J, Schulte R, Trotter J. Progenitor cells in the thymus: most thymus-homing progenitor cells in the adult mouse thymus bear Pgp-1 glycoprotein but not interleukin-2 receptor on their cell surface. *Cell Immunol.* 1986; 101(2):320-327. (Biology)

Ikawa T, Kawamoto H, Fujimoto S, Katsura Y. Commitment of common T/natural killer (NK) progenitors to unipotent T and NK progenitors in the murine fetal thymus revealed by a single progenitor assay. *J Exp Med.* 1999; 190(11):1617-1625. (Biology)

Kato 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)

Kato 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)

Lesley J, Hyman R, Kincade PW. CD44 and its interaction with extracellular matrix. *Adv Immunol.* 1993; 54:271-335. (Clone-specific)

Lesley J, Trowbridge IS. Genetic characterization of a polymorphic murine cell-surface glycoprotein. *Immunogenetics.* 1982; 15(3):313-320. (Immunogen)

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)

Matsumoto G, Nghiem MP, Nozaki N, Schmits R, Penninger JM. Cooperation between CD44 and LFA-1/CD11a adhesion receptors in lymphokine-activated killer cell cytotoxicity. *J Immunol.* 1998; 160(12):5781-5789. (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)

Nedvetzki S, Walmsley M, Alpert E, Williams RO, Feldmann M, Naor D. CD44 involvement in experimental collagen-induced arthritis (CIA). *J Autoimmun.* 1999; 13(1):39-47. (Clone-specific)

Parish NM, Brennan FR, Cooke A. Anti-CD44 treatment does not prevent the extravasation of autopathogenic T cells to the thyroid in experimental autoimmune thyroiditis. *Immunology.* 1999; 97(3):533-539. (Clone-specific)

Spangrude GJ, Klein J, Heimfeld S, Aihara Y, Weissman IL. Two monoclonal antibodies identify thymic-repopulating cells in mouse bone marrow. *J Immunol.* 1989; 142(2):425-430. (Biology)

Trowbridge IS, Lesley J, Schulte R, Hyman R, Trotter J. Biochemical characterization and cellular distribution of a polymorphic, murine cell-surface glycoprotein expressed on lymphoid tissues. *Immunogenetics.* 1982; 15:299-312. (Immunogen)

Vremec D, Zorbas M, Scollay R, et al. The surface phenotype of dendritic cells purified from mouse thymus and spleen: investigation of the CD8 expression by a subpopulation of dendritic cells. *J Exp Med.* 1992; 176(1):47-58. (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)