

Technical Data Sheet

Biotin Hamster Anti-Mouse CD54

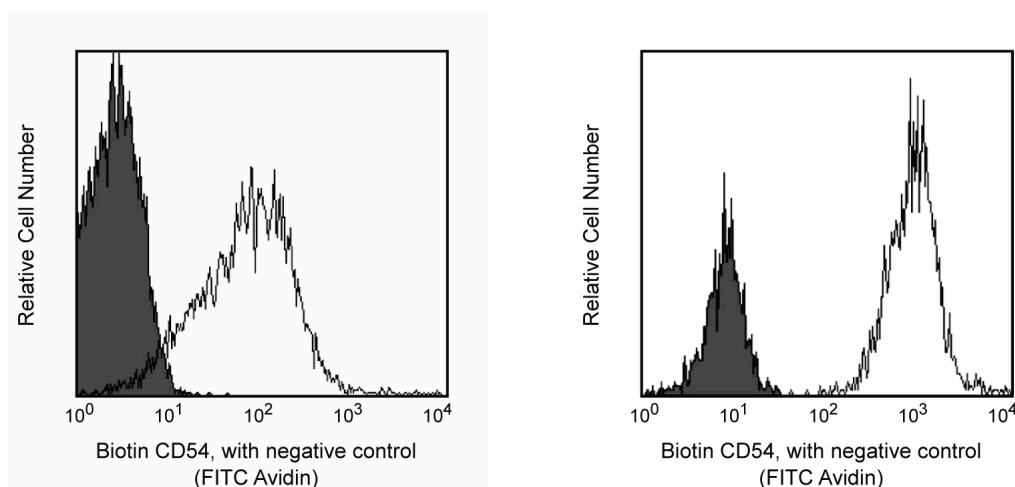
Product Information

Material Number:	553251
Alternate Name:	ICAM-1
Size:	0.5 mg
Concentration:	0.5 mg/ml
Clone:	3E2
Immunogen:	Not reported
Isotype:	Armenian Hamster IgG1, κ
Reactivity:	QC Testing: Mouse
Storage Buffer:	Aqueous buffered solution containing $\leq 0.09\%$ sodium azide.

Description

The 3E2 antibody reacts with CD54 (ICAM-1), a 95-kDa member of the Ig superfamily found on lymphocytes, vascular endothelium, high endothelial venules, epithelial cells, macrophages, and dendritic cells. ICAM-1 is a ligand for LFA1 (CD11a/CD18) and Mac-1 (CD11b/CD18). Its expression is upregulated upon stimulation by inflammatory mediators such as cytokines and LPS. Studies with mouse *Icam1*-transfected antigen-presenting cells, with CD54-blocking antibodies, and in CD54-deficient mice indicate that CD54 participates in inflammatory reactions and antigen-specific immune responses. In addition, there is evidence that CD54 is a receptor involved in MHC-non-restricted responses to weakly immunogenic tumor cells. The 3E2 antibody blocks in vitro and in vivo responses.

This antibody is routinely tested by flow cytometric analysis. Other applications were tested at BD Biosciences Pharmingen during antibody development only or reported in the literature.



Upregulation of CD54 expression on activated splenic B lymphocytes. Left panel: Naive BALB/c splenocytes were stained with biotinylated 3E2 mAb (open histogram) followed by Avidin-FITC (Cat. No. 554057, filled and open histograms). Viable resting lymphocytes were gated according to scatter profile and exclusion of 7-AAD (BD Via-Probe™, Cat. No. 555816/555815). The mean fluorescence intensity of the stained lymphocytes is about 40 times greater than that of the negative-control lymphocytes. Right panel: 2-day LPS-activated BALB/c splenocytes were stained with biotinylated 3E2 mAb (open histogram) followed by Avidin-FITC (filled and open histograms). Viable B-cell blasts were gated according to scatter profile and exclusion of 7-AAD. The mean fluorescence intensity of the stained blasts is about 115 times greater than that of the negative-control blasts. 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.

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

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

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Application Notes

Application

Flow cytometry	Routinely Tested
Immunofluorescence	Reported

Suggested Companion Products

Catalog Number	Name	Size	Clone
553970	Biotin Hamster IgG1 κ Isotype Control	0.25 mg	A19-3
554061	PE Streptavidin	0.5 mg	(none)

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharming/protocols for technical protocols.
3. Although hamster immunoglobulin isotypes have not been well defined, BD Biosciences Pharmingen has grouped Armenian and Syrian hamster IgG monoclonal antibodies according to their reactivity with a panel of mouse anti-hamster IgG mAbs. A table of the hamster IgG groups, Reactivity of Mouse Anti-Hamster Ig mAbs, may be viewed at http://www.bdbiosciences.com/pharming/hamster_chart_11x17.pdf.
4. 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

Gonzalo JA, Martinez C, Springer TA, Gutierrez-Ramos JC. ICAM-1 is required for T cell proliferation but not for anergy or apoptosis induced by Staphylococcus aureus enterotoxin B in vivo. *Int Immunol.* 1995; 7(10):1691-1698.(Biology)

Isobe M, Yagita H, Okumura K, Ihara A. Specific acceptance of cardiac allograft after treatment with antibodies to ICAM-1 and LFA-1. *Science.* 1992; 255(5048):1125-1127.(Biology)

Kaji K, Takeshita S, Miyake K, Takai T, Kudo A. Functional association of CD9 with the Fc gamma receptors in macrophages. *J Immunol.* 2001; 166(5):3256-3265.(Biology)

Kelly KJ, Williams WW Jr, Colvin RB, et al. Inter cellular adhesion molecule-1-deficient mice are protected against ischemic renal injury. *J Clin Invest.* 1996; 97(4):1056-1063.(Biology)

Masten BJ, Yates JL, Pollard Koga AM, Lipscomb MF. Characterization of accessory molecules in murine lung dendritic cell function: roles for CD80, CD86, CD54, and CD40L. *Am J Respir Cell Mol Biol.* 1997; 16(3):335-342.(Clone-specific)

Nishio M, Podack ER. Rapid induction of tumor necrosis factor cytotoxicity in naive splenic T cells by simultaneous CD80 (B7.1) and CD54 (ICAM-1) co-stimulation. *Eur J Immunol.* 1996; 26(9):2160-2164.(Biology)

Nishio M, Spielman J, Lee RK, Nelson DL, Podack ER. CD80 (B7.1) and CD54 (intracellular adhesion molecule-1) induce target cell susceptibility to promiscuous cytotoxic T cell lysis. *J Immunol.* 1996; 157(10):4347-4353.(Biology)

Scheynius A, Camp RL, Pure E. Unresponsiveness to 2,4-dinitro-1-fluoro-benzene after treatment with monoclonal antibodies to leukocyte function-associated molecule-1 and inter cellular adhesion molecule-1 during sensitization. *J Immunol.* 1996; 154(5):1804-1809.(Clone-specific)

Scheynius A, Camp RL, Pure E. Reduced contact sensitivity reactions in mice treated with monoclonal antibodies to leukocyte function-associated molecule-1 and inter cellular adhesion molecule-1. *J Immunol.* 1993; 150(2):655-663.(Biology)

Siu G, Hedrick SM, Brian AA. Isolation of the murine inter cellular adhesion molecule 1 (ICAM-1) gene. ICAM-1 enhances antigen-specific T cell activation. *J Immunol.* 1989; 143(11):3813-3820.(Biology)

Soriano SG, Lipton SA, Wang YF, et al. Inter cellular adhesion molecule-1-deficient mice are less susceptible to cerebral ischemia-reperfusion injury. *Ann Neurol.* 1996; 39(5):618-624.(Biology)

Springer TA. Traffic signals for lymphocyte recirculation and leukocyte emigration: the multistep paradigm. *Cell.* 1994; 76(2):301-314.(Biology)

Springer TA. Adhesion receptors of the immune system. *Nature.* 1990; 346(6283):425-434.(Clone-specific)

Xu H, Gonzalo JA, St Pierre Y, et al. Leukocytosis and resistance to septic shock in inter cellular adhesion molecule 1-deficient mice. *J Exp Med.* 1994; 180(1):95-109.(Biology)

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