

Technical Data Sheet

PE Mouse Anti-Rat CD54

Product Information

Material Number:	554970
Alternate Name:	ICAM-1
Size:	0.2 mg
Concentration:	0.2 mg/ml
Clone:	1A29
Immunogen:	Rat HEV-Derived Cell Line Ax
Isotype:	Mouse (BALB/c) IgG1, κ
Reactivity:	QC Testing: Rat
Storage Buffer:	Aqueous buffered solution containing $\leq 0.09\%$ sodium azide.

Description

The 1A29 antibody reacts with ICAM-1 (CD54), an 85 kDa surface glycoprotein expressed on vascular endothelium in lymphoid tissues, thymic stromal cells, peripheral blood monocytes, peritoneal macrophages and mast cells, dendritic cells, and weakly on peripheral lymphocytes and thymocytes. ICAM-1 is a ligand for LFA-1 (CD11a/CD18) and Mac-1 (CD11b/CD18). Its expression is upregulated on activated lymphocytes and endothelial cells. 1A29 mAb inhibits PMA-induced aggregation of PHA-stimulated splenic blasts, as well as the adhesion of mitogen-stimulated blasts to HEV-derived endothelial cells and purified ICAM-1. It has also been reported that 1A29 antibody can inhibit leukocyte infiltration in in vivo systems, blocks induction of experimental allergic encephalomyelitis, and reduces NK-cell adhesion to tumor cells. The effects of in vivo administration of the 1A29 monoclonal antibody have been thoroughly investigated.

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.

Preparation and Storage

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

The antibody was conjugated with R-PE under optimum conditions, and unconjugated antibody and free PE were removed by gel filtration chromatography.

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

Application Notes

Application

Flow cytometry	Routinely Tested
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Suggested Companion Products

Catalog Number	Name	Size	Clone
550617	PE Mouse IgG1, κ Isotype Control	0.1 mg	MOPC-31C

Product Notices

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

Andrews FJ, Malcontenti-Wilson C, O'Brien PE. Expression of adhesion molecules and leukocyte recruitment into gastric mucosa following ischemia-reperfusion. *Dig Dis Sci.* 1997; 42(2):326-332.(Biology)
 Bañuls MP, Alvarez A, Ferrero I, Zapata A, and Ardavin C. Cell-surface marker analysis of rat thymic dendritic cells. *Immunology.* 1993; 79:298-304.
 (Clone-specific)

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Chen-Woan M, Delaney CP, Fournier V, Wakizaka Y, Murase N, Fung J, Starzl TE, and Demetris AJ. In vitro characterization of rat bone marrow-derived dendritic cells and their precursors. *J Leukoc Biol.* 1996; 59:196-207.(Clone-specific)

Divya Jyothi M, Varalakshmi C, Khar A. Regulation of effector cell functions through the ligation of lymphocyte function-associated antigen-1 and intracellular adhesion molecule-1 leads to spontaneous regression of a rat histiocytoma. *Scand J Immunol.* 1999; 50(4):378-386.(Clone-specific: Blocking, In vivo exacerbation)

Fox CC, Jewell SD, Whitacre CC. Rat peritoneal mast cells present antigen to a PPD-specific T cell line. *Cell Immunol.* 1994; 158(1):253-264.(Clone-specific)

Liu L, Zhang M, Jenkins C, and MacPherson GG. Dendritic cell heterogeneity in vivo: Two functionally different dendritic cell populations in rat intestinal lymph can be distinguished by CD4 expression. *J Immunol.* 1998; 161:1146-1155.(Clone-specific)

Machelska H, Mousa SA, Brack A, et al. Opioid control of inflammatory pain regulated by intercellular adhesion molecule-1. *J Neurosci.* 2002; 22(13):5588-5596. (Clone-specific: Inhibition)

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

Tamatani T, Kotani M, Miyasaka M. Characterization of the rat leukocyte integrin, CD11/CD18, by the use of LFA-1 subunit-specific monoclonal antibodies. *Eur J Immunol.* 1991; 21(3):627-633.(Clone-specific: Inhibition)

Tamatani T, Miyasaka M. Identification of monoclonal antibodies reactive with the rat homolog of ICAM-1, and evidence for a differential involvement of ICAM-1 in the adherence of resting versus activated lymphocytes to high endothelial cells. *Int Immunol.* 1990; 2(2):165-171.(Immunogen: Inhibition)

Turunen JP, Ustinov J, Renkonen R. Adhesion molecules involved in protein kinase A- and C-dependent lymphocyte adherence to microvascular endothelial cells. *Scand J Immunol.* 1993; 37(3):282-288.(Biology)

Watanabe T, Arakawa T, Fukuda T, Higuchi K, Kobayashi K. Role of neutrophils in a rat model of gastric ulcer recurrence caused by interleukin-1 beta. *Am J Pathol.* 1997; 150(3):971-979.(Clone-specific: Inhibition)

Westermann J, Nagahori Y, Walter S, Heerwagen C, Miyasaka M, Pabst R. B and T lymphocyte subsets enter peripheral lymph nodes and Peyer's patches without preference in vivo: no correlation occurs between their localization in different types of high endothelial venules and the expression of CD44, VLA-4, LFA-1, ICAM-1, CD2 or L-selectin. *Eur J Immunol.* 1994; 24(10):2312-2316.(Clone-specific)

Willenborg DO, Staykova MA, Miyasaka M. Short term treatment with soluble neuroantigen and anti-CD11a (LFA-1) protects rats against autoimmune encephalomyelitis: treatment abrogates autoimmune disease but not autoimmunity. *J Immunol.* 1996; 157(5):1973-1980.(Clone-specific: Blocking)

Xia WJ, Schneeberger EE, McCarthy K, Kradin RL. Accessory cells of the lung. II. Ia+ pulmonary dendritic cells display cell surface antigen heterogeneity. *Am J Respir Cell Mol Biol.* 1991; 5(3):276-283.(Clone-specific)

Yamazaki T, Seko Y, Tamatani T, et al. Expression of intercellular adhesion molecule-1 in rat heart with ischemia/reperfusion and limitation of infarct size by treatment with antibodies against cell adhesion molecules. *Am J Pathol.* 1993; 143(2):410-418.(Clone-specific: Inhibition)

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