

Technical Data Sheet

BV711 Hamster Anti-Mouse CD54

Product Information

Material Number:	740666
Size:	50 µg
Clone:	3E2
Alternative Name:	ICAM-1; Icam1; Intercellular adhesion molecule 1; Ly-47; MALA-2; MyD10
Reactivity:	Mouse (Tested in Development)
Isotype:	Armenian Hamster IgG1, κ
Immunogen:	Not reported
Application:	Flow cytometry (Qualified)
Concentration:	0.2 mg/ml
Entrez Gene ID:	15894
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.
Regulatory Status:	RUO

Description

The 3E2 monoclonal antibody specifically binds to 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 has been reported to block in vitro and in vivo intracellular adhesion events involved in immune responses.

The antibody was conjugated to BD Horizon™ BV711 which is part of the BD Horizon Brilliant™ Violet family of dyes. This dye is a tandem fluorochrome of BD Horizon BV421 with an Ex Max of 405-nm and an acceptor dye with an Em Max at 711-nm. BD Horizon BV711 can be excited by the violet laser and detected in a filter used to detect Cy™5.5 / Alexa Fluor® 700-like dyes (eg, 712/20-nm filter). Due to the excitation and emission characteristics of the acceptor dye, there may be moderate spillover into the Alexa Fluor® 700 and PerCP-Cy5.5 detectors. However, the spillover can be corrected through compensation as with any other dye combination.

Preparation and Storage Section

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 BD Horizon BV711 under optimal conditions that minimize unconjugated dye and antibody.

Recommended Assay Procedure

For optimal and reproducible results, BD Horizon Brilliant Stain Buffer should be used anytime two or more BD Horizon Brilliant dyes (including BD OptiBuild Brilliant reagents) are used in the same experiment. Fluorescent dye interactions may cause staining artifacts which may affect data interpretation. The BD Horizon Brilliant Stain Buffer was designed to minimize these interactions. More information can be found in the Technical Data Sheet of the BD Horizon Brilliant Stain Buffer (Cat. No. 563794).

Suggested Companion Products

Catalog Number	Name	Size	Clone
563128	BV711 Hamster IgG1, κ Isotype Control RUO	50 µg	
554656	Stain Buffer (FBS) RUO	500 mL	
554657	Stain Buffer (BSA) RUO	500 mL	
563794	Brilliant Stain Buffer RUO	100 Tests	
555899	Lysing Buffer RUO	100 mL	
553141	Purified Rat Anti-Mouse CD16/CD32 (Mouse BD Fc Block™) 2.4G2 RUO	0.1 mg	

Product Notices

1. This antibody was developed for use in flow cytometry.
2. The production process underwent stringent testing and validation to assure that it generates a high-quality conjugate with consistent performance and specific binding activity. However, verification testing has not been performed on all conjugate lots.
3. Researchers should determine the optimal concentration of this reagent for their individual applications.
4. An isotype control should be used at the same concentration as the antibody of interest.
5. 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.
6. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
7. Please refer to www.bdbiosciences.com/us/s/resources for technical protocols.
8. BD Horizon Brilliant Stain Buffer is covered by one or more of the following US patents: 8,110,673; 8,158,444; 8,575,303; 8,354,239.
9. BD Horizon Brilliant Violet 711 is covered by one or more of the following US patents: 8,110,673; 8,158,444; 8,227,187; 8,455,613; 8,575,303; 8,354,239.
10. Cy is a trademark of Amersham Biosciences Limited.
11. Alexa Fluor® is a registered trademark of Life Technologies Corporation.

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.
- 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.
- Kelly KJ, Williams WW Jr, Colvin RB, et al. Intercellular adhesion molecule-1-deficient mice are protected against ischemic renal injury. *J Clin Invest.* 1996; 97(4):1056-1063.
- 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.
- 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.
- 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.
- Scheynius A, Camp RL, Pure E. Reduced contact sensitivity reactions in mice treated with monoclonal antibodies to leukocyte function-associated molecule-1 and intercellular adhesion molecule-1. *J Immunol.* 1993; 150(2):655-663.
- 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 intercellular adhesion molecule-1 during sensitization. *J Immunol.* 1996; 154(5):1804-1809.
- Siu G, Hedrick SM, Brian AA. Isolation of the murine intercellular adhesion molecule 1 (ICAM-1) gene. ICAM-1 enhances antigen-specific T cell activation. *J Immunol.* 1989; 143(11):3813-3820.
- Springer TA. Adhesion receptors of the immune system. *Nature.* 1990; 346(6283):425-434.
- Springer TA. Traffic signals for lymphocyte recirculation and leukocyte emigration: the multistep paradigm. *Cell.* 1994; 76(2):301-314.
- Xu H, Gonzalo JA, St Pierre Y, et al. Leukocytosis and resistance to septic shock in intercellular adhesion molecule 1-deficient mice. *J Exp Med.* 1994; 180(1):95-109.

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United States
877.232.8995

Canada
888.268.5430

Europe
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Japan
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