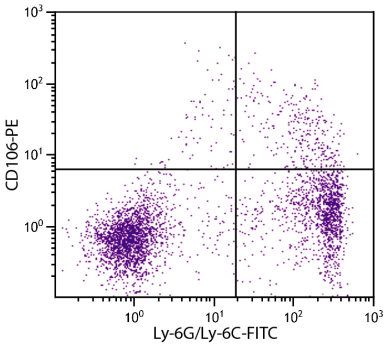
SouthernBiotech

Rat Anti-Mouse CD106

Cat. No.	Format	Size
1510-01	Purified (UNLB)	0.5 mg
1510-02	Fluorescein (FITC)	0.5 mg
1510-08	Biotin (BIOT)	0.5 mg
1510-09	R-phycoerythrin (PE)	0.1 mg
1510-14	Low Endotoxin, Azide-Free (LE/AF)	0.5 mg



BALB/c mouse bone marrow cells were stained with Rat Anti-Mouse CD106-PE (SB Cat. 1510-09) and Rat Anti-Mouse Ly-6G/Ly-6C-FITC (SB Cat. No. 1900-02).

Overview

Clone	M/K-2
Isotype	Rat (Fisher) IgG$_{1\kappa}$
Immunogen	BALB/3T3 and +/+2.4 cells
Specificity	Mouse CD106; Mr 100-110 kDa
Alternate Name(s)	VCAM-1, INCAM-110

Description

CD106, also known as VCAM-1, is an adhesion molecule and a major mediator of the inflammatory response. It is expressed on activated microvascular endothelial cells in response to signals arising from immune responses in infection, graft rejection, tumor recognition and killing. The complementary binding ligand for VCAM-1 is VLA-4/CD49d. In addition to VCAM-1, VLA-4 also recognizes the extracellular matrix molecule fibronectin. This pairing of VCAM-1 and VLA-4 is able to provide a second signal (e.g., non-antigen specific) for T cell stimulation, such as that seen in transplantation. The monoclonal antibody MK-2 has been used in transplant studies to suppress cardiac rejection and induce long-term cardiac graft survival. In addition to inflammatory responses, VCAM-1 has a significant role in hemopoiesis through its ability to retain lymphocyte and myeloid precursors on stromal cells in the marrow and lymphoid organs. CD106/VCAM-1 exists as an integral membrane protein. The M/K-2 monoclonal antibody immunoprecipitates a peptide that gives a single band on SDS-PAGE gels with an apparent Mr of ~100 kDa under reducing conditions and 92 kDa under non-reducing conditions.

Applications

FC – Quality tested [4,8,9]
IHC-FS – Reported in literature [4-7]
IP – Reported in literature [1,2]
WB – Reported in literature [2]
Adhesion – Reported in literature [1-3]
Block – Reported in literature [1-3]

Working Dilutions

Flow Cytometry	FITC and BIOT conjugates	≤ 1 µg/10^6 cells
	PE conjugate	≤ 0.2 µg/10^6 cells
	For flow cytometry, the suggested use of these reagents is in a final volume of 100 µL	
Other Applications	Since applications vary, you should determine the optimum working dilution for the product that is appropriate for your specific need.	

For Research Use Only. Not for Diagnostic or Therapeutic Use.

Corporate Offices: 160 Oxmoor Blvd • Birmingham, AL 35209 • USA **Mailing Address:** P.O. Box 26221 • Birmingham, AL 35260 • USA
Tel: 205.945.1774 • U.S. and Canada: 800.722.2255 • **Fax:** 205.945.8768
Email: info@southernbiotech.com • **Website:** www.southernbiotech.com

Handling and Storage

- The purified (UNLB) antibody is supplied as 0.5 mg of purified immunoglobulin in 1.0 mL of borate buffered saline, pH 8.2. *No preservatives or amine-containing buffer salts added*. Store at 2-8°C.
- The fluorescein (FITC) conjugate is supplied as 0.5 mg in 1.0 mL of PBS/NaN_3. Store at 2-8°C.
- The biotin (BIOT) conjugate is supplied as 0.5 mg in 1.0 mL of PBS/NaN_3. Store at 2-8°C.
- The R-phycoerythrin (PE) conjugate is supplied as 0.1 mg in 1.0 mL of PBS/NaN_3 and a stabilizing agent. Store at 2-8°C. **Do not freeze!**
- The low endotoxin, azide-free (LE/AF) antibody is supplied as 0.5 mg purified immunoglobulin in 1.0 mL of PBS. Contains no preservative; handle under aseptic conditions. Store at 2-8°C or aliquot into smaller volumes and store at -20°C. Avoid multiple freeze / thaw cycles.
- Protect fluorochrome-conjugated forms from light. Reagents are stable for the period shown on the label if stored as directed.

Warning

Some reagents contain sodium azide. Please refer to product specific SDS.

References

1. Miyake K, Weissman IL, Greenberger JS, Kincade PW. Evidence for a role of the integrin VLA-4 in lympho-hemopoiesis. J Exp Med. 1991;173:599-607. (Immunogen, IP, Block, Adhesion)
2. Li W, Ishihara K, Yokota T, Nakagawa T, Koyama N, Jin J, et al. Reduced $\alpha 4\beta 1$ integrin/VCAM-1 interactions lead to impaired pre-B cell repopulation in alpha 1,6-fucosyltransferase deficient mice. Glycobiology. 2008;18:114-24. (IP, WB, Block, Adhesion)
3. Miyake K, Medina K, Ishihara K, Kimoto M, Auerbach R, Kincade PW. A VCAM-like adhesion molecule on murine bone marrow stromal cells mediates binding of lymphocyte precursors in culture. J Cell Biol. 1991;114:557-65. (Block, Adhesion)
4. Ulyanova T, Scott LM, Priestley GV, Jiang Y, Nakamoto B, Koni PA, et al. VCAM-1 expression in adult hematopoietic and nonhematopoietic cells is controlled by tissue-inductive signals and reflects their developmental origin. Blood. 2005;106:86-94. (IHC-FS, FC)
5. Hechler B, Freund M, Ravanat C, Magnenat S, Cazenave J, Gachet C. Reduced atherosclerotic lesions in P2Y1/apolipoprotein E double-knockout mice: the contribution of non-hematopoietic-derived P2Y1 receptors. Circulation. 2008;118:754-63. (IHC-FS)
6. Glanville SH, Bekiaris V, Jenkinson EJ, Lane PJ, Anderson G, Withers DR. Transplantation of embryonic spleen tissue reveals a role for adult non-lymphoid cells in initiating lymphoid tissue organization. Eur J Immunol. 2009;39:280-9. (IHC-FS)
7. Song J, Lokmic Z, Lämmermann T, Rolf J, Wu C, Zhang X, et al. Extracellular matrix of secondary lymphoid organs impacts on B-cell fate and survival. Proc Natl Acad Sci USA. 2013;110(31):E2915-24. (IHC-FS)
8. Ambardekar VV, Han H, Varney ML, Vinogradov SV, Singh RK, Vetro JA. The modification of siRNA with 3' cholesterol to increase nuclease protection and suppression of native mRNA by select siRNA polyplexes. Biomaterials. 2011;32:1404-11. (FC)
9. Banerjee ER, Henderson WR. Defining the molecular role of gp91phox in the immune manifestation of acute allergic asthma using a preclinical murine model. Clin Mol Allergy. 2012;10:2. (FC)

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