Human VCAM-1/CD106 Antibody

Monoclonal Mouse IgG_1 Clone # 1027433

Catalog Number: MAB8091

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human VCAM-1/CD106 in direct ELISAs.
Source	Monoclonal Mouse IgG_1 Clone # 1027433
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Chinese Hamster Ovary cell line CHO-derived human VCAM-1/CD106 Phe25-Glu698 Accession # P19320-1
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS.

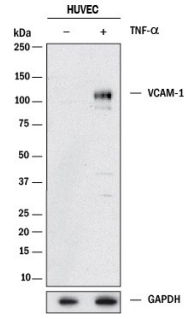
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	2 µg/mL	HUVEC human umbilical vein endothelial cells treated with Recombinant Human TNF-α, Catalog # 210-TA
Flow Cytometry	0.25 µg/10^6 cells	HuT 78 human cutaneous T cell lymphoma cell line
Immunohistochemistry	5-25 µg/mL	Immersion fixed paraffin-embedded sections of human splee
Simple Western	20 µg/mL	HUVEC human umbilical vein endothelial cells
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

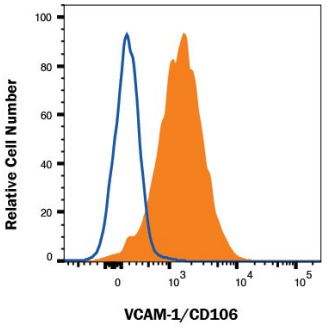
DATA

Western Blot



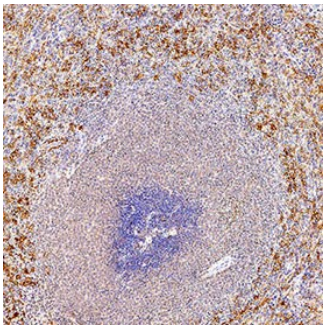
Detection of Human VCAM-1/CD106 by Western Blot. Western blot shows lysates of HUVEC human umbilical vein endothelial cells untreated (-) or treated (+) with 10 ng/mL Recombinant Human TNF-α (Catalog # 210-TA) for 24 hours. PVDF membrane was probed with 2 µg/mL of Mouse Anti-Human VCAM-1/CD106 Monoclonal Antibody (Catalog # MAB8091) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF018). A specific band was detected for VCAM-1/CD106 at approximately 110 kDa (as indicated). GAPDH (Catalog # MAB5718) is shown as a loading control. This experiment was conducted under reducing conditions and using Western Blot Buffer Group 1.

Flow Cytometry



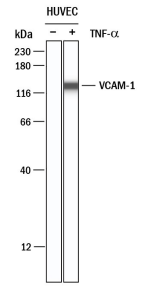
Detection of VCAM-1/CD106 in HuT 78 Human Cell Line by Flow Cytometry. HuT 78 human cutaneous T cell lymphoma cell line was stained with Mouse Anti-Human VCAM-1/CD106 Monoclonal Antibody (Catalog # MAB8091, filled histogram) or isotype control antibody (Catalog # MAB002, open histogram) followed by anti-Mouse IgG PE-conjugated Secondary Antibody (Catalog # F0102B). Staining was performed using our Staining Membrane-associated Proteins protocol.

Immunohistochemistry



VCAM-1/CD106 in Human Spleen. VCAM-1/CD106 was detected in immersion fixed paraffin-embedded sections of human spleen using Mouse Anti-Human VCAM-1/CD106 Monoclonal Antibody (Catalog # MAB8091) at 5 µg/mL for 1 hour at room temperature followed by incubation with the Anti-Mouse IgG VisUCyte™ HRP Polymer Antibody (Catalog # VC001). Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using Antigen Retrieval Reagent-Basic (Catalog # CTS013). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to splenocytes. Staining was performed using our protocol for IHC Staining with VisUCyte HRP Polymer Detection Reagents.

Simple Western



Detection of Human VCAM-1/CD106 by Simple Western™. Simple Western lane view shows lysates of HUVEC human umbilical vein endothelial cells untreated (-) or treated (+) with 10 ng/ml Recombinant Human TNF-α (Catalog # 210-TA) for 24 hrs, loaded at 0.2 mg/mL. A specific band was detected for VCAM-1/CD106 at approximately 132 kDa (as indicated) using 20 µg/mL of Mouse Anti-Human VCAM-1/CD106 Monoclonal Antibody (Catalog # MAB8091) . This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.

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Human VCAM-1/CD106 Antibody

Monoclonal Mouse IgG_1 Clone # 1027433

Catalog Number: MAB8091

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

VCAM-1, also known as CD106, is an immunoglobulin (Ig)-like adhesion molecule that is mainly expressed in endothelial cells and other cell types including macrophages, dendritic cells, neurons, smooth muscle cells, fibroblasts, and oocytes (1, 2). It plays a critical role in inflammation by recruiting leukocytes to acute and chronic inflammation sites (3, 4). Alternatively-spliced forms are known to occur, but the most common form is a type I transmembrane protein with a 674 aa extracellular domain (ECD) that includes seven C2-type immunoglobulin domains, a 22 aa transmembrane segment, and a 19 amino acid (aa) cytoplasmic tail. Within the ECD, human VCAM-1 shares 75% and 76% aa sequence identity with the mouse and rat VCAM-1, respectively. VCAM-1 binds to leukocyte integrins alpha 4 beta 1 (VLA-4) and alpha 4 beta 7. During the inflammatory adhesion mechanism, activated integrins halt rolling leukocytes and attach them firmly to the vascular endothelium. The VCAM-1:VLA-4/ alpha 4 beta 7 interaction is also thought to be involved in the extravasation of white blood cells through the blood vessel wall to sites of inflammation (5). ELISA techniques have shown that detectable levels of soluble VCAM-1 are present in the biological fluids of apparently normal individuals, but elevated levels of serum VCAM-1 are indicative of future Atrial Fibrillation incident as well as liver disease (6, 7). Tumor cells use overexpression of VCAM-1 as means of escaping immune surveillance (8).

References:

1. Vonderheide, R.H. *et al.* (1994) J. Cell Biol. **125**:215.
2. Cybulsky, M.I. *et al.* (1991) Proc. Natl. Acad. Sci. USA **88**:7859.
3. Luster, A.D. *et al.* (2005) Nat. Immunol. **6**:1182.
4. Osborn, L. *et al.* (1989) Cell **59**:1203
5. Langer. H.F. *et al.* 2009. J Cell Mol Med. **13**:1211.
6. Willeit.K. *et al.* 2017. JAMA Cardiol. **2**:516.
7. Lo Iacono.O. *et al.* 2008. Liver Int. **28**:1129.
8. Wu.T.C. *et al.* 2007. Cancer Research. **67**:6003

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