

DESCRIPTION

Species Reactivity	Human
Specificity	Detects recombinant human VCAM-1 in Direct ELISA.
Source	Monoclonal Mouse IgG ₁ Clone # 1027406
Purification	Protein A or G purified from cell culture supernatant
Immunogen	Chinese Hamster Ovary cell line, CHO-derived human VCAM-1/CD106 Phe25-Glu698 Accession # P19320
Conjugate	Alexa Fluor 405 Excitation Wavelength: 405 nm Emission Wavelength: 421 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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.

Immunohistochemistry Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

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).

PRODUCT SPECIFIC NOTICES

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc, and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.