

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived mouse VCAM-1/CD106 protein				
	Met	Mouse VCAM-1 (Phe25-Glu698) Accession # CAA47989	IEGRMD	Human IgG ₁ (Pro100-Lys330)	6-His tag
	N-terminus		C-terminus		
N-terminal Sequence Analysis	Met				
Structure / Form	Disulfide-linked homodimer				
Predicted Molecular Mass	101.9 kDa (monomer)				

SPECIFICATIONS

SDS-PAGE	120 kDa, reducing conditions
Activity	Measured by the ability of the immobilized protein to support the adhesion of U937 human histiocytic lymphoma cells. When 5×10^4 cells/well are added to mouse VCAM-1 coated plates (10 µg/mL with 100 µL/well), >85% will adhere after 1 hour incubation at room temperature. Optimal dilutions should be determined by each laboratory for each application.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>90%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 1 mg/mL in sterile, deionized water.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 3 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

VCAM-1 (CD106), a member of the immunoglobulin superfamily, is a cell surface protein expressed by activated endothelial cells and certain leukocytes (such as macrophages). VCAM-1 expression is induced by IL-1 β , IL-4, TNF- α and IFN- γ . VCAM-1 binds to leukocyte integrins VLA-4 and $\alpha_4\beta_7$. The human and mouse VCAM-1 proteins share approximately 76% amino acid similarity.

During the inflammatory adhesion mechanism, activated integrins halt rolling leukocytes and attach them firmly to the vascular endothelium. They do this by binding to their ligands, for example VCAM-1, on 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.

ELISA techniques have shown that detectable levels of soluble VCAM-1 are present in the biological fluids of apparently normal individuals. Furthermore, a number of studies have reported that levels of VCAM-1 may be elevated or lowered in subjects with a variety of pathological conditions.