Recombinant Human VCAM-1/CD106 His-tag

Catalog Number: 10201-VC

DESCRIPTION

Source	Chinese Hamster Ovary cell line, CHO-derived human VCAM-1/CD106 protein Phe25-Glu698, with a C-terminal 6-His tag Accession # P19320-1
N-terminal Sequence Analysis	Phe25
Predicted Molecular Mass	75 kDa

SPECIFICATIONS

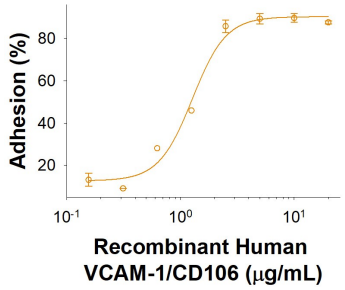
SDS-PAGE	80-110 kDa, under reducing conditions
Activity	Measured by the ability of the immobilized protein to support the adhesion of U937 human histiocytic lymphoma cells. The ED_{50} for this effect is 0.5-3 µg/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by 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 500 µg/mL in PBS.
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.** • 12 months from date of receipt, -20 to -70 °C as supplied. • 2 weeks, 2 to 8 °C under sterile conditions after reconstitution. • 3 months, -20 to -70 °C under sterile conditions after reconstitution.

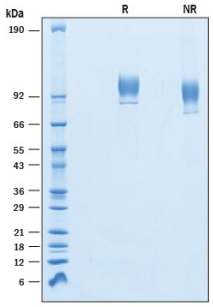
DATA

Bioactivity



Recombinant Human VCAM-1/CD106 His-tag (Catalog # 10201-VC) supports the adhesion of U937 human histiocytic lymphoma cells. The ED_{50} for this effect is 0.5-3 µg/mL.

SDS-PAGE



2 µg/lane of Recombinant Human VCAM-1/CD106 His-tag (Catalog # 10201-VC) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 80-110 kDa.

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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:

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