

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human VE-Cadherin in direct ELISAs and Western blots. In Western blots, no cross-reactivity with recombinant human (rh) Cadherin-8, rhCadherin-17, rhE-Cadherin, rhN-Cadherin, rhP-Cadherin, or recombinant mouse VE-Cadherin is observed.
Source	Monoclonal Mouse IgG _{2B} Clone # 123413
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human VE-Cadherin Asp48-Gln593 Accession # P33151
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

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	1 µg/mL	Recombinant Human VE-Cadherin Fc Chimera (Catalog # 938-VC)
Flow Cytometry	2.5 µg/10 ⁶ cells	HUVEC human umbilical vein endothelial cells stained in buffer containing Ca ²⁺ and Mg ²⁺

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.
Stability & Storage	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <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. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Vascular endothelial (VE)-cadherin (VE-CAD), also called 7B4 and cadherin-5 (CDH5), is a member of the cadherin family of cell adhesion molecules. Cadherins are calcium-dependent transmembrane proteins which bind to one another in a homophilic manner. On their cytoplasmic side, they associate with the three catenins, α, β, and γ (plakoglobin). This association links the cadherin protein to the cytoskeleton. Without association with the catenins, the cadherins are non-adhesive. Cadherins play a role in development, specifically in tissue formation. They may also help to maintain tissue architecture in the adult. VE-cadherin has been shown to play important roles in vasculogenesis and angiogenesis. VE-cadherin is a classical cadherin molecule. Classical cadherins consist of a large extracellular domain which contains DXD and DXNDN repeats responsible for mediating calcium-dependent adhesion, a single-pass transmembrane domain, and a short carboxy-terminal cytoplasmic domain responsible for interacting with the catenins. Human VE-cadherin is a 784 amino acid (aa) residue protein with a 25 aa signal sequence and a 759 aa propeptide. The mature protein begins at amino acid 48 and has a 546 aa extracellular domain, a 27 aa transmembrane domain, and a 164 aa cytoplasmic domain. The human and mouse mature VE-cadherin proteins share approximately 74% homology.

References:

1. Shimoyama, Y. *et al.* (1989) *J. Cell Biol.* **109**:1787.
2. Bussemakers, M.J.G. *et al.* (1993) *Mol. Biol. Reports* **17**:123.
3. Overduin, M. *et al.* (1995) *Science* **267**:386.
4. Takeichi, M. (1991) *Science* **251**:1451.
5. Nose, A. *et al.* (1987) *EMBO J.* **6**:3655.
6. Carmeliet, P. *et al.* (1999) *Cell* **98**:147.
7. Gory-Faure, S. *et al.* (1999) *Development* **126**:2093.