

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human VE-Cadherin in direct ELISAs and Western blots. In direct ELISAs, approximately 10% cross-reactivity with recombinant mouse VE-Cadherin is observed and less than 5% cross-reactivity with recombinant human E-Cadherin is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
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 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.

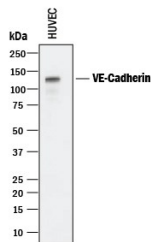
APPLICATIONS

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	0.25 µg/mL	See Below
Flow Cytometry	2.5 µg/10 ⁶ cells	HUVEC human umbilical vein endothelial cells
Immunocytochemistry	5-15 µg/mL	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

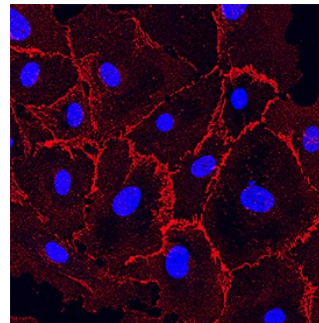
DATA

Western Blot



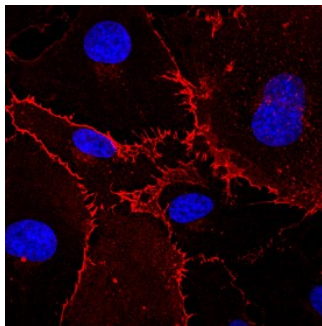
Detection of Human VE-Cadherin by Western Blot. Western blot shows lysate of HUVEC human umbilical vein endothelial cells. PVDF membrane was probed with 0.25 µg/mL of Goat Anti-Human VE-Cadherin Antigen Affinity-purified Polyclonal Antibody (Catalog # AF938) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF017). A specific band was detected for VE-Cadherin at approximately 125 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Immunocytochemistry



VE-Cadherin in HUVEC Cells. VE-Cadherin was detected in immersion fixed HUVEC human umbilical vein endothelial cells using Goat Anti-Human VE-Cadherin Antigen Affinity-purified Polyclonal Antibody (Catalog # AF938) at 10 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Goat IgG Secondary Antibody (red; Catalog # NL001) and counterstained with DAPI (blue). Specific staining was localized to the plasma membrane. View our protocol for [Fluorescent ICC Staining of Cells on Coverslips](#).

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PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 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. <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, 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-CAD 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.