Human VE-Cadherin Antibody

Monoclonal Mouse IgG_{2B} Clone # 1098251

Catalog Number: MAB11663

DESCRIPTION

Species Reactivity	Human
Specificity	Detects recombinant human VE-Cadherin protein in Direct ELISA.
Source	Monoclonal Mouse IgG_{2B} Clone # 1098251
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line, NS0- derived recombinant human VE-Cadherin Accession # P33151
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose.

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	2 µg/mL	HUVEC human umbilical vein endothelial cells
Immunocytochemistry	3-25 µg/mL	Immersion fixed HUVEC human umbilical vein endothelial cells (Positive) and absent in MCF-7 human breast cancer cell line (Negative)
Immunohistochemistry	3-25 µg/mL	Immersion fixed paraffin-embedded sections of human kidney and human cervix
Simple Western	20 µg/mL	HUVEC human umbilical vein endothelial cells

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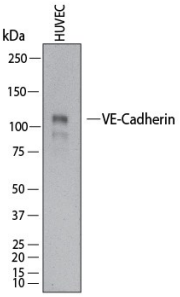
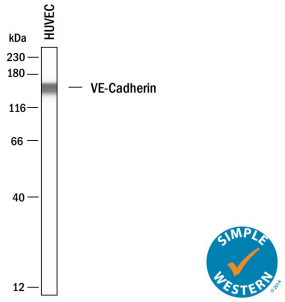
DATA

Western Blot



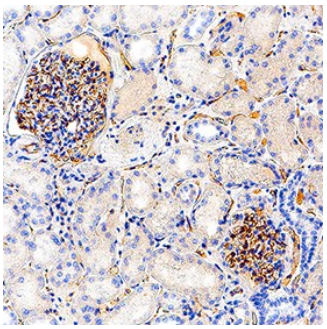
Detection of Human VE-Cadherin by Western Blot. Western Blot shows lysates of HUVEC human umbilical vein endothelial cells. PVDF membrane was probed with 2 µg/ml of Mouse Anti-Human VE-Cadherin Monoclonal Antibody (Catalog # MAB11663) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF018). A specific band was detected for VE-Cadherin at approximately 125 kDa (as indicated). This experiment was conducted under reducing conditions and using Western Blot Buffer Group 1.

Simple Western



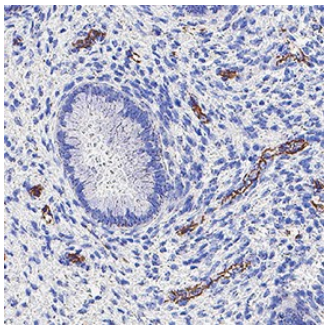
Detection of Human VE-Cadherin by Simple Western™. Simple Western shows lysates of HUVEC human umbilical vein endothelial cells, loaded at 0.5 mg/ml. A specific band was detected for VE-Cadherin at approximately 153 kDa (as indicated) using 20 µg/mL of Mouse Anti-Human VE-Cadherin Monoclonal Antibody (Catalog # MAB11663). This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.

Immunohistochemistry



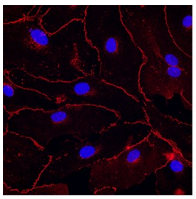
Detection of VE-Cadherin in Human Kidney. VE-Cadherin was detected in immersion fixed paraffin-embedded sections of human kidney using Mouse Anti-Human VE-Cadherin Monoclonal Antibody (Catalog # MAB11663) at 5 µg/ml for 1 hour at room temperature followed by incubation with the Anti-Mouse IgG VisUCyte™ HRP Polymer Antibody (Catalog # VC001) or the HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF007). Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using VisUCyte Antigen Retrieval Reagent-Basic (Catalog # VCTS021). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to the cell membrane of endothelial cells. View our protocol for IHC Staining with VisUCyte HRP Polymer Detection Reagents.

Immunohistochemistry

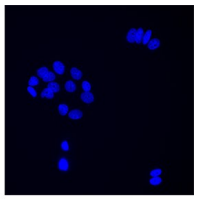


Detection of VE-Cadherin in Human Cervix. VE-Cadherin was detected in immersion fixed paraffin-embedded sections of human cervix using Mouse Anti-Human VE-Cadherin Monoclonal Antibody (Catalog # MAB11663) at 5 µg/ml for 1 hour at room temperature followed by incubation with the Anti-Mouse IgG VisUCyte™ HRP Polymer Antibody (Catalog # VC001) or the HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF007). Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using VisUCyte Antigen Retrieval Reagent-Basic (Catalog # VCTS021). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to the cell membrane of endothelial cells. View our protocol for IHC Staining with VisUCyte HRP Polymer Detection Reagents.

Immunocytochemistry



Positive (HUVEC cells)



Negative (MCF7 cells)

Detection of VE-Cadherin in HUVEC cells. VE-Cadherin was detected in immersion fixed HUVEC human umbilical vein endothelial cells (Positive) and absent in MCF-7 human breast cancer cell line (Negative) using Mouse Anti-Human VE-Cadherin Monoclonal Antibody (Catalog # MAB11663) at 8 µg/ml for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). Specific staining was localized to the cell membrane of HUVEC cells. View our protocol for Fluorescent ICC Staining of Cells on Coverslips.

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PREPARATION AND STORAGE

Reconstitution	Reconstitute lyophilized material at 0.2 mg/ml in sterile PBS. For liquid material, refer to CoA for concentration.
Shipping	Lyophilized product is shipped at ambient temperature. Liquid small pack size (-SP) is shipped with polar packs. Upon receipt, store 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. • 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:

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