PRODUCT INFORMATION

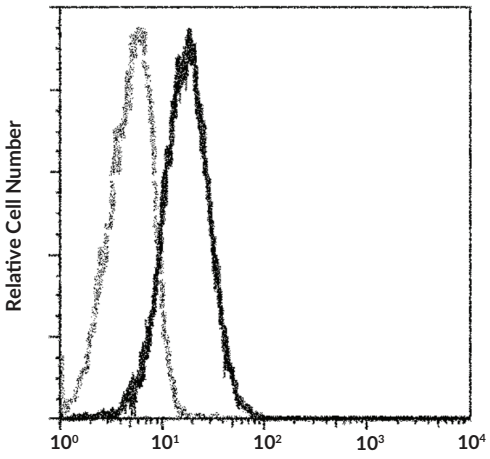
VE-Cadherin/CD144 Monoclonal Antibody (Clone 01)

Item No. 37086

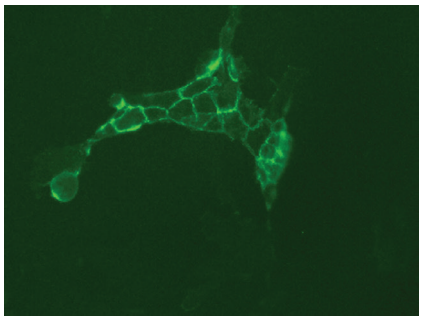
Overview and Properties

Contents:	This vial contains 50, 100, or 200 µl of protein A-affinity purified monoclonal antibody.
Synonyms:	7B4 Antigen, Cadherin-5, Vascular Endothelial Cadherin
Immunogen:	Recombinant human VE-cadherin
Cross Reactivity:	(+) VE-cadherin
Species Reactivity:	(+) Human
Form:	Liquid
Storage:	-80°C (as supplied)
Stability:	≥1 year
Storage Buffer:	0.2 µm filtered solution in PBS
Clone:	01
Host:	Mouse
Isotype:	IgG1
Applications:	Flow cytometry (FC), Immunocytochemistry (ICC), and Immunofluorescence (IF); the recommended starting dilution for FC is 1:25-1:100 and 1:10-1:50 for ICC and IF. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images



Flow cytometric analysis of human VE-cadherin/CD144 expression on HUVEC cells. Cells were stained with purified VE-Cadherin/CD144 Monoclonal Antibody (Clone 01) then a FITC-conjugated secondary antibody. The fluorescence histograms were derived from gated events with the forward and side light-scatter characteristics of intact cells.



Immunofluorescence staining of VE-cadherin in HUVEC cells. Cells were fixed with 4% PFA, blocked with 10% serum, and incubated with VE-Cadherin/CD144 Monoclonal Antibody (Clone 01) (dilution ratio 1:30) at 4°C overnight. Then cells were stained with an Alexa Fluor®488-conjugated goat anti-mouse IgG secondary antibody (green). Positive staining was localized to the cell membrane.

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Description

VE-cadherin, also known as CD144, is a type II classical cadherin and member of the cadherin superfamily of calcium-dependent cell adhesion molecules.[1] It is composed of an N-terminal signal peptide, a pro-peptide, five extracellular cadherin repeats that bind to homotypic cadherins, a transmembrane domain, and a cytoplasmic tail that interacts with the cytoskeleton. VE-cadherin is endothelial cell-specific and is localized to intracellular junctions where it participates in vascular structure assembly.[2-4] An anti-VE-cadherin antibody in combination with an anti-CD31 antibody inhibits tube formation in human umbilical vein endothelial cells (HUVECs).[5] Knockout of *Cdh5*, the gene encoding VE-cadherin, in mouse embryonic stem cells prevents the formation of vessel-like structures in 11-day-old embryoid bodies.[3] VE-cadherin is overexpressed in melanoma and breast cancer and is positively correlated with poor prognosis.[6] Cayman's VE-Cadherin/CD144 Monoclonal Antibody (Clone 01) can be used for flow cytometry (FC), immunocytochemistry (ICC), and immunofluorescence (IF) applications.

References

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2. Lampugnani, M.G., Resnati, M., Raiteri, M., *et al.* A novel endothelial-specific membrane protein is a marker of cell-cell contacts. *J. Cell Biol.* **118(6)**, 1511-1522 (1992).
3. Vittet, D., Buchou, T., Schweitzer, A., *et al.* Targeted null-mutation in the *vascular endothelial-cadherin* gene impairs the organization of vascular-like structures in embryoid bodies. *Proc. Natl. Acad. Sci. USA* **94(12)**, 6273-6278 (1997).
4. Breviario, F., Caveda, L., Corada, M., *et al.* Functional properties of human vascular endothelial cadherin (7B4/cadherin-5), an endothelium-specific cadherin. *Arterioscler. Thromb. Vasc. Biol.* **15(8)**, 1229-1239 (1995).
5. Matsumura, T., Wolff, K., and Petzelbauer, P. Endothelial cell tube formation depends on cadherin 5 and CD31 interactions with filamentous actin. *J. Immunol.* **158(7)**, 3408-3416 (1997).
6. Bartolomé, R.A., Torres, S., Isern de Val, S., *et al.* VE-cadherin RGD motifs promote metastasis and constitute a potential therapeutic target in melanoma and breast cancers. *Oncotarget* **8(1)**, 215-227 (2017).

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