

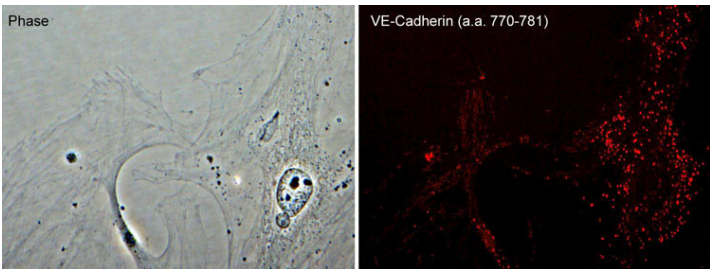
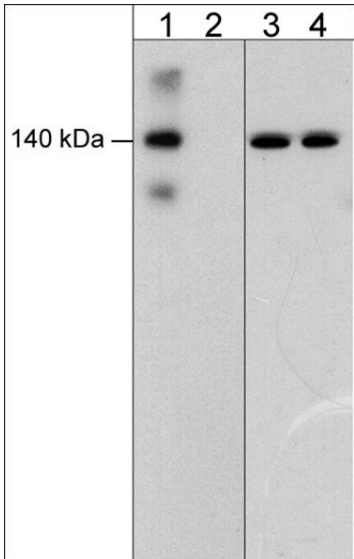
Kit Summary

The VE-cadherin phospho-regulation antibody sampler kit can be used to detect the phosphorylation of Tyr-685 relative to total expression of VE-cadherin. The kit includes a phospho-specific antibody to detect VE-cadherin Tyr-685, and mouse monoclonal and rabbit polyclonal antibodies to examine total VE-cadherin expression. The kit also includes secondary reagents for detection of primary antibodies in various applications.

Kit Components

Cat. #	Description	Product Type	Size	Applications	Species Reactivity	WB Dilution
CP2231	VE-Cadherin (a.a.770-781)	Rabbit pAb	50 µl	WB, E, ICC	Hu, Rt, Ms	1:1000
CM0351	VE-Cadherin (Extracellular region)	Mouse mAb	50 µl	WB, E, ICC, FB	Hu	1:250
CP1981	VE-Cadherin (Tyr-685), phospho-specific	Rabbit pAb	50 µl	WB, E	Hu, Rt, Ms	1:1000
MS3001	Anti-Mouse Ig:HRP	Donkey pAb	100 µl	WB, E	Ms	1:5000
RS3251	Anti-Rabbit Ig Light-Chain Specific:HRP	Mouse mAb	100 µl	WB, E, ICC, IHC	Rb	1:5000

Applications: WB = Western blot, E = ELISA, ICC = Immunocytochemistry, IP = Immunoprecipitation, IHC = Immunohistochemistry, FC = Flow Cytometry
 Species: H = Human, R = Rat, Ms = Mouse, C = Chicken, F = Fish, Fr = Frog, Rb = Rabbit

 <p>Immunocytochemical labeling of VE-Cadherin in paraformaldehyde-fixed and NP-40-permeabilized human umbilical vein endothelial cells. The cells were labeled with rabbit polyclonal VE-Cadherin (a.a. 770-781), then the antibody was detected using appropriate secondary antibody conjugated to Cy3. Phase image (left) and fluorescent image (right).</p>	 <p>Western blot image of human umbilical vein endothelial cells stimulated with pervanadate (1 mM) for 30 min. then the blots were untreated (lanes 1 & 3) or treated with alkaline phosphatase (lanes 2 & 4). The blots were probed with rabbit polyclonal anti-VE-cadherin (Tyr-685) (lanes 1 & 2) or mouse monoclonal anti-VE-cadherin (lanes 3 & 4).</p>
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Background

Cadherins are transmembrane glycoproteins vital in calcium-dependent cell-cell adhesion during tissue differentiation. Cadherins cluster to form foci of homophilic binding units. A key determinant to the strength of the cadherin-mediated adhesion may be by the juxtamembrane region in cadherins. VE-cadherin (Cadherin 5) is the major cadherin found in endothelial cells and has important roles during angiogenesis and maintenance of barrier permeability. The cytoplasmic domain of VE-cadherin comprises the juxtamembrane domain that binds to the p120 catenin, and the carboxylterminal domain that interacts with β - or γ -catenins. Modulation of tyrosine phosphorylation on one or more of the nine tyrosine sites in the cytoplasmic domain may be important for regulating both angiogenesis and permeability. Phosphorylation of Tyr-658 and Tyr-731 alters catenin binding, restores cell migration, and decreases barrier permeability. While VEGF-induced phosphorylation of Tyr-685 occurs through c-Src, and regulates endothelial cell migration, but not permeability.

Background References

- Baumeister U. et al. (2005) EMBOJ 24:1686.
Potter M.D. et al. (2005) J Biol. Chem. 280(36):31906.

Buffer and Storage

Primary antibodies are supplied in phosphate-buffered saline, 50% glycerol, 1 mg/ml BSA, and 0.05% sodium azide. The secondary reagents are supplied in the same buffer without azide. Store all at -20°C . Stable for 1 year.

Product Citations

Cat. #	Citation & Application
CP2231	Lee, D. et al. (2018) bioRxiv. doi.org/10.1101/430140. (WB: human endothelial cells)
CP2231	Kenne, E. et al. (2019) FASEB J. 33(2):2599. (IHC: HUVECs)
CP2231	Bowers, S. et al. (2010) 1188:143. (FB control: Fibroblast/Myocytes)
CP1981	Caolo, V et al. (2018) Arterioscl Throm Vasc Biol 38(9):2174. (WB: mouse embryos)
CP1981	Wylezinski, LS et al. (2016) J Biol Chem. 291(44):22913. (WB: human, mouse BMECs)
CP1981	Benn, A. et al. (2016) J Cell Sci. 129(1):206. (WB: HUVECs)
CP1981	Sivaraj KK et al.(2015) Cardiovasc Res. 108(1):171-80 (WB: HUVEC)
CP1981	Zhang, P. et al. (2014) FEBS Lett. 588(24):4573. (WB: human melanoma and HUVEC)
CP1981	Cain, R. et al. (2012) Int J Biochem Cell Biol. 44(11):1929. (WB: HUVECs)
CP1981	Heijden, M. et al. (2011) PLoS ONE 6(8):e23448. (WB: human pulmonary microvascular ECs)
CP1981	Lo, CW et al. (2010) Cancer Res. 71(2):424. (WB: HUVECs)

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