

Phospho-VEGF Receptor 2 (Tyr1175) (19A10) Rabbit mAb

- Small 100 µl (10 western blots)
- Large 300 µl (30 western blots)

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This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W, IHC-P, IF-IC Endogenous	H, M	230 kDa	Rabbit IgG**

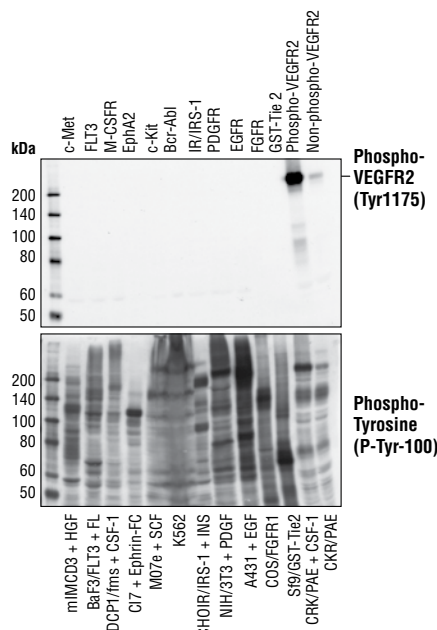
Background: Vascular endothelial growth factor receptor 2 (VEGFR2, KDR, Flk-1) is a major receptor for VEGF-induced signaling in endothelial cells. Upon ligand binding, VEGFR2 undergoes autophosphorylation and becomes activated (1). Major autophosphorylation sites of VEGFR2 are located in the kinase insert domain (Tyr951/996) and in the tyrosine kinase catalytic domain (Tyr1054/1059) (2). Activation of the receptor leads to rapid recruitment of adaptor proteins, including Shc, Grb2, PI-3 kinase, Nck and the protein tyrosine phosphatases SHP-1 and SHP-2 (3). The phosphorylation of Tyr1212 provides a docking site for Grb2 binding and phospho-Tyr1175 binds with the p85 subunit of PI-3 kinase and PLCγ, as well as Shb (1,4,5). Signaling from VEGFR2 is necessary for the execution of VEGF-stimulated proliferation, chemotaxis and sprouting, as well as survival of cultured endothelial cells *in vitro* and angiogenesis *in vivo* (6-8).

Specificity/Sensitivity: Phospho-VEGF Receptor-2 (Tyr1175) (19A10) Rabbit mAb detects endogenous levels of VEGFR-2 proteins only when phosphorylated at tyrosine 1175. This antibody may cross-react with VEGFR1.

Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Tyr1175 of human VEGF receptor-2.

Background References:

- Meyer, M. et al. (1999) *EMBO J* 18, 363-74.
- Dougher-Vermazen, M. et al. (1994) *Biochem Biophys Res Commun* 205, 728-38.
- Kroll, J. and Waltenberger, J. (1997) *J Biol Chem* 272, 32521-7.
- Takahashi, T. et al. (2001) *EMBO J* 20, 2768-78.
- Holmqvist, K. et al. (2004) *J Biol Chem* 279, 22267-75.
- Karkkainen, M.J. and Petrova, T.V. (2000) *Oncogene* 19, 5598-605.
- Rahimi, N. et al. (2000) *J Biol Chem* 275, 16986-92.
- Claesson-Welsh, L. (2003) *Biochem Soc Trans* 31, 20-4.



Phospho-VEGF Receptor 2 (Tyr1175) (19A10) Rabbit mAb specifically binds to phosphorylated VEGFR2, but not other phosphorylated tyrosine kinases. Western blot analysis of extracts from cells expressing different activated tyrosine kinase proteins, using Phospho-VEGF Receptor-2 (Tyr1175) (19A10) Rabbit mAb (upper) and Phospho-Tyrosine mAb (P-Tyr-100) #9411 (lower). CRK/PAE cells (lanes 12 and 13) express chimeric receptors containing human CSF-1 extracellular binding domain/mouse VEGF receptor-2 intracellular domain (7). CSF-1 stimulates phosphorylation of Tyr1175 of intracellular VEGF receptor-2 domain (lane 12), which was specifically detected by Phospho-VEGF Receptor-2 (Tyr1175) (19A10) Rabbit mAb.

Entrez-Gene ID #3791
Swiss-Prot Acc. #P35968

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

*Species cross-reactivity is determined by western blot.

**Anti-rabbit secondary antibodies must be used to detect this antibody.

Recommended Antibody Dilutions:

Western blotting	1:1000
Immunohistochemistry (Paraffin)	1:300
Unmasking buffer:	EDTA
Antibody diluent:	TBST-5%NGS
Immunofluorescence (IF-IC)	1:100

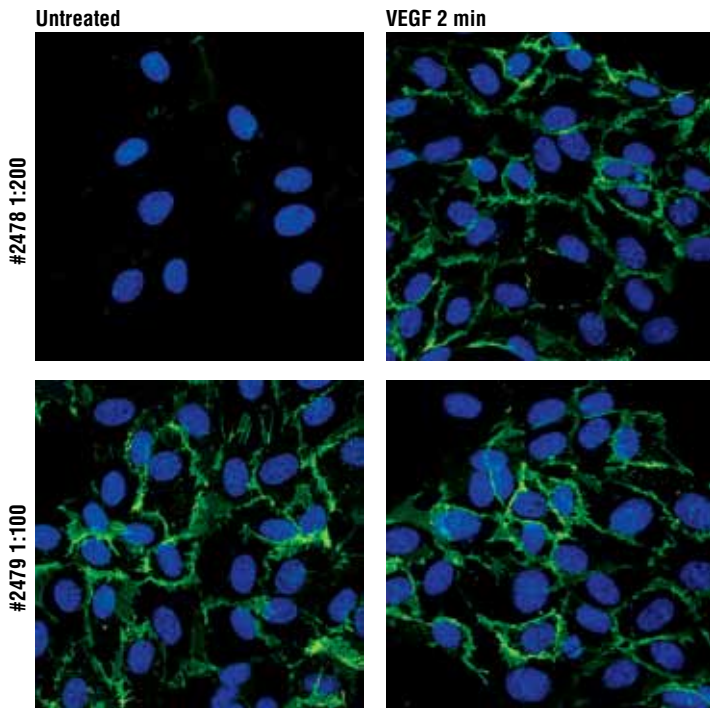
For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

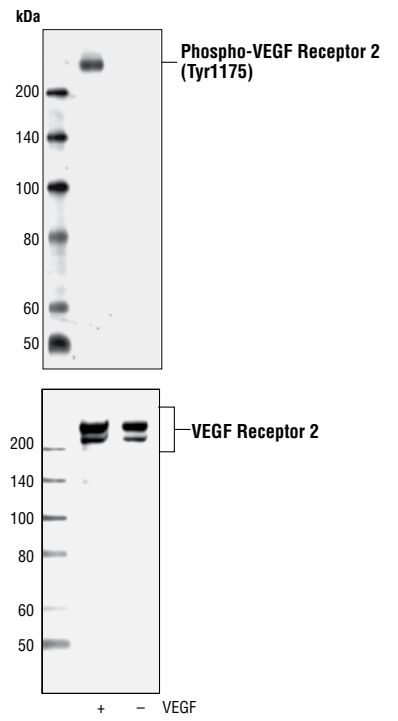
IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

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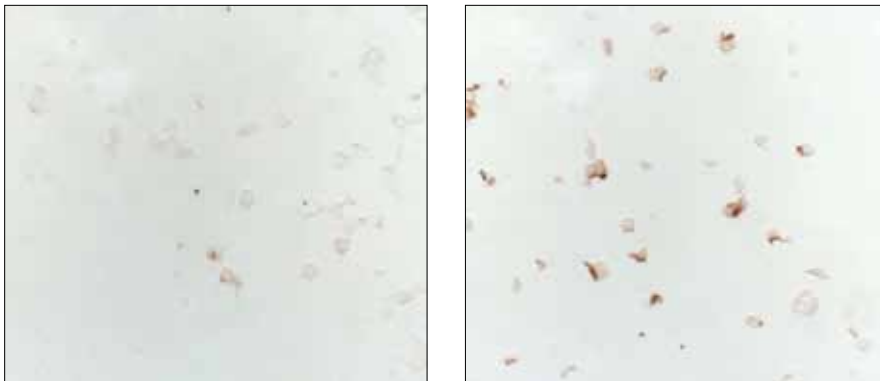
Rabbit monoclonal antibody is produced under license (granting certain rights including those under U. S. Patents No. 5,675,063 and 7,429,487) from Eptomics, Inc.



Confocal immunofluorescent images of HUVE cells untreated (left) or stimulated with Vascular Endothelial Growth Factor (VEGF) #9943 (right) and labeled with Phospho-VEGF Receptor 2 (Tyr1175) (19A10) Rabbit mAb (top, green) and VEGF Receptor 2 (55B11) Rabbit mAb #2479 (bottom, green). Blue pseudocolor = DRAQ5[®] #4084 (fluorescent DNA dye).



Western blot analysis of extracts from HUVE cells, untreated or stimulated with VEGF (50 ng/ml for 2 minutes), using Phospho-VEGF Receptor 2 (Tyr1175) (19A10) Rabbit mAb.



Immunohistochemical analysis of paraffin-embedded HUVE cells, untreated (left) or VEGF treated (right).