#2479 Store at –20°C

VEGF Receptor 2 (55B11) Rabbit mAb

☐ Small 100 µl (10 western blots)

☐ Large 300 µl (30 western blots)

Cell Signaling TECHNOLOGY®

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rev. 10/06/11

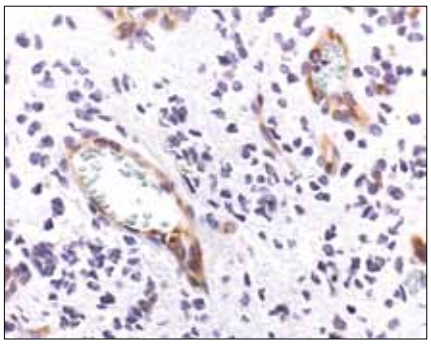
Entrez-Gene ID #3791
Swiss-Prot Acc. #P35968

Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W, IP, IHC-P, IF-IC, IF-F Endogenous	H, M	210, 230 kDa	Rabbit IgG**

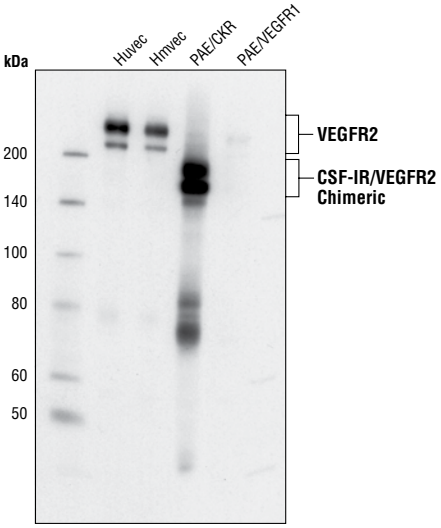
Background: Vascular endothelial growth factor receptor 2 (VEGFR2, KDR, Flk-1) is a major receptor for VEGF-induced signaling in endothelial cells. Upon ligand binding, VEGFR2 undergoes autophosphorylation and becomes activated (1). Major autophosphorylation sites of VEGFR2 are located in the kinase 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: VEGF Receptor 2 (55B11) Rabbit mAb detects endogenous levels of VEGF receptor 2 protein. This antibody does not cross-react with other family members.

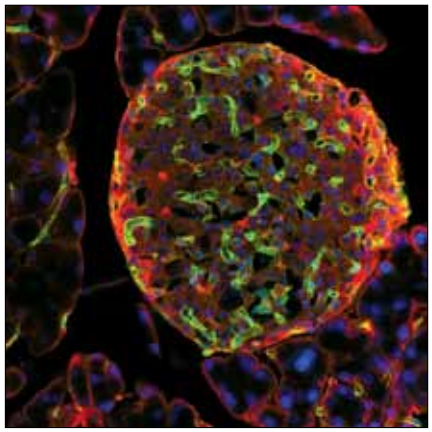
Source/Purification: Monoclonal antibody is produced by immunizing animals with a recombinant protein containing the carboxy-terminal 150 amino acid residues of human VEGF receptor 2.



Immunohistochemical analysis of paraffin-embedded human astrocytoma using VEGF Receptor 2 (55B11) Rabbit mAb.



Western blot analysis of extracts from various cell lines and primary cell cultures, using VEGF Receptor 2 (55B11) Rabbit mAb. PAE/CKR cells overexpress chimeric receptors containing human CSF-1 extracellular binding domain/mouse VEGF receptor 2 intracellular domains (Rahimi, N. et al. [2000] J. Biol. Chem. 275, 16986-16992). PAE/VEGFR1 cells overexpress human VEGF receptor 1.



Confocal immunofluorescent analysis of mouse pancreas using VEGF Receptor 2 (55B11) Rabbit mAb (green) and S6 Ribosomal Protein (54D2) Mouse mAb #2317 (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

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
Immunoprecipitation	1:100
Immunohistochemistry (Paffin)	1:600†
Unmasking buffer:	EDTA
Antibody diluent:	TBST-5%NGS
Detection reagent: SignalStain® Boost (HRP, Rabbit) #8114	

†*Optimal IHC dilutions determined using SignalStain® Boost IHC Detection Reagent.*

Immunofluorescence (IF-IC)	1:200
Immunofluorescence (IF-F)	1:200

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.

Background References:

(1) Meyer, M. et al. (1999) *EMBO J* 18, 363-74.

(2) Dougher-Vermazen, M. et al. (1994) *Biochem Biophys Res Commun* 205, 728-38.

(3) Kroll, J. and Waltenberger, J. (1997) *J Biol Chem* 272, 32521-7.

(4) Takahashi, T. et al. (2001) *EMBO J* 20, 2768-78.

(5) Holmqvist, K. et al. (2004) *J Biol Chem* 279, 22267-75.

(6) Karkkainen, M.J. and Petrova, T.V. (2000) *Oncogene* 19, 5598-605.

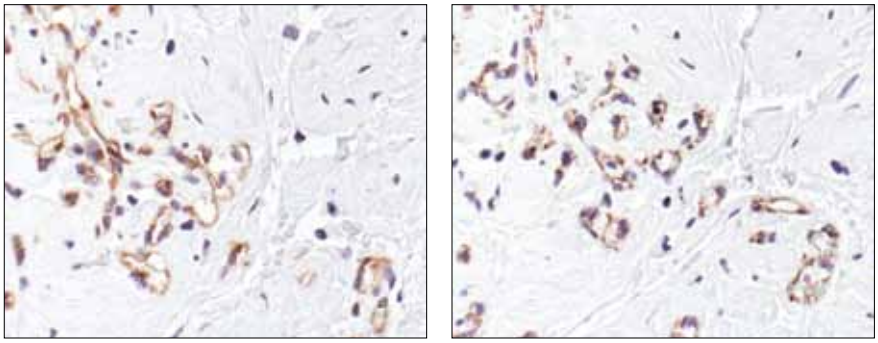
(7) Rahimi, N. et al. (2000) *J Biol Chem* 275, 16986-92.

(8) Claesson-Welsh, L. (2003) *Biochem Soc Trans* 31, 20-4.

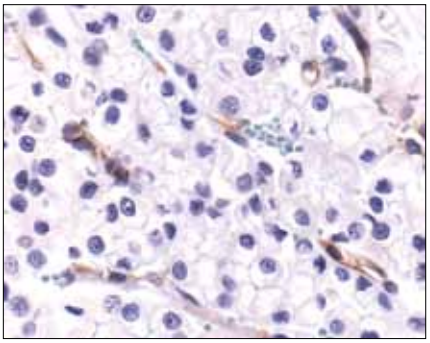
IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

Applications Key: **W**—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **E-P**—ELISA-Peptide

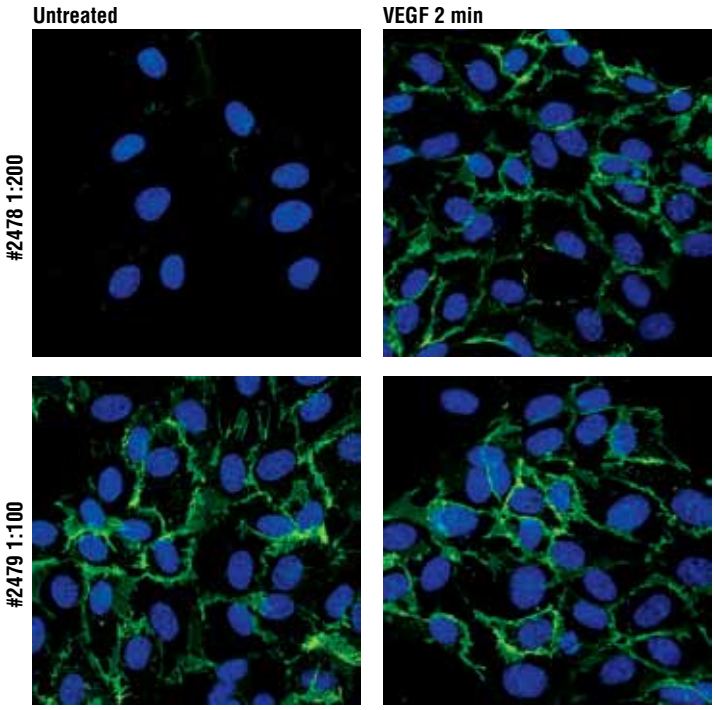
Species Cross-Reactivity Key: **H**—human **M**—mouse **R**—rat **Hm**—hamster **Mk**—monkey **Mi**—mink **C**—chicken **Dm**—D. melanogaster **X**—Xenopus **Z**—zebrafish **B**—bovine **Dg**—dog **Pg**—pig **Sc**—S. cerevisiae **Ce**—C. elegans **Hr**—Horse **All**—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.



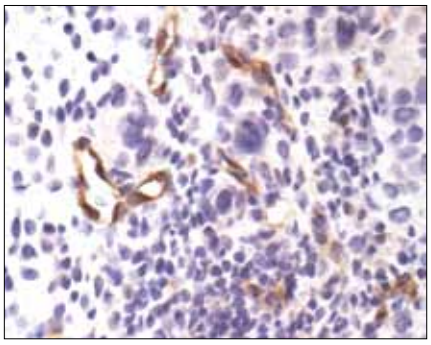
Immunohistochemical analysis of paraffin-embedded breast angiosarcoma, using VEGF Receptor 2 (55B11) Rabbit mAb (left). A serial section is stained for CD31 (PECAM-1), an endothelial cell marker (right).



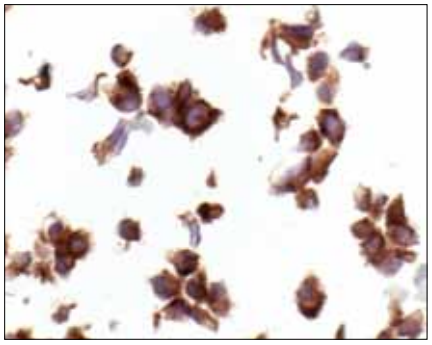
Immunohistochemical analysis of paraffin-embedded human renal adenocarcinoma, using VEGF Receptor 2 (55B11) Rabbit mAb.



Confocal immunofluorescent images of HUVEC cells untreated (left) or stimulated with Vascular Endothelial Growth Factor (VEGF) #9943 (right) and labeled with Phospho-VEGF Receptor 2 (Tyr1175) (19A10) Rabbit mAb #2478 (top, green) and VEGF Receptor 2 (55B11) Rabbit mAb (bottom, green). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).



Immunohistochemical analysis of paraffin-embedded HT-29 xenograft, using VEGF Receptor 2 (55B11) Rabbit mAb. Note staining of mouse blood vessels.



Immunohistochemical analysis of paraffin-embedded HUVEC cells using VEGF Receptor 2 (55B11) Rabbit mAb.