Revision 4

VEGF Receptor 2 (D5B1) Rabbit mAb

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP, IHC-P, IF-F, FC-FP	H M R	Endogenous	210, 230	Rabbit IgG	#P35968	3791

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:200
Immunohistochemistry (Paraffin)	1:800 - 1:3200
Immunofluorescence (Frozen)	1:800 - 1:1600
Flow Cytometry (Fixed/Permeabilized)	1:200 - 1:400

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.

For a carrier free (BSA and azide free) version of this product see product #96141.

Specificity/Sensitivity

VEGF Receptor 2 (D5B1) Rabbit mAb recognizes endogenous levels of total VEGF receptor 2 protein.

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 protein.

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, PI3 kinase, NCK, and the protein tyrosine phosphatases SHP-1 and SHP-2 (3). Phosphorylation at Tyr1212 provides a docking site for GRB2 binding and phospho-Tyr1175 binds the p85 subunit of PI3 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).

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.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

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

Applications Key

W: Western Blotting **IP:** Immunoprecipitation **IHC-P:** Immunohistochemistry (Paraffin) **IF-F:** Immunofluorescence (Frozen) **FC-FP:** Flow Cytometry (Fixed/Permeabilized)

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat

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