Revision 1

Store at +4C

#3628

VEGF Receptor 2 (55B11) Rabbit mAb (Alexa Fluor® 647 Conjugate)

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Reactivity:	Sensitivity:	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
H M	Endogenous	Rabbit IgG	#P35968	3791

Storage

Supplied in PBS (pH 7.2), less than 0.1% sodium azide and 2 mg/ml BSA. Store at 4°C. Do not aliquot the antibody. Protect from light. Do not freeze.

Specificity/Sensitivity

VEGF Receptor 2 (55B11) Rabbit mAb (Alexa Fluor® 647 Conjugate) detects endogenous levels of total VEGF receptor 2 protein. This antibody does not cross-react with other family members.

Species predicted to react based on 100% sequence homology

Bovine

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. This antibody was conjugated to Alexa Fluor® 647 under optimal conditions with an F/P ratio of 2-6. The Alexa Fluor® 647 dye is maximally excited by red light (e.g. 633 nm He-Ne laser). Antibody conjugates of the Alexa Fluor® 647 dye produce bright far-red-fluorescence emission, with a peak at 665 nm.

Description

This Cell Signaling Technology (CST) antibody is conjugated to Alexa Fluor® 647 fluorescent dye and tested in-house for direct flow cytometric analysis in human cells. The unconjugated VEGF Receptor 2 (55B11) Rabbit mAb #2479 reacts with human and mouse VEGF receptor 2 protein. CST expects that VEGF Receptor 2 (55B11) Rabbit mAb (Alexa Fluor® 647 Conjugate) will also recognize VEGF receptor 2 in these species.

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).

Cross-Reactivity Key

H: Human **M:** Mouse

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