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Anti-VEGFR2/KDR Antibody

Catalog # ABO10431

Product Information

Application	IHC-F
Primary Accession	O08775
Host	Mouse
Isotype	Mouse IgG1
Reactivity	Human
Clonality	Monoclonal
Format	Lyophilized
Description	Mouse IgG monoclonal antibody for VEGFR2, kinase insert domain receptor (a type III receptor tyrosine kinase) (KDR) detection. Tested with IHC-F in Human. No cross reactivity with other proteins.
Reconstitution	Add 1ml of PBS buffer will yield a concentration of 100ug/ml.

Additional Information

Gene ID	25589
Other Names	Vascular endothelial growth factor receptor 2, VEGFR-2, 2.7.10.1, Fetal liver kinase 1, FLK-1, Protein-tyrosine kinase receptor flk-1, CD309, Kdr, Flk1
Calculated MW	150394
Application Details	Immunohistochemistry(Frozen Section), 1-2 □g/ml, Human
Subcellular Localization	Cell membrane ; Single-pass type I membrane protein . Cytoplasm . Nucleus . Cytoplasmic vesicle . Early endosome . Cell junction . Endoplasmic reticulum . Detected on caveolae-enriched lipid rafts at the cell surface. Is recycled from the plasma membrane to endosomes and back again. Phosphorylation triggered by VEGFA binding promotes internalization and subsequent degradation. VEGFA binding triggers internalization and translocation to the nucleus. Localized with RAP1A at cell-cell junctions. Colocalizes with ERN1 and XBP1 in the endoplasmic reticulum in endothelial cells in a vascular endothelial growth factor (VEGF)-dependent manner (By similarity). .
Tissue Specificity	Expressed in the post-pubertal mammary glands. .
Source	Eukaryota
Protein Name	Vascular endothelial growth factor receptor 2
Contents	Mouse ascites fluid, 1.2% sodium acetate, 2mg BSA, with 0.01mg NaN3 as preservative.

Clone Names	KDR-1
Immunogen	Recombinant human extracellular domain of VEGFR-2(KDR).
Purification	Ascites
Cross Reactivity	No cross reactivity with other proteins
Storage	At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.
Sequence Similarities	Belongs to the protein kinase superfamily. Tyr protein kinase family. CSF-1/PDGF receptor subfamily.

Protein Information

Name	Kdr {ECO:0000312|RGD:2965}
Synonyms	Flk1
Function	Tyrosine-protein kinase that acts as a cell-surface receptor for VEGFA, VEGFC and VEGFD. Plays an essential role in the regulation of angiogenesis, vascular development, vascular permeability, and embryonic hematopoiesis. Promotes proliferation, survival, migration and differentiation of endothelial cells. Promotes reorganization of the actin cytoskeleton. Isoforms lacking a transmembrane domain may function as decoy receptors for VEGFA, VEGFC and/or VEGFD. Modulates FLT1 and FLT4 signaling by forming heterodimers. Binding of vascular growth factors to isoform 1 leads to the activation of several signaling cascades. Activation of PLCG1 leads to the production of the cellular signaling molecules diacylglycerol and inositol-1,4,5- trisphosphate and the activation of protein kinase C. Mediates activation of MAPK1/ERK2, MAPK3/ERK1 and the MAP kinase signaling pathway, as well as of the AKT1 signaling pathway. Mediates phosphorylation of PIK3R1, the regulatory subunit of phosphatidylinositol 3-kinase, reorganization of the actin cytoskeleton and activation of PTK2/FAK1. Required for VEGFA-mediated induction of NOS2 and NOS3, leading to the production of the signaling molecule nitric oxide (NO) by endothelial cells. Phosphorylates PLCG1. Promotes phosphorylation of FYN, NCK1, NOS3, PIK3R1, PTK2/FAK1 and SRC (By similarity).
Cellular Location	Cell membrane {ECO:0000250|UniProtKB:P35968}; Single-pass type I membrane protein. Cytoplasm. Nucleus. Cytoplasmic vesicle. Early endosome. Cell junction. Endoplasmic reticulum {ECO:0000250|UniProtKB:P35968} Note=Detected on caveolae-enriched lipid rafts at the cell surface. Is recycled from the plasma membrane to endosomes and back again Phosphorylation triggered by VEGFA binding promotes internalization and subsequent degradation. VEGFA binding triggers internalization and translocation to the nucleus. Localized with RAP1A at cell-cell junctions. Colocalizes with ERN1 and XBP1 in the endoplasmic reticulum in endothelial cells in a vascular endothelial growth factor (VEGF)-dependent manner (By similarity). {ECO:0000250|UniProtKB:P35968}
Tissue Location	Expressed in the post-pubertal mammary glands.

Background

VEGF, a homodimeric glycoprotein of relative molecular mass 45,000, is the only mitogen that specifically acts on endothelial cells. The importance of VEGF and its receptor system in tumor growth and intervention

in this system may provide promising approaches to cancer therapy. VEGF receptor 2 is a member of a receptor tyrosine kinase family. Like other growth factor receptors, upon ligand binding VEGF receptor 2 dimerises and is autophosphorylated on multiple tyrosine residues.