SunLong Biotech Co.,LTD
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[Marker Primary Antibody]

Rabbit Anti-phospho-VEGFR2 (Tyr951)/HRP Conjugated antibody

Catalog Number: SL2674R-HRP

FOR RESEARCH USE ONLY

[DATASHEET]

Host:	Rabbit
Isotype:	IgG
Clonality:	Polyclonal
Target:	Anti-phospho-VEGFR2 (Tyr951)/HRP
Immunogen:	KLH cunjugated Synthetic phosphopeptide derived from human VEGFR2 around the phosphorylation site of Tyr951
Purification:	affinity purified by Protein A
Concentration:	1mg/ml
Storage:	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20°C. When reconstituted in sterile pH 7.4 1M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.
Applications:	IHC-P=1:100-500 IHC-F=1:100-500 not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Reactivity:	Rat,Human(predicted:Mouse,Rabbit)
Background:	background: Hemangioblast Marker Vascular endothelial growth factor (VEGF) is a major growth factor for endothelial cells. This gene encodes one of the two receptors of the VEGF. This receptor, known as kinase insert domain receptor, is a type III receptor tyrosine kinase. It functions as the main mediator of VEGF-induced endothelial proliferation, survival, migration, tubular morphogenesis and sprouting. The signalling and trafficking of this receptor are regulated by multiple factors, including Rab GTPase, P2Y purine nucleotide receptor, integrin alphaVbeta3, T-cell protein tyrosine phosphatase, etc.. Mutations of this gene are implicated in infantile capillary hemangiomas. [provided by RefSeq, May 2009]. **Function:** Tyrosine-protein kinase that acts as a cell-surface receptor for VEGFA, VEGFC and VEGFD. Plays an essential role in the regulation of

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	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, such as isoform 2 and isoform 3, may function as decoy receptors for VEGFA, VEGFC and/or VEGFD. Isoform 2 plays an important role as negative regulator of VEGFA-and VEGFC-mediated lymphangiogenesis by limiting the amount of free VEGFA and/or VEGFC and preventing their binding to FLT4. 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. **Subunit:** Interacts with MYOF (By similarity). Interacts with VEGFA, VEGFC and VEGFD. Monomer in the absence of bound VEGFA, VEGFC or VEGFD. Homodimer in the presence of bound dimeric VEGFA, VEGFC or VEGFD. Can also form heterodimers with FLT1 and FLT4. Interacts (tyrosine phosphorylated) with FYN, NCK1, PLCG1 and SHB. Interacts with HIV-1 Tat. Interacts with CBL. Interacts with SH2D2A/TSAD and GRB2. **Subcellular Location:** Isoform 1: Cell membrane; Single-pass type I membrane protein. Cytoplasm. Nucleus. Cytoplasmic vesicle. Early endosome. 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. Isoform 2: Secreted (Probable). Isoform 3: Secreted. **Tissue Specificity:** Detected in cornea (at protein level). Widely expressed. **Post-translational modifications:** N-glycosylated. Ubiquitinated. Tyrosine phosphorylation of the receptor promotes its poly-

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	ubiquitination, leading to its degradation via the proteasome or lysosomal proteases. Autophosphorylated on tyrosine residues upon ligand binding. Autophosphorylation occurs in trans, i.e. one subunit of the dimeric receptor phosphorylates tyrosine residues on the other subunit. Phosphorylation at Tyr-951 is important for interaction with SH2D2A/TSAD and VEGFA-mediated reorganization of the actin cytoskeleton. Phosphorylation at Tyr-1175 is important for interaction with PLCG1 and SHB. Phosphorylation at Tyr-1214 is important for interaction with NCK1 and FYN. Dephosphorylated by PTPRB. Dephosphorylated by PTPRJ at Tyr-951, Tyr-996, Tyr-1054, Tyr-1059, Tyr-1175 and Tyr-1214. DISEASE: Defects in KDR are associated with susceptibility to hemangioma capillary infantile (HCI) [MIM:602089]. HCI are benign, highly proliferative lesions involving aberrant localized growth of capillary endothelium. They are the most common tumor of infancy, occurring in up to 10% of all births. Hemangiomas tend to appear shortly after birth and show rapid neonatal growth for up to 12 months characterized by endothelial hypercellularity and increased numbers of mast cells. This phase is followed by slow involution at a rate of about 10% per year and replacement by fibrofatty stroma. Note=Plays a major role in tumor angiogenesis. In case of HIV-1 infection, the interaction with extracellular viral Tat protein seems to enhance angiogenesis in Kaposi's sarcoma lesions. **Similarity:** Belongs to the protein kinase superfamily. Tyr protein kinase family. CSF-1/PDGF receptor subfamily. Contains 7 Ig-like C2-type (immunoglobulin-like) domains. Contains 1 protein kinase domain. **Database links:** **Entrez Gene:** 3791 Human **Entrez Gene:** 16542 Mouse **Entrez Gene:** 25589 Rat Omim: 191306 Human **SwissProt:** P35968 Human **SwissProt:** P35918 Mouse **SwissProt:** O08775 Rat **Unigene:** 479756 Human **Unigene:** 285 Mouse **Unigene:** 88869 Rat Important **Note:** This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

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	The cell membrane receptors (Membrane Receptors) Angioblast Marker VEGFR-2 is a The cell membrane receptor kinase with high affinity for vascular endothelial growth factor (VEGF). Its main function is to participate in the regulation of vascular endothelial cell growth and angiogenesis, and it is involved in the growth of vascular endothelial cells. It is used for research on various malignant Tumours.

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