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VEGF Receptor 1 antibody

Catalog No.: 15-288-20013F

Quantity: 0.1 mg

Concentration: 0.1 mg/ml

Background: Vascular endothelial growth factors (VEGFs) are a family of closely related growth factors having a conserved pattern of eight cysteine residues and sharing common VEGF receptors. VEGFs stimulate the proliferation of endothelial cells, induce angiogenesis, and increase vascular permeability in both large and small vessels. The mitogenic activity of VEGFs appears to be mediated by specific VEGF receptors. Vascular Endothelial Growth Factor Receptor 1 (VEGF Receptor 1, Flt1) is one of the five receptor tyrosine kinases (RTKs) (VEGF Receptor 1/Flt1, VEGF Receptor 2/KDR/Flk1, VEGF Receptor 3/Flt4, tie1 and tek/tie2) whose expression is almost exclusively restricted to endothelial cells. These RTKs play central roles in vasculogenesis and angiogenesis. Tie1 and tek/tie2 are a class of RTKs containing two immunoglobulin-like domains, three EGF homology domains and three fibronectin type III domains in their extracellular regions. VEGF Receptor 1/Flt1, VEGF Receptor 2/KDR/Flk1, and VEGF Receptor 3/Flt4 are members of the class III subfamily of RTKs containing seven immunoglobulin-like repeats in their extracellular domains. VEGF Receptor 1 and VEGF Receptor 2 are both expressed in an endothelial cell-specific manner. They are detectable in virtually all tissues in adults and embryos. Monocytes express VEGF Receptor 1 and VEGF Receptor 2. Hypoxia induces endothelial cell expresssion of VEGF Receptor 1 but not VEGF Receptor 2. VEGF Receptor 1 is responsible for guiding endothelial cells into the proper spatial organization of lumen-containing vessels. Alternative splicing of VEGF Receptor 1 pre-mRNA is important in the regulation of VEGF activity in angiogenesis. Vascular endothelial growth factor B (VEGFB) binds to VEGF Receptor 1 and regulates plasminogen activator activity in endothelial cells. The human VEGF Receptor 1 (Flt1) gene has been mapped to chromosome 13q12. VEGF Receptor 1 and VEGF Receptor 2 are closely related in their putative roles in angiogenesis. VEGF Receptor 2 is involved in commitment of endothelial-cell lineages and to cell proliferation, while VEGF Receptor 1 seems to be responsible for guiding endothelial cells into the proper spatial organization of the lumen- containing vessels. VEGF Receptor 1 binds both PIGF and VEGF with high affinity, whereas VEGF Receptor 2 binds VEGF with high affinity but does not bind PIGF. Recombinant soluble VEGF Receptor 2/Fc chimera binds VEGF with high affinity and is a potent VEGF antagonist.

Host / Isotype: Chicken

Immunogen: Recombinant extracellular domain (Mouse), expressed in mouse NSO cells.

Format:

Purification: Immunogen affinity purified
Buffer System: Preservative: 15mM sodium azide.Constituents: 0.01M PBS, 1% BSA. pH 7.4

Applications:

ELISA, Neut, WB
Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Specificity:

Cross-reacts with Mouse. Based on ELISA, this antibody shows approximately 10% cross-reactivity with recombinant human VEGF Receptor 1. Not yet tested in other species.