Anti-Vascular Endothelial Growth Factor Receptor 3 (VEGF-R3, Flt-4), Mouse
Developed in Goat, Affinity Isolated Antibody

Product Number V2884

Product Description
Anti-Mouse Vascular Endothelial Growth Factor Receptor 3 (VEGF-R3, Flt-4) is developed in goat using the extracellular domain of a purified recombinant mouse vascular endothelial growth factor receptor 3 expressed in insect Sf 21 cells as immunogen. Affinity isolated antigen specific antibody is obtained from goat anti-VEGF R3 antiserum by immuno-specific purification which removes essentially all goat serum proteins, including immunoglobulins, which do not specifically bind to the peptide.

Anti-Mouse Vascular Endothelial Growth Factor Receptor 3 recognizes recombinant mouse VEGF R3 by various immunochemical techniques including immunoblotting and ELISA. In ELISAs, this antibody shows approximately 20 % cross-reactivity with recombinant human VEGF R3. It also shows 10 % cross-reactivity with recombinant human VEGF R2 and 5 % cross-reactivity with VEGF R1.

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 the VEGFs appears to be mediated by specific VEGF receptors.

VEGF Receptor-3 (VEGF R3) is one of the five receptor tyrosine kinases (RTKs) (VEGF R1/Flt1, VEGF R2/KDR/Flik-1, VEGF R3/Flt-4, tie-1 and tek/tie-2) whose expression is almost exclusively restricted to endothelial cells. Tie-1 and tek/tie-2 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 R1/Flt1, VEGF R2/KDR/Flik-1, and VEGF R3/Flt-4 are members of the class III subfamily of RTKs containing seven immunoglobulin-like repeats in their extracellular domains. All five of the receptor tyrosine kinases (RTKs) play central roles in vasculogenesis and angiogenesis.

Mature native mouse VEGF R3 (Flt-4) is composed of a 751 amino acid residue extracellular domain, a 22 amino acid residue trans membrane domain, and a 565 amino acid residue cytoplasmic domain. Recombinant mature mouse VEGF R3/Fc is a disulfide-linked dimeric protein. Based on N-terminal sequencing, recombinant mouse VEGF R3/Fc has Met 17 at the amino-terminus. The reduced VEGF R3 monomer has a calculated molecular mass of approximately 84.5 kDa. As a result of glycosylation, the protein migrates to approximately 110 to 120 kDa in SDS-PAGE under reducing conditions. The amino acid sequence of mouse VEGF R3 is 88 % identical to human VEGF R3.

VEGF R3 is a specific marker for lymphatic vessels. In adults, VEGF R3 expression is restricted to endothelial cells of the lymphatic vessels. It has also been detected on some high endothelial venules, in embryonic pre-lymphatic blood vessels, in some tumor blood vessels, and in certain hematopoietic and leukemia cells. The predominant role of VEGF-R3 is its involvement in the development of the lymphatic vessel system. Both VEGF-C and VEGF-D bind and activate the receptors, VEGF R3 and VEGF R2.

Reagent
Anti-Mouse VEGF R3 (Flt-4) is supplied as 100 µg of antiserum lyophilized from a 0.2 µm filtered solution of phosphate buffered saline (PBS).

Preparation Instructions
To one vial of lyophilized powder, add 1 ml of sterile phosphate buffered saline (PBS) to produce a 0.1 mg/ml stock solution of antibody.

Storage/Stability
Prior to reconstitution, store at −20 °C. Reconstituted product may be stored at 2 °C to 8 °C for at least one month. For prolonged storage, freeze in working aliquots at −20 °C. Avoid repeated freezing and thawing. Do not store in a frost-free freezer.
Product Profile
For immunoblotting, a working concentration of 0.1 to 0.2 µg/ml antibody is recommended. The detection limit for recombinant mouse VEGF R3 (Flt-4) is approximately 20 ng/lane under non-reducing and reducing conditions.

For ELISAs, a working concentration of 0.5 to 1.0 µg/ml antibody is recommended. The detection limit for recombinant mouse VEGF R3 (Flt-4) is approximately 0.16 ng/well.

Note: In order to obtain best results in different techniques and preparations we recommend determining optimal working dilutions by titration test.

Endotoxin level is < 10 ng/mg antibody as determined by the LAL (Limulus amebocyte lysate) method.

References
5. Achen, M.G., et al., Vascular endothelial growth factor D (VEGF-D) is a ligand for the tyrosine kinases VEGF receptor 2 (Flk1) and VEGF receptor 3 (Flt4). Proc. Natl. Acad. Sci. USA, 95, 548-553 (1998).