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ProductInformation

VEGF RECEPTOR-3 (FLT-4)/FC CHIMERA
Human, Recombinant
Expressed in mouse NSO cells

Product Number **V1260**

Product Description

Human Vascular Endothelial Growth Factor Receptor 3 (VEGF R3, Flt-4)/Fc Chimera is produced from a DNA sequence encoding the extracellular domain of human VEGF R3 (Flt-4) fused to the carboxy-terminal 6X histidine tagged Fc portion of human IgG1 by a poly-peptide linker.[1] Based on amino-terminal sequencing, the mature protein starts at Tyr 25. Approximately 20 % of the protein in the recombinant preparation is truncated and contains Ser 473 at the N-terminus. The reduced monomer has a calculated molecular mass of approximately 112 kDa. As a result of glycosylation, the protein migrates to approximately 160 kDa in SDS-PAGE.

Mature native human VEGF R3 is composed of a 751 amino acid residue extracellular domain, a 22 amino acid residue transmembrane domain, and a 482 amino acid residue cytoplasmic domain.

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.[2] The mitogenic activity of 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/Flk-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/Flt-1, VEGF R2/KDR/Flk-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.

VEGF R3 is a specific marker for 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.[3] 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

Recombinant Human VEGF Receptor-3 (Flt-4)/Fc Chimera is supplied as approximately 50 µg of protein lyophilized from a 0.2 µm filtered solution in phosphate buffered saline (PBS).

Preparation Instructions

Reconstitute the contents of the vial using sterile phosphate-buffered saline (PBS) containing at least 0.1% human serum albumin or bovine serum albumin. Prepare a stock solution of no less than 200 µg/ml.

Storage/Stability

Store at –20 °C. Upon reconstitution, store at 2 °C to 8 °C for one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. Do not store in a frost-free freezer.

Product Profile

The binding affinity of recombinant human VEGF Receptor-3 (Flt-4) to its ligands has not been determined. The intended use of this protein is for immunoblotting and ELISA standards.
Purity: > 95 % as determined by SDS-Page, visualized by silver stain.
Endotoxin level is < 0.1 ng/µg protein as determined by the LAL (Limulus amebocyte lysate) method.

References

1. Galland, F., et al., Oncogene, **8**, 1233-1240 (1993).
2. Ferrara, N., and Davis-Smyth, T., Endocr. Rev., **18**, 4-25 (1997).
3. Taipale, J., et al., Curr. Top. Microbiol. Immunol., **237**, 85-96 (1999).

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