



Recombinant Human Soluble VEGFR-3/Fc Chimera



FOR RESEARCH ONLY! NOT FOR HUMAN USE!

Cat.-no:	SFC-010
Size:	50 µg
Lot. No.:	According to product label
Country of origin:	Germany

Scientific Background

Gene:	<i>FLT4</i>
Synonyms:	Vascular endothelial growth factor receptor 3, Fms-like tyrosine kinase 4

Recombinant human soluble Vascular Endothelial Growth Factor Receptor-3 (sVEGFR-3) was fused with the Fc part of human IgG₁. The recombinant mature sVEGFR-3/Fc is a disulfide-linked homodimeric protein. The sVEGFR-3/Fc monomers have a mass of approximately 130kDa. The soluble receptor protein consists of all 7 extracellular domains (Met1-Glu774).

All three VEGF receptors belong to the class III subfamily of receptor tyrosine kinases (RTKs) characterised by the seven immunoglobulin-like loops in the extracellular domain. The expression of VEGFR-1 to -3 is almost exclusively restricted to hematopoietic precursor cells, vascular and lymphatic endothelial cells and to the monocyte/macrophage lineage. They play key roles in vasculogenesis, hematopoiesis, angiogenesis and lymphangiogenesis. The VEGFR-3/FLT-4 cDNA encodes a 1298 amino acid (aa) residue precursor protein with a 23aa residue signal peptide.

Mature VEGFR-3/FLT-4 is composed of a 751aa residue extracellular domain, a 22aa transmembrane domain and a 482aa residue cytoplasmic domain.

Both VEGF family members VEGF-C and VEGF-D have been shown to bind and activate VEGFR-3/FLT-4.

The FLT-4 gene is widely expressed in the early embryo but becomes restricted to the lymphatic endothelial at latter stages of development.

It is important for lymphangiogenesis.

References

1. Joukov et al., EMBO J 15 :290, 1996
2. Kukuk et al., Development 122 :3829, 1996.

Sequence

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YSMTPTPLNITEDSYVIDTGDSLISICRQHPLEWTWPGAQEVLTGGKDE
DTRVVHDCBEGTEARPYCKVLLLAQTHANNNTGSYHCYYKIKARIEGTTAAST
YVVRDFKHPFINKPDTLLVNRKDSMWVPCLVSIPLNITLRSQSSALHPDG
QEVLDWDRGRMVRPTQLLRDALYLQCEITWGDQNFSLNLFVVHITGNELYDI
QLYPKKSMEELLVGEKLVNCTVWAEFDSVTFDWDYPGKAERAKWVPEERS
QQTHTELSILTIHNVSQNDLGPVCEANNGIQRFRESTEVIHVEKPFISVE
WLKGPVLEATAGDELVKLPVLAAYPPPEFQWYKDRKAVTGRNPHALVKE
VTEASAGVYTLALWNSAAGLRQNISLELVVNVPHIHEKEASSPSIYSRHSR
QTLTCTAYGVPQPLSVQWHWRPWPCKTFAQRS LRRRQQRDGMPCRDWKEV
TTQDAVNP IESLDSWTEFVEGKNTVSKLVIQDANVSAMYKCVVNVKVGQDE
RLIYFYVTTIPDGFSESEPSDPLEGQSVRLSCRADNYTYEHLRWYRLNLS
TLHDAQGNPLLLDCKNVHLFATPLEANLEEAEPGARHATLSLNI PRVAPED
GDYVCEVQDRRSQDKHKHKKYLSVQALEAPRLTQNLTDLLVNVSDSLEMRC
VAGAHVPSIVVYKDERLLEKESGIDLADSNQRLSIQVRREEDAGRYLCSVCN
AKGCVNSASVAVEGSEDKGSMESDKTHTCPCPCAPELLGGPSVFLFPPKPK
DTLMI SRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQNSTY
RVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTI SKAKGQPREPQVYTL
PSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTPPMLDSDGSP
FLYSKLTVDKSRWQQGNVFSCSVMEALHNHYTQKSLSLSPGK
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Database References

Protein RefSeq:	NP_002011
Uniprot ID:	P35916
mRNA RefSeq:	NM_002020

Product Specifications

Expressed in	Insect cells
Purity	> 90% by SDS-PAGE & silver stain
Buffer	PBS
Stabilizer	None
Formulation	lyophilized
Length (aa):	979
MW:	130 kDa (Monomer)

Stability: Lyophilized samples are stable for greater than six months at -20°C to -70°C. Reconstituted sVEGFR-3/Fc should be stored in working aliquots at -20°C.

Reconstitution: The lyophilized sVEGFR-3/Fc is soluble in water and most aqueous buffers and should be reconstituted in PBS or medium to a concentration not lower than 100µg/ml.



AVOID REPEATED FREEZE AND THAW CYCLES!

Biological Activity: Measured by its ability to bind recombinant rat VEGF-C in a functional solid phase binding assay. Immobilised recombinant human sVEGFR-3/Fc at 5µg/ml can bind recombinant rat VEGF-C in a linear range of 8-500ng/ml.



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Handling/Application

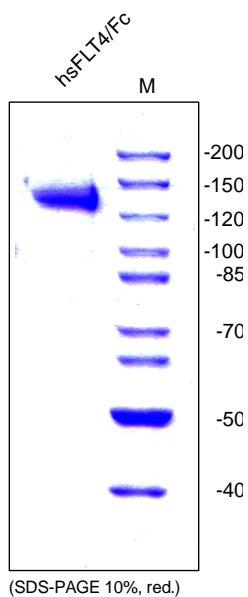


Fig. 1: SDS-PAGE analysis of recombinant human soluble VEGFR-3/Fc produced in insect cells. Sample was loaded in 10% SDS-polyacrylamide gel under reducing condition and stained with Coomassie blue.