



Recombinant Human Soluble VEGFR-3/FLT-4-His

20150702BB



FOR RESEARCH ONLY! NOT FOR HUMAN USE!

Cat.-no:	S01-018
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/FLT-4) was fused with a C-terminal 6X Histidine-tag. The recombinant mature sVEGFR-3/FLT-4 is a glycosylated monomeric protein. The sVEGFR-3/FLT-4 monomers have a mass of approximately 120kDa. 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 FLT-4 cDNA encodes a 1298 amino acid (aa) residue precursor protein with a 23 aa residue signal peptide. Mature VEGFR-3/FLT-4 is composed of a 751 aa residue extracellular domain, a 22 aa 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 a latter stages of development. It is important for lymphangiogenesis.

References

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

Sequence

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DPSGYSMTPPTLNITEESHVIDTGDLSLISCRGQHPLEWAWPGAQEAPATGD
KDESDTGVVRDCEGTDARPYCKVLLLVHEVHANDTGSYVYCYKYIKARIEGTT
AASSYVVRDQFEQPFINKPDTLLVNRKDMWVPCLVSIPLGNVTLRSQSSVL
WPDGQEVVWDRRGMLVSTPLLHDALYLQCETTWGDQDFLSNPFVHITGNE
LYDIQLLPRKSLELLVGEKLVLNCTVWAEFNSGVTFDWDYPGKQAEGRKWVP
ERRSQQTHTELSLITIHNVSQHDLGSYVCKANNQIQRFRESTEVIHNF
ISVEWLKGFIPLEATAGDELVKLVKLAAYPPPEFQWYKDGKALSGRHSPHAL
VLKEVTEASTGTYTALWNSAAGLRNINISLELVNVPPQIHEKEASSPSIYS
RHSRQALTCTAYGVPLPLSIQWHWRPWPCKMFAQRSLRRRQQDLMPQCRD
WRAVTTQDAVNP IESLDTWTEFVEGKNTVSKLVIQNANVSAMYKCVVSNKV
GQDERLIYFYVTTIPDGFTEIESKPSSEELLEGQPVLLSCQADSYKYEHLRWYR
LNLSTLHDAHGNP LLLDCKNVHLFATPLAASLEEVAPGARHATLSLSIPRVA
PEHGHYVCEVQDRRSHDKHCKKYLVSQALEAPRLTQNLTDLLVNVSDSLE
MQCLVAGAHAPSIVWYKDERLLEEKSGVDLADSNQKLSIQRVREEDAGRYLC
SVCNAKGCVNSSASVAVEGSEDKGSMHHHHHH
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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
Buffer	PBS
Stabilizer	None
Formulation	lyophilized
Length (aa):	761
MW:	110 kDa (Monomer)
Result by N-terminal sequencing	DPSGYSMTPPTLNITEESHV

Stability: Lyophilized samples are stable for greater than six months at -20°C to -70°C. Reconstituted sVEGFR-3/FLT-4 should be stored in working aliquots at -20°C.

Reconstitution: The lyophilized sVEGFR-3/FLT-4 is soluble in water and most aqueous buffers and should be reconstituted in PBS or medium to a concentration not lower than 100 µg/ml.



AVOID REPEATED FREEZE AND THAW CYCLES!

Biological Activity: The activity of sFLT-4 was determined by its ability to inhibit the VEGF-C-induced proliferation of HDLECs.

Optimal dilutions should be determined by each laboratory for each application.



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Handling/Application

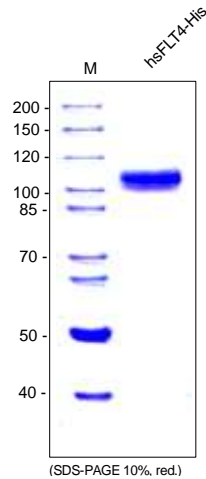


Fig. 1: SDS-PAGE analysis of recombinant human soluble VEGFR-3/FLT-4 from insect cells. Sample was loaded in 10% SDS-polyacrylamide gel under reducing condition and stained with Coomassie Blue.

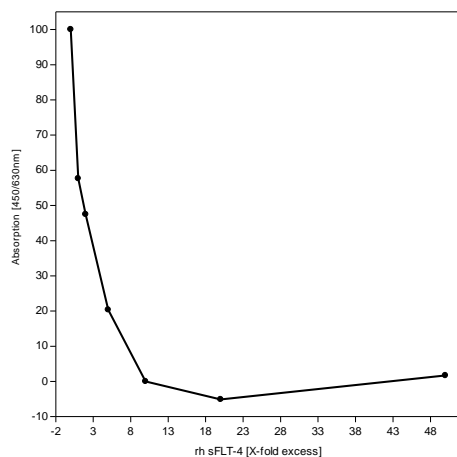


Fig. 2: Inhibition of VEGF-C-induced proliferation of primary human dermal lymphatic endothelial cells (HDLEC) by recombinant human soluble FLT-4. VEGF-C (50ng/ml) was preincubated with increasing amounts of soluble receptor for 1h respectively and then added to the cells.

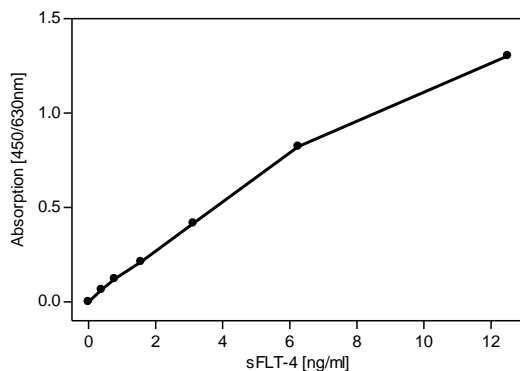


Fig. 3: FLT-4 Sandwich-ELISA using recombinant human soluble FLT-4 as standard [Cat# S01-017]. Mouse anti-human FLT-4 #2E11 (Cat# 101-M37) was used as capture antibody, Biotinylated rabbit anti-human FLT-4 (Cat# 102-PABi22) was used for detection.