Recombinant Mouse Soluble VEGFR-1_{D7}/Fc Chimera

FOR RESEARCH ONLY! NOT FOR HUMAN USE!

Cat.-no:	**SFC-M06**
Size:	50 µg
Lot. No.:	According to product label
Country of origin:	Germany

Scientific Background

Gene:	*flt1*
Synonyms:	Fms-like tyrosine kinase 1, Vascular permeability factor receptor

Recombinant mouse soluble Vascular Endothelial Growth Factor Receptor-1 (sVEGFR-1(D7) was fused with the Fc part of human IgG1. The recombinant mature sVEGFR-1(D7)/Fc is a disulfide-linked homodimeric protein. The sVEGFR-1(D7)/Fc monomers have a mass of approximately 130 kDa. The soluble receptor protein consists of all 7 extracellular domains (Tyr23-Asn757), which contain all the information necessary for high affinity ligand binding.
Endothelial cells express three different vascular endothelial growth factor (VEGF) receptors, belonging to the family of receptor tyrosine kinases (RTKs). They are named VEGFR-1 (Flt-1), VEGFR-2 (KDR/Flk-1), and VEGFR-3 (Flt-4). Their expression is almost exclusively restricted to endothelial cells, but VEGFR-1 can also be found on monocytes. All VEGF-receptors have seven immunoglobulin-like extracellular domains, a single transmembrane region and an intracellular split tyrosine kinase domain. VEGFR-2 has a lower affinity for VEGF than the Flt-1 receptor, but a higher signalling activity. Mitogenic activity in endothelial cells is mainly mediated by VEGFR-2 leading to their proliferation. Differential splicing of the flt-1 gene leads to the formation of a secreted, soluble variant of VEGFR-1 (sVEGFR-1). No naturally occurring, secreted forms of VEGFR-2 have so far been reported. The binding of VEGF165 to VEGFR-2 is dependent on heparin.

References

1. Barleon et al., 1997, J Biol Chem 272:10382-8
2. Röckl et al., 1998, Exp Cell Res, 241: 161-170.

Sequence

YGSGSKLKVPELSLKGTQHVMQAGQTLFLKCRGEAAHSWSLPTTVSQEDKRL
SITPPSACGRDNRQFCSTLTLDTAQANHTGLYTCRYLPTSTSKKKKAESSIY
IFVSDAGSPFIEMHTDIPKLVHMTEGRQLIIPCRVTSPNVTVTLKKFPFDTL
TPDGQRITWDSRRGFIIANATYKEIGLLNCEATVNGHLYQTNYLTHRQTNTI
LDVQIRPPSPVRLLHGQTLVLNCTATTELNTRVQMSWNYPGKATKRASIRQR
IDRSHSHNNVFHSVLKINNVESRDKGLYTCRVKSGSSFQSFNTSVHVYEKGF
ISVKHRKQPVQETTAGRRSYRLSMKVKAFPSPEIVWLKDGSPATLKSARYLV
HGYSLIIKDVTTEDAGDYTILLGIKQSRLFKNLTATLIVNVKPQIYEKSVSS
LPSPPLYPLGSRQVLTCTVYGIPRPTITWLWHPCHHNHSKERYDFCTENEES
FILDPSSNLGNRIESISQRMTVIEGTNKTVSTLVVADSQTPGIYSCRAFNKI
GTVERNIKFYVTDVPNGFHVSLEKMPAEGEDLKLSCVVNKFLYRDITWILLR
TVNNRTMHHSISKQKMATTQDYSITLNLVIKNVSLEDSGTYACRARNIYTGE
DILRKTEVLVRDSEAPHLLQNLSDYEVSISGSTTLDCQARGVPAPQITWFKN
NHKIQQEPGIILGPGNSTLFIERVTEEDEGVYRCRATNQKGAVESAAYLTVQ
GTSDKSNAASDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCV
VVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWL
NGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLT
CLVKGFYPSDIAVEWESNGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQ
QGNVFSCSVMHEALHNHYTQKSLSLSPGK

Database References

Protein RefSeq:	NP_034358.2
Uniprot ID:	P35969
mRNA RefSeq:	NM_010228.3

Product Specifications

Expressed in	Insect cells
Purity	> 95% by SDS-PAGE
Buffer	PBS
Stabilizer	None
Formulation	lyophilized
Length (aa):	965
MW:	130 kDa (Monomer)
Result by N-terminal sequencing	SGSKLKD

Stability: Lyophilized samples are stable for greater than six months at –20°C to –70°C. Reconstituted sVEGFR-1/Fc should be stored in working aliquots at -20°C.

Reconstitution: The lyophilized sVEGFR-1/Fc is soluble in water and most aqueous buffers and should be reconstituted in PBS or medium to a concentration not lower than 50µg/ml.

AVOID REPEATED FREEZE AND THAW CYCLES!

Biological Activity: The activity of sVEGFR-1/Fc was determined by its ability to inhibit the VEGF-dependent proliferation of human umbilical vein endothelial cells.

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Handling/Application

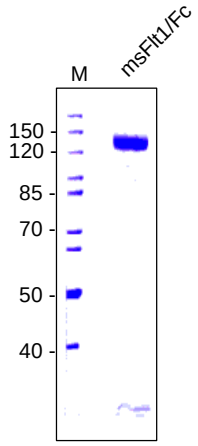

Fig. 1: SDS-PAGE analysis of recombinant mouse soluble VEGFR-1/Fc produced in insect cells. Sample was loaded in 10% SDS-polyacrylamide gel under reducing condition and stained with Coomassie blue.

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