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FLT1
Recombinant Human Endogenous Soluble VEGFR-1

Catalog No.	CRF103A	**Quantity:**	5 µg
	CRF103B		20 µg
	CRF103C		1 mg

Alternate Names: Vascular endothelial growth factor receptor 1, fms-like tyrosine kinase 1, FLT-1

Description: Recombinant human soluble Vascular Endothelial Growth Factor Receptor-1 (sVEGFR -1) is the naturally occurring form and was cloned from total RNA of human umbilical vein endothelial cells. The recombinant mature sVEGFR-1 is a glycosylated monomeric protein with a mass of approximately 96 kDa. The soluble receptor precursor protein consists of the first 6 extracellular domains (Met1-His688) containing the unique 31 amino acids residues at the C-terminus. 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, dendritic cells and on trophoblast cells. The flt-1 gene was first described in 1990. The receptor contains seven immunoglobulin-like extracellular domains, a single transmembrane region and an intracellular split tyrosine kinase domain. Compared to VEGFR-2 the Flt-1 receptor has a higher affinity for VEGF but a weaker signaling activity. VEGFR-1 thus leads not to proliferation of endothelial cells, but mediates signals for differentiation. Interestingly, a naturally occurring soluble variant of VEGFR-1 (sVEGFR-1) was found in HUVEC supernatants in 1996, which is generated by alternative splicing of the flt-1 mRNA. The biological functions of sVEGFR-1 still are not clear, but it seems to be an endogenous regulator of angiogenesis, binding VEGF with the same affinity as the full-length receptor.

UniProt ID: P17948-2

Gene ID: 2321

Source: Insect cells

Molecular Weight: 96 kDa (661 aa) monomer

Formulation: Lyophilized from PBS.

Purity: >95% by SDS-PAGE, visualized by silver stain

N-terminal Sequence: SKLKD

Biological Activity: The activity of sVEGFR-1 was determined by its ability to inhibit the VEGF-A induced proliferation of HUVECs.

Reconstitution: **Centrifuge vial prior to opening.** Lyophilized sVEGFR1 is soluble in water and most aqueous buffers. Reconstitute in PBS to a concentration ≥ 0.1 mg/ml.

Storage & Stability: Upon receipt store at -20°C to -80°C. Store reconstituted stock solution in working aliquots at -20°C to -80°C. **Avoid repeated freeze-thaw cycles.**

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Amino Acid Sequence: SKLKDPELSL KGTQHIMQAG QTLHLQCRGE AAHKWSLPEM VSKESERLSI TKSACGRNGK QFCSTLTLNT AQANHTGFYS CKYLAVPTSK KKETESAIYI FISDTGRPFV EMYSEIPEII HMTEGRELVI PCRVTSPNIT VTLKKFPLDT LIPDGKRIIW DSRKGFIISN ATYKEIGLLT CEATVNGHLY KTNYLTHRQT NTIIDVQIST PRPVKLLRGH TLVLNCTATT PLNTRVQMTW SYPDEKNKRA SVRRRIDQSN SHANIFYSVL TIDKMQNKDK GLYTCRVRSG PSFKSVNTSV HIYDKAFITV KHRKQQVLET VAGKRSYRLS MKVKAFPSPE VVWLKDGLPA TEKSARYLTR GYSLIIKDVT EEDAGNYTIL LSIKQSNVFK NLTATLIVNV KPQIYEKAVS SFPDPALYPL GSRQILTCTA YGIPQPTIKW FWHPCNHNHS EARCDFCSNN EESFILDADS NMGNRIESIT QRMAIIEGKN KMASTLVVAD SRISGIYICI ASNKVGTVGR NISFYITDVP NGFHVNLEKM PTEGEDLKLS CTVNKFLYRD VTWILLRTVN NRTMHYSISK QKMAITKEHS ITLNLTIMNV SLQDSGTYAC RARNVYTGEE ILQKKEITIR GEHCNKKAVF SRISKFKSTR NDCTTQSNVK H

Fig. 1: SDS-PAGE analysis of recombinant human soluble VEGFR-1 produced in insect cells. Sample was loaded in 15% SDS-polyacrylamide gel under reducing condition and stained with Silver stain.

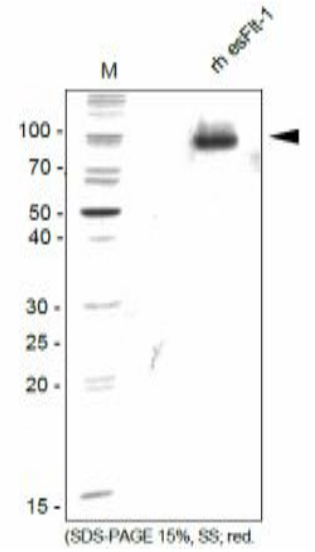
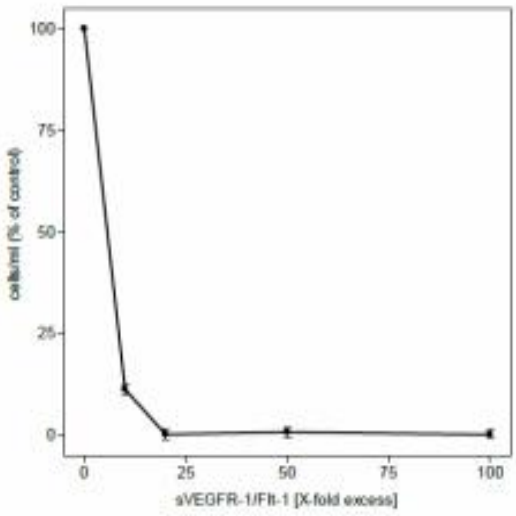


Fig. 2: Inhibition of the $VEGF_{165}$-induced proliferation in HUVECs by soluble VEGFR-1/Flt-1. $VEGF_{165}$ (10 ng/ml) was preincubated with increasing amounts of sVEGFR -1/Flt-1 for 1h and then added to the cells.



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