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FLT1
Recombinant Human VEGFR-1 (D1-3) soluble

Catalog No.	CRF101A	**Quantity:**	5 µg
	CRF101B		20 µg
	CRF101C		1.0 mg

Alternate Names: Vascular endothelial growth factor receptor 1 domain D1-3, VEGFR-1, fms-like tyrosine kinase 1, FLT-1, Vascular permeability factor receptor

Description: Recombinant human soluble Vascular Endothelial Growth Factor Receptor-1 domain D1 -3 (sVEGFR-1D1-3) is produced as a non-chimeric protein in a monomeric form. The soluble receptor protein contains only the first 3 extracellular domains, which contain all the information necessary for binding of VEGF.

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), 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 splited 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 occuring soluble variant of VEGFR-1 (sVEGFR-1) was found in HUVE 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: 45 kDa (327 aa) monomer

Formulation: Lyophilized from PBS

Purity: ≥ 90% as determined by SDS-PAGE with Coomassie stain

Endotoxin Level: < 1 EU/µg

N-terminal Sequence: SKLKD

Biological Activity: The activity of sVEGFR-1(D3) was determined by its ability to inhibit the VEGF-A-induced proliferation of HUVECs.

Reconstitution: **Centrifuge vial prior to opening**. Soluble in water and most aqueous buffers. Add deionized water to the vial to fully solubilize the protein to a concentration of ≥ 0.1 mg/ml.

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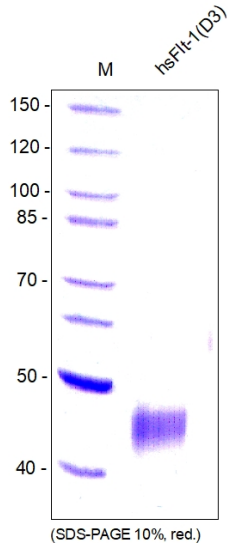
Storage & Stability: Lyophilized samples are stable for greater than six months at -20°C to -80°C. Reconstituted product should be stored in working aliquots at -20°C to -80°C. **Avoid repeated freeze-thaw cycles.**

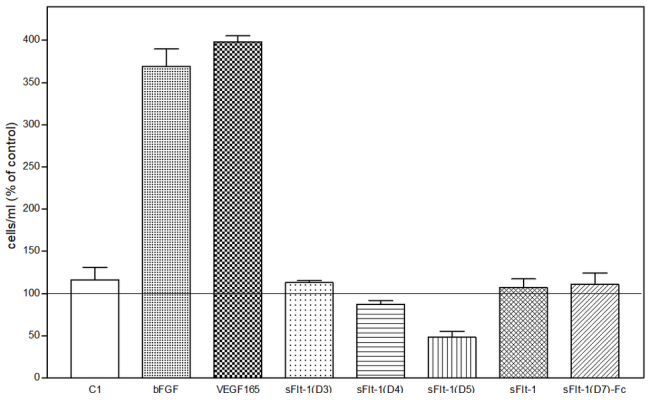
Amino Acid Sequence: SKLKDPELSLKGTQHIMQAGQTLHLQCRGEAAHKWSLPEMVSKESERLSITKSACGRN GKQFCSTLTLNTAQANHTGFYSCKYLAVPTSKKKETESAIYIFISDTGRPFVEMYSEIPEII HMTEGRELVIPCRVTSPNITVTLKKFPLDTLIPDGKRIIWDSRKGFIISNATYKEIGLLTCEA TVNGHLYKTNYLTHRQTNTIIDVQISTPRPVKLLRGHTLVLNCTATTPLNTRVQMTWSYP DEKNKRASVRRRIDQSNSHANIFYSVLTIDKMQNKDKGLYTCRVRSGPSFKSVNTSVHI YDKAFITVKHRKQQVLETVAGKRSY

SDS-PAGE analysis of recombinant human soluble VEGFR-1 (D1-3) produced in insect cells. Sample was loaded in 10% SDS-polyacrylamide gel under reducing condition and stained with Coomassie blue.



(SDS-PAGE 10%, red.)

Inhibition of the VEGF165-induced proliferation of HUVECs by recombinant human endogenous sFlt-1 and sFlt-1 constructs. HUVECs were stimulated with 10 ng/ml VEGF165, the soluble receptors were added with a 100X excess.



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