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Recombinant Human sVEGFR-1 (native)

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 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.

Source:	Insect cells
Molecular Weight:	96 kDa
Subunit:	glycosylated monomer
Purity:	> 90% (SDS-PAGE and visualized by Silver stain)
Endotoxin level:	< 0.1 ng per µg of sVEGFR-1
Stabilizer:	none
Formulation:	lyophilized

Biological Activity: The activity of sVEGFR-1 was determined by its ability to abolish the binding of iodinated VEGF to solid surfaces or cell surface receptors. The ED₅₀ for this effect is typically 10 ng/ml

Reconstitution: The lyophilized sVEGFR-1 is soluble in water and most aqueous buffers. The lyophilized sVEGFR-1 should be reconstituted in PBS to a concentration not lower than 100 ng/ml.

Stability: Lyophilized samples are stable for greater than six months at -20°C to -70°C. Reconstituted sVEGFR-1 should be stored in working aliquots at -20°C. **Avoid repeated freeze-thaw cycles!**

Usage: sVEGFR-1 is offered for research use. Not for drug use. **Not for human use!**

Catalogue number: S01-010	Size: 20 µg
	Range: 5 - 50 ng/ml

Literature: [Barleon et al., 1997, J Biol Chem 272:10382-8 ; Röckl et al., 1998, Exp Cell Res, 241: 161-170].

****Please note: always centrifuge product before opening vial!****