

Recombinant Human Fms-related Tyrosine Kinase 1, 3 Domains

Cat. No. FLT1-78H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human Soluble Fms-related Tyrosine Kinase 1 D1-3 produced in baculovirus is monomeric, glycosylated, polypeptide containing 352 amino acids and having a molecular mass of 45 kDa. The soluble receptor protein contains only the first 3 extracellular domains, which contain all the information necessary for binding of VEGF. The VEGFR1 is purified by proprietary chromatographic techniques.
Species	Human
Source	Insect Cells
Description	<p>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 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 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</p>

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	VEGF with the same affinity as the full-length receptor.
Physical Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.
Purity	Greater than 90.0% as determined by: (a) Analysis by RP-HPLC. (b) Analysis by SDS-PAGE.
Formulation	VEGFR-1 D1-3 was lyophilized from a concentrated (1mg/ml) sterile solution containing no additives.
Solubility	It is recommended to reconstitute the lyophilized sVEGFR-1 D3 in sterile water not less than 100 g/ml, which can then be further diluted to other aqueous solutions.
Biological Activity	The activity of sVEGFR-1D1-3 was determined by its ability to abolish the binding of iodinated VEGF to solid surfaces or cell surfaces receptors, and in Far-Western and cross-linking experiments with iodinated VEGF.
Storage	Lyophilized FLT-1 although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution FLT1 should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

GENE INFORMATION

Gene Name	FLT1 fms-related tyrosine kinase 1 (vascular endothelial growth factor/vascular permeability factor receptor) [Homo sapiens]
Synonyms	FLT1; fms-related tyrosine kinase 1 (vascular endothelial growth factor/vascular permeability factor receptor); FLT; VEGFR1; vascular endothelial growth factor receptor 1; EC 2.7.10.1; VEGFR-1; Vascular permeability factor receptor; Flt-1; Tyrosine-protein kinase receptor FLT; Tyrosine-protein kinase FRT; Fms-like tyrosine

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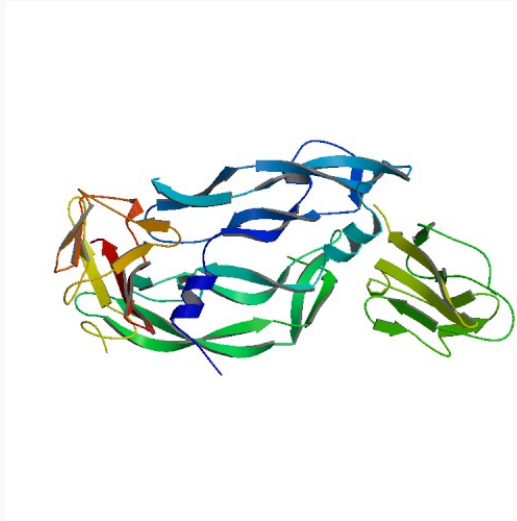
	kinase 1; FRT
Gene ID	2321
mRNA Refseq	NM_001159920
Protein Refseq	NP_001153392
MIM	165070
UniProt ID	P17948
Chromosome Location	13q12
Pathway	Cytokine-cytokine receptor interaction; Endocytosis; Focal adhesion; Signaling by VEGF
Function	ATP binding; growth factor binding; identical protein binding; nucleotide binding; receptor activity; transferase activity; vascular endothelial growth factor receptor activity

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