

Recombinant Human Fms-related Tyrosine Kinase 1, Fc Chimera

Cat. No. FLT1-979H **Lot. No.** (See product label)

SPECIFICATION

Product Overview

Recombinant human soluble Vascular Endothelial Growth Factor Receptor-1 (sVEGFR-1D1-7) produced in *Insect cells* was fused with the Fc part of human IgG1. The recombinant mature sVEGFR-1D1-7/Fc is a disulfide-linked homodimeric protein. The sVEGFR-1D1-7/Fc monomers have a mass of approximately 130 kDa. The soluble receptor protein consists of all 7 extracellular domains (Met1-Thr751), which contain all the information necessary for high affinity ligand binding.

Species

Human

Source

Insect Cells

Description

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.

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Purity	> 95%, by SDS-PAGE and visualised by silver stain.
Endotoxin level	< 0.1 ng per µg of sVEGFR-1.
Stabilizer	None.
Formulation	Lyophilized.
Buffer	PBS; pH 7.4.
Biologically Activity	The activity of sVEGFR-1/Fc was determined by its ability to inhibit the VEGF-dependent proliferation of human umbilical vein endothelial cells. The ED50 for this effect is typically 10-30 ng/ml.
Reconstitution	The lyophilised sVEGFR-1/Fc is soluble in water and most aqueous buffers. The lyophilised sVEGFR-1/Fc should be reconstituted in PBS or medium to a concentration not lower than 50 µg/ml.
Stability	Lyophilised 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. Avoid repeated 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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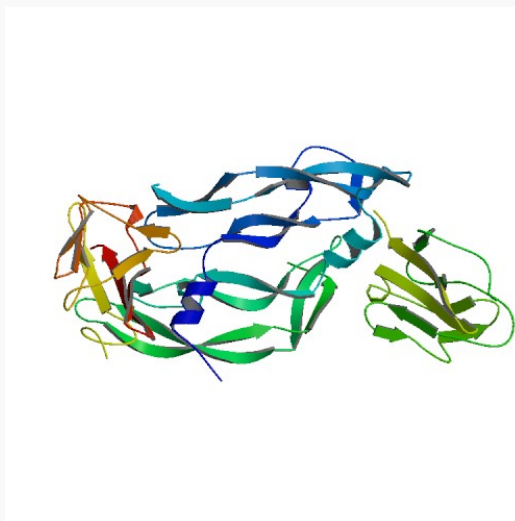
	kinase 1; FRT
Gene ID	2321
mRNA Refseq	NM_001159920
Protein Refseq	NP_001153392
MIM	165070
UniProt ID	P17948
Chromosome Location	13q12
Pathway	Cytokine-cytokine receptor interaction; Endocytosis; Focal adhesion; Signaling by VEGF
Function	ATP binding; growth factor binding; identical protein binding; nucleotide binding; receptor activity; transferase activity; vascular endothelial growth factor receptor activity

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