

Recombinant Human Fms-related Tyrosine Kinase 1, 5 Domains, Fc-tagged

Cat. No. FLT1-81H **Lot. No.** (See product label)

SPECIFICATION

Product Overview

Recombinant Human Soluble Fms-related Tyrosine Kinase 1 fused with the Fc part of human IgG1 produced in baculovirus is disulfide-linked homodimeric, glycosylated, polypeptide containing 751 amino acids and having a molecular mass of 130 kDa. The soluble receptor protein contains only the first 7 extracellular domains, which contain all the information necessary for binding of VEGF. The VEGFR1 fc/Chimera is purified by proprietary chromatographic techniques.

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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Physical Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.
Purity	Greater than 95.0% as determined by: (a) Analysis by RP-HPLC. (b) Analysis by SDS-PAGE.
Formulation	VEGFR-1 D1-7 was lyophilized from a concentrated (1 mg/ml) sterile solution containing no additives.
Solubility	It is recommended to reconstitute the lyophilized sVEGFR-1 Fc/Chimera in sterile water not less than 100g/ml, which can then be further diluted to other aqueous solutions.
Biological 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.
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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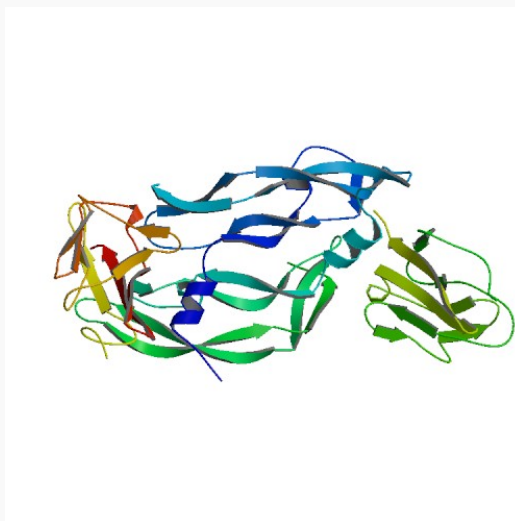
	kinase 1; FRT
Gene ID	2321
mRNA Refseq	NM_001159920
Protein Refseq	NP_001153392
MIM	165070
UniProt ID	P17948
Chromosome Location	13q12
Pathway	Cytokine-cytokine receptor interaction; Endocytosis; Focal adhesion; Signaling by VEGF
Function	ATP binding; growth factor binding; identical protein binding; nucleotide binding; receptor activity; transferase activity; vascular endothelial growth factor receptor activity

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