
Product Data Sheet

Product Name: FLT1 D4 Human
 Cat. No.: GP22510
 Batch No.: 1

Product Data

Purity	>98%	Source	Insect Cells.
Physical Appearance	solid	Shipping Condition	Shipped at Room temp.
Synonyms	FLT-1; FLT1; Tyrosine-protein kinase receptor FLT; Flt-1; Tyrosine-protein kinase FRT; Fms-like tyrosine kinase 1; VEGFR-1.		
Solubility	It is recommended to reconstitute the lyophilized FLT1 D4 in sterile water not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.		
Formulation	FLT1 D1-4 was lyophilized from a concentrated (1mg/ml) sterile solution containing no additives.		

Introduction

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/Fik-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 VEGF with the same affinity as the full-length receptor.

Biological Activity

The activity of FLT1D1-4 was determined by its ability to abolish the binding of iodinated

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VEGF to solid surfaces or cell surfaces, and in Far-Western and cross-linking experiments with iodinated VEGF.

Stability

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.

Background

Soluble FLT1 D1-4 Human Recombinant produced in baculovirus is monomeric, glycosylated, polypeptide containing 457 amino acids and having a molecular mass of 55 kDa. The soluble receptor protein contains only the first 4 extracellular domains, which contain all the information necessary for binding of VEGF. The VEGFR1 is purified by proprietary chromatographic techniques.

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