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## Product Data Sheet

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Product Name: FLT1 D3 Human

Cat. No.: GP22508

Batch No.: 1

**Product Data**

Purity &gt;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.

Amino Acid Sequence  
 SKLKDPPELSLKGQTQHIMQAGQTLHLQCRGEEAAHKWVSLPEMVSKESERLSI  
 TKSACGRNGKQFCSTLTLNTAQANHTGFYSCYLA VPTSKKKETESAIYI  
 FISDTGRPFVEMYSEIPEIIHMTEGRELVIPCRVTSPNITVTLKKFPLDT  
 LIPDGKRIIWDSRKGFIISNATYKEIGLLTCEATVNGHLYKTNYLTHRQT  
 NTIIDVQISTPRPVKLLRGHTLVLNCTATTPLNTRVQMTWSYPDEKNKRA  
 SVRRRIDQSN SHANIFYSVLTIDKMQNKDKGLYTCRVRSGPSFKSVNTSV  
 HIYDKAFITVKHRKQVLETVAGKRSY.

Solubility It is recommended to reconstitute the lyophilized FLT1 D3 in sterile water not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Formulation FLT1 D1-3 was lyophilized from a concentrated (1mg/ml) sterile solution containing 1xPBS.

**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

**Caution: Product has not been fully validated for medical applications. For research use only.**

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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 FLT1D1-3 was determined by its ability to inhibit the VEGF-165-induced proliferation of HUVE cells.

### Stability

Lyophilized FLT-1 although stable at room temperature for 3 weeks, should be stored desiccated below  $-18^{\circ}\text{C}$ . Upon reconstitution FLT1 should be stored at  $4^{\circ}\text{C}$  between 2-7 days and for future use below  $-18^{\circ}\text{C}$ . For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

### Background

FLT1 D1-3 Human Recombinant produced in baculovirus is monomeric, glycosylated, polypeptide containing 327 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 FLT1 is purified by proprietary chromatographic techniques.

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