

## Fms-related Tyrosine Kinase 3 Ligand

Human, Recombinant (rHuFlt3-L)

Expressed in *E. coli*

Cat. No. CRP0838

Lot. No. (See product label)

### PRODUCT INFORMATION

**Description:** Flt-3 ligand (FL) is a recently identified hematopoietic cytokine whose activities are mediated by binding to the transmembrane glycoprotein Flt-3. Flt-3 was first discovered as a member of the class III subfamily of receptor tyrosine kinases (RTK) whose expression among hematopoietic cells was found to be restricted to highly enriched stem/progenitor cell populations. Additional class III RTKs include the receptors from SCF, M-CSF and PDGF. Not surprisingly, Flt-3 ligand is also structurally related to M-CSF and SCF. All three cytokines have been shown to exist both as type I transmembrane proteins and as soluble proteins. The predominant human FL isoform is a transmembrane protein that can undergo proteolytic cleavage to generate a soluble form of the protein. An alternatively-spliced FL mRNA, encoding a soluble form of the human FL, has also been identified. FL is widely expressed in various human and mouse tissues. At the amino acid sequence level, human and mouse FL are approximately 72% identical and the two proteins exhibit cross-species activity. FL has been shown to synergize with a wide variety of hematopoietic cytokines to stimulate the growth and differentiation of early hematopoietic progenitors.

**Amino-Acid Sequence:** 155 amino acid residues, comprising the extracellular domain of the transmembrane flt3-ligand protein.

**M. W. :** 17.6 kDa

**Recombinant:** Expressed in *E. coli*

**Purity:** ≥98% as determined by HPLC and SDS-PAGE.

**Formulation:** Sterile filtered lyophilized powder, with 20mM Tris-HCl, 20mM NaCl, pH7.4.

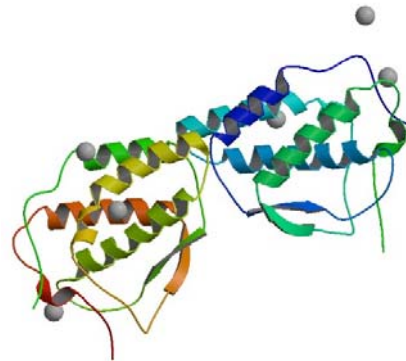
**Specific Activity:** rHuFlt3-L is fully biologically active when compared to standards. Its specific activity is  $\geq 1 \times 10^6$  IU/mg.

**Endotoxin:** Less than 10 IEU/mg determined by LAL test.

**Reconstitution:** It is recommended to reconstitute the lyophilized rHuFlt3-L in sterile 18MΩ-cm H<sub>2</sub>O not less than 100µg/ml, which can then be further diluted to other aqueous solutions.

**Storage:** Lyophilized rHuFlt3-L although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution rHuFlt3-L should be stored at 4°C between 2-7 days and for future use below -18°C. Aliquot to avoid repeated freeze-thaw cycles.

### FOR RESEARCH USE ONLY



[PDB](#) rendering based on 1ete.

### GENE INFORMATION

**Gene Name:** [FLT3LG](#)

**Gene Alias:** FL

**Gene Type:** protein coding

**mRNA Refseq:** [NM\\_001459](#)

**Protein Refseq:** [NP\\_001450](#)

**MIM:** [600007](#)

**GeneID:** [2323](#)

**UniProt ID:** P49771

**Chromosome Location:** 19q13.3

**Pathway:** Cytokine-cytokine receptor interaction; Hematopoietic cell lineage

**Function:** cytokine activity

### REFERENCES

1. Lyman SD, James L, Vanden Bos T, et al. (1994). "Molecular cloning of a ligand for the flt3/flk-2 tyrosine kinase receptor: a proliferative factor for primitive hematopoietic cells.". *Cell* 75 (6): 1157–67.
2. Feugier P, Jo DY, Shieh JH, et al. (2003). "Ex vivo expansion of stem and progenitor cells in co-culture of mobilized peripheral blood CD34+ cells on human endothelium transfected with adenovectors expressing thrombopoietin, c-kit ligand, and Flt-3 ligand.". *J. Hematother. Stem Cell Res.* 11 (1): 127–38.
3. O'Keefe M, Hochrein H, Vremec D, et al. (2002). "Effects of administration of progenipietin 1, Flt-3 ligand, granulocyte colony-stimulating factor, and pegylated granulocyte-macrophage colony-stimulating factor on dendritic cell subsets in mice.". *Blood* 99 (6): 2122–30.

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