

## Fms-like Tyrosine Kinase 3 Ligand

Murine, Recombinant (rmFlt3-L)

Expressed in *E. coli*

Cat. No. CRP0839

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:** 120 aa

**M. W. :** 16.4kDa

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

**Purity:** ≥95% as determined by HPLC and SDS-PAGE.

**Formulation:** Sterile filtered lyophilized powder, with 50mM Tris, 100mM NaCl, pH8.5.

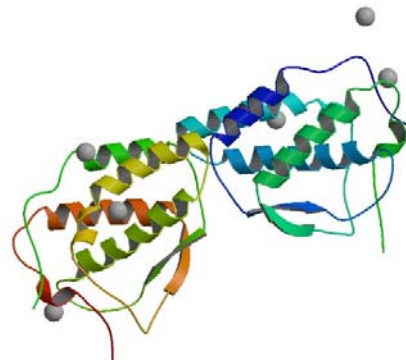
**Specific Activity:** rmFlt3-L is fully biologically active when compared to standard. The specific activity is  $\geq 1 \times 10^5$  IU/mg.

**Endotoxin:** Less than 1 EU/μg determined by LAL test.

**Reconstitution:** It is recommended to reconstitute the lyophilized rmFlt3-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 rmFlt3-L although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Reconstituted rmFlt3-L aliquots should be stored at -20°C for maximal stability up to six months. Aliquot to avoid repeated freeze-thaw cycles.

### FOR RESEARCH USE ONLY



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

### GENE INFORMATION

**Gene Name:** [Flt3](#)

**Gene Alias:** Ly72L; Flt3lg

**Gene Type:** protein coding

**mRNA Refseq:** [NM\\_013520](#)

**Protein Refseq:** [NP\\_038548](#)

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

**GeneID:** [14256](#)

**UniProt ID:** P49772; Q61104

**Chromosome Location:** 7 B2-C; 7 23.0 cM

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

**Function:** cytokine activity; kinase activity

### REFERENCES

1. Lyman SD, James L, Escobar S, et al. (1995). "Identification of soluble and membrane-bound isoforms of the murine flt3 ligand generated by alternative splicing of mRNAs". *Oncogene* 10 (1): 149–57.
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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