



## User Manual

**Flt-3 Ligand (Flt-3L) (Human)**

**Cat. No. HEOPP-06013**

**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.

**Source:**

*Escherichia coli*

**Unit:**

1 mg

**Reconstitution:**

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1% BSA to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at < -20°C. Further dilutions should be made in appropriate buffered solutions.

**Formulation:**

Lyophilized from a 0.2 µm filtered concentrated solution in PBS, pH 7.0.

**Storage:**

This lyophilized preparation is stable at 2-8°C, but should be kept at -20°C for long term storage, preferably desiccated. Upon reconstitution, the preparation is stable for up to one week at 2-8°C. For maximal stability, apportion the reconstituted preparation into working aliquots and store at -20°C to -70°C. Avoid repeated freeze/thaw cycles.

**Molecular Weight:**

Approximately 17.6 kDa, a single non-glycosylated polypeptide chain containing 155 amino acids.

**Endotoxin:**

Less than 1 EU/µg of Flt-3L as determined by LAL method.

**Usage:**

This material is offered by Cyagen Biosciences for research, laboratory or further evaluation purposes. FOR RESEARCH USE ONLY. NOT INTENDED FOR ANY ANIMAL OR HUMAN THERAP EUTIC OR DIAGNOSTIC USE.

**Biological Activity:**

The ED50 determined by a cell proliferation assay using human AML5 cells is less than 1.0 ng/mL, corresponding to a specific activity of  $> 1.0 \times 10^6$  IU/mg.

**Physical Appearance:**

Sterile filtered white lyophilized (freeze-dried) powder.

**AA Sequence:**

TQDCSFQHSP ISSDFAVKIR ELSDYLLQDY PVTVASNLQD EELCGGLWRL  
VLAQRWMERL KTVAGSKMQG LLERVNTEIH FVTKCAFQPP PSCLRFVQTN  
ISRLQETSE QLVALKPWIT RQNFSRCLEL QCQPDSSTLP PPWSPRPLEA TAPTA

**Purity:**

> 97% by SDS-PAGE and HPLC analyses.

Material Safety Data Sheets (MSDSs) are available upon request.

The Certificate of Analysis (COA), which provides detailed quality control information for each product, is also available at the Cyagen website.

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