

Product Information

Flt-3/Flk-2 Ligand human, recombinant expressed in *E. coli*

Catalog Number **F3422**
Storage Temperature -20°C

Synonyms: Fms-related tyrosine kinase 3 ligand, stem cell tyrosine kinase-1 (STK-1)

Product Description

Recombinant human Flt-3/Flk-2 ligand is a 17.6 kDa protein consisting of 155 amino acid residues that is expressed in *E. coli*. Mouse and human Flt-3/Flk-2 ligand proteins have 72% homology.¹

The Flt-3/Flk-2 ligand is a hematopoietic cytokine that regulates the proliferation of early hematopoietic cells. It is similar in structure to stem cell factor (SCF) and monocyte colony stimulating factor (M-CSF).² Unlike SCF, Flt3/Flk-2 ligand exerts no activity on mast cells. The Flt-3/Flk-2 ligand functions by binding to and activating *c-kit* and Flt-3 tyrosine kinase receptors.³ By itself, the ligand does not stimulate proliferation of early hematopoietic cells, but synergizes with other colony stimulating factors (CSFs) and interleukins to induce growth and differentiation.^{1,2,4}

Multiple isoforms of Flt3-ligand have been identified. The predominant biologically active form is anchored to the cell surface as the extracellular domain of a transmembrane protein (209 amino acids). The membrane-bound isoform can be proteolytically cleaved to generate a biologically active soluble isoform. Mouse and human ligands are fully active on cells bearing either the mouse or human receptors.³ There seems to be no species specificity with regard to Flt-3 binding or biological activity.³

The recombinant, human Flt-3/Flk-2 Ligand is lyophilized from a 0.2 μm filtered, 0.5 \times PBS solution.

Purity: $\geq 98\%$ (SDS-PAGE and HPLC)

The biological activity of recombinant human Flt-3/Flk-2 ligand is measured by the dose-dependent stimulation of the proliferation of human AML5 cells. The EC_{50} value is defined as the effective concentration of cytokine that elicits 50% growth response in a cell based bioassay.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

Reconstitute the contents of the vial using water to a concentration of 0.1–1.0 mg/ml. It may be advisable to centrifuge the vial prior to reconstitution. This solution can then be diluted into other aqueous buffers and stored at $2-8^{\circ}\text{C}$ for up to 1 week. For extended storage, freeze in working aliquots at -20°C . Avoid repeated freeze-thaw cycles.

Storage/Stability

Prior to reconstitution, store the lyophilized protein at -20°C . It is stable for up to a few weeks at room temperature, but is best stored at -20°C .

References

1. Lyman, S.D., Int. J. Hematol., **62**, 63-73 (1995).
2. Haylock, D.N., et al., Blood, **90**, 2260-2272 (1997).
3. Lyman, S.D., et al., Stem Cells, **12** (Suppl 1), 99-107 (1994).
4. Moore, T.A., and Zlotnick, A., J. Immunol., **158**, 4187-4192 (1997).

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