

Human Flt3 Ligand Recombinant Protein Carrier-Free

Catalog Number: 34-8513

Also Known As: FLT-3L, FMS-like tyrosine kinase 3, STK-1 ligand

For Research Use Only. Not for use in diagnostic procedures.

Product Information

Contents: Human Flt3 Ligand Recombinant Protein Carrier-Free

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Handling Conditions: For best recovery, quick-spin vial prior to opening. Use in sterile environment.

Source: Insect cell expressed N-terminal His-Tagged amino acids Thr 27-Pro 185 of hFLT-3L accession #NM_001459


Molecular Mass: 19-23 kDa on SDS-PAGE due to glycosylation.

Purity: Greater than or equal to 95%, as determined by SDS-PAGE.


Endotoxin Level: Less than 0.1 ng/ug cytokine as determined by the LAL assay.

Bioactivity: The ED₅₀ of this protein, as measured by IL-6 induction in M1 cells, is 5-15 ng/mL in the presence of 1 ng/mL Mouse LIF Recombinant Protein. This corresponds to a specific activity of 2×10^5 - 6.7×10^4 Units/mg.

Formulation: Sterile liquid; 0.1 M glycine, pH 3.0

 **Temperature Limitation:** Store at less than or equal to -70°C.

LOT **Batch Code:** Refer to Vial

 **Use By:** Refer to Vial

Description

Flt3 (or FMS-related tyrosine kinase 3) Ligand, also known as Flk2 Ligand, is a growth factor that regulates proliferation of early hematopoietic cells. Flt3 Ligand binds to cells expressing the tyrosine kinase receptor Flt3. By itself, Flt3 Ligand does not stimulate proliferation of early hematopoietic cells. Instead, it synergizes with other colony-stimulating factors (CSFs) and interleukins to induce growth and differentiation. Unlike CSFs, however, Flt3 Ligand exerts no activity on mast cells. 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 a.a.). The membrane-bound isoform can be proteolytically cleaved to generate a biologically active soluble isoform. Human Flt3 Ligand shares 71% and 65% amino acid sequence identity with mouse and rat Flt3 Ligand, respectively. Human and mouse Flt3 Ligand show cross-species activity. Recombinant human Flt3 Ligand is a soluble 17.6 kDa protein consisting of 155 amino acid residues.

Applications Reported

Recombinant human Flt3 Ligand is biologically active.

Applications Tested

The ED₅₀ of this protein, as measured by IL-6 induction in M1 cells, is 5-15 ng/ml in the presence of 1 ng/ml Mouse LIF Recombinant Protein. This corresponds to a specific activity of 2×10^5 - 6.7×10^4 Units/mg.

References

Kingston D, Schmid MA, Onai N, Obata-Onai A, Baumjohann D, Manz MG. The concerted action of GM-CSF and Flt3-ligand on in vivo dendritic cell homeostasis. *Blood*. 2009 May 22.

Buza-Vidas N, Cheng M, Duarte S, Charoudeh HN, Jacobsen SE, Sitnicka E. FLT3 receptor and ligand are dispensable for maintenance and posttransplantation expansion of mouse hematopoietic stem cells. *Blood*. 2009 Apr 9;113(15):3453-60.

Lyman SD, James L, Johnson L, Brasel K, de Vries P, Escobar SS, Downey H, Splett RR, Beckmann MP, McKenna HJ. Cloning of the human homologue of the murine flt3 ligand: a growth factor for early hematopoietic progenitor cells. *Blood*. 1994 May 15;83(10):2795-801.

Lyman SD, James L, Vanden Bos T, de Vries P, Brasel K, Gliniak B, Hollingsworth LT, Picha KS, McKenna HJ, Splett RR. Molecular cloning of a ligand for the flt3/flk-2 tyrosine kinase receptor: a proliferative factor for primitive hematopoietic cells. *Cell*. 1993 Dec 17;75(6):1157-67.

Related Products

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