PRODUCT INFORMATION

Soluble FLT3 Ligand (human, recombinant)

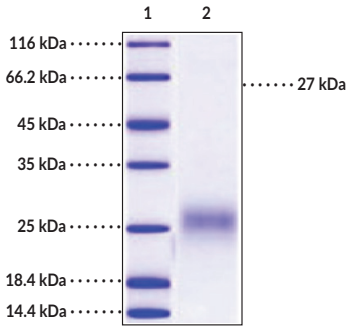
Item No. 32048

Overview and Properties

Synonyms:	FLG3L, FLT3L, FMS-related Tyrosine Kinase 3 Ligand, FMS-related Receptor Tyrosine Kinase 3 Ligand
Source:	Active recombinant human N-terminal His-tagged Soluble FLT3 ligand expressed in insect cells
Amino Acids:	27-185
Uniprot No.:	P49771-1
Molecular Weight:	20.2 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	≥95% estimated by SDS-PAGE
Supplied in:	Lyophilized from sterile 20 mM Tris, 500 mM sodium chloride, pH 7.4
Endotoxin Testing:	<1.0 EU/µg, determined by the LAL endotoxin assay
Bioactivity:	See figures for details

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Images



Lane 1: MW Markers
Lane 2: Soluble FLT3 Ligand

SDS-PAGE Analysis of Soluble FLT3 Ligand. This protein has a calculated molecular weight of 20.2 kDa. It has an apparent molecular weight of approximately 27 kDa by SDS-PAGE under reducing conditions due to glycosylation.

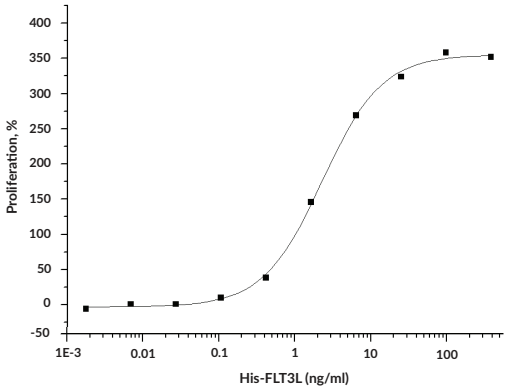


Figure 2: Cell proliferation assay using BaF3 mouse proB cells. Measured in a cell proliferation assay using BaF3 mouse proB cells transfected with mouse Flt3. The EC_{50} for this effect is typically 2-11 ng/ml.

Description

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FMS-related tyrosine kinase 3 ligand (FLT3L) is a type I transmembrane protein that regulates hematopoietic stem and progenitor cell proliferation, differentiation, and survival.[1] It is composed of an N-terminal signaling peptide and extracellular cytokine domain, a transmembrane domain, and a cytosolic tail.[2] Soluble FLT3L is formed by proteolytic cleavage of membrane-bound FLT3L at the transmembrane domain or alternative splicing. Both membrane-bound and soluble FLT3L homodimerize and bind to FLT3 to induce ligand-dependent intracellular signaling and are expressed mainly by bone marrow stroma cells.[1,2] FLT3L synergizes with IL-7 to enhance B-lymphopoiesis and promotes IL-12-induced T cell production.[3] It also acts on myeloid progenitor cells to induce proliferation of granulocytes and monocytes and increases the number of functional dendritic cells in a manner dependent on the presence of other growth factors such as GM-CSF (Item No. 32044), M-CSF, and IL-3. *Flt3l* knockdown induces hematopoietic developmental defects in mice. FLT3L induces proliferation and prevents apoptosis of acute myeloid leukemia cells *in vitro*. Cayman's Soluble FLT3 Ligand (human, recombinant) protein can be used for cell-based assay applications. This protein consists of 175 amino acids and has a calculated molecular weight of 20.2 kDa. By SDS-PAGE, under reducing conditions, the apparent molecular mass of the protein is 27 kDa due to glycosylation.

References

1. Naoe, T. and Kiyoi, H. Normal and oncogenic FLT3. *Cell Mol. Life Sci.* **61(23)**, 2932-2938 (2004).
2. Kazi, J. and Rönnstrand, L. FMS-like tyrosine kinase 3/FLT3: From basic science to clinical implications. *Physiol. Rev.* **99(3)**, 1433-1466 (2019).
3. Drexler, H.G. and Quentmeier, H. FLT3: Receptor and Ligand. *Growth Factors* **22(2)**, 71-73 (2004).

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