

Recombinant Human Fms-related Tyrosine Kinase 3 Ligand GMP

Information

Gene ID	2323
Accession #	P49771
Alternate Names	Flt3L, SL Cytokine
Source	Escherichia coli.
M.Wt	Approximately 17.6 kDa, a single non-glycosylated polypeptide chain containing 155 amino acids.
AA Sequence	TQDCSFQHSPT ISSDFAVKIR ELSDYLLQDY PVTVASNLQD EELCGGLWRL VLAQRWMERL KTVAGSKMQG LLERVNTEIH FVTKCAFQPP PSCLRFVQTN ISRLLQETSE QLVALKPWIT RQNF SRCLEL QCQPDSSSTLP PPWSPRPLEA TAPTA
Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles A minimum of 12 months when stored at $\leq -20^{\circ}\text{C}$ as supplied Refer to lot specific COA for the Use by Date 1 month, 2 to 8°C under sterile conditions after reconstitution 3 months, -20 to -70°C under sterile conditions after reconstitution
Formulation	Lyophilized from a $0.2\ \mu\text{m}$ filtered concentrated solution in PBS, pH 7.0.
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 $\leq -20^{\circ}\text{C}$. Further dilutions should be made in appropriate buffered solutions.
Biological Activity	Fully biologically active when compared to standard. The ED_{50} as determined by a cell proliferation assay using AML5 cells is less than 1 ng/mL. The specific activity of recombinant human Flt-3 Ligand GMP is $> 1.0 \times 10^6$ Units/mg, which is calibrated against the rHuFlt-3 Ligand WHO reference reagent (NIBSC code: 96/532).
Shipping Condition	Gel pack.
Handling	Centrifuge the vial prior to opening.
Usage	For Research Use Only! Not to be used in humans.

Components and Storage

Components	5 μg	100 μg	
Recombinant Human Fms-related Tyrosine Kinase 3 Ligand GMP	5 μg	100 μg	

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Quality Control

Purity	> 98 % by SDS-PAGE and HPLC analyses.
Endotoxin	Less than 0.01 EU/ μg of rHuFlt3-Ligand GMP as determined by LAL method.

Description

Flt3-ligand (FL) is a recently identified hematopoietic cytokine whose activities are mediated by binding to the transmembrane glycoprotein Flt3. Flt3 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. Additionally, class III RTKs include the receptors from SCF, M-CSF and PDGF. Not surprisingly, Flt3-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.

Reference

1. Hacein-Bey S, Basile GD, Lemerle J, et al. 1998. Blood, 92: 4090-7
2. Peters M, Solem F, Goldschmidt J, et al. 2001. Exp Hematol, 29: 146-55
3. Beq S, Fontanet A, Theze J, et al. 2004. AIDS, 18: 2089-91
4. Mahadevan D, Choi J, Cooke L, et al. 2009. Hum Genomics Proteomics, 2009: 453634.



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