

# Human Recombinant Flt3/Flk-2 Ligand, ACF

Fms-like tyrosine kinase 3/fetal liver kinase-2, animal component-free

Catalog #78137	10 µg
Catalog #78137.1	100 µg
Catalog #78137.2	1000 µg

## Product Description

Flt3/Flk-2 (Fms-like tyrosine kinase 3/fetal liver kinase-2) Ligand is a hematopoietic cytokine that plays an important role as a costimulatory factor in the proliferation, differentiation, and survival of hematopoietic stem and progenitor cells and the development of the immune system (Hannum et al.). Flt3/Flk-2 Ligand, together with stem cell factor and thrombopoietin, is commonly used to promote expansion of primitive CD34+ hematopoietic cells in culture. In combination with myeloid cytokines such as GM-CSF, G-CSF, or M-CSF, it enhances the growth and numbers of clonogenic myeloid progenitor cells. In synergy with IL-3, IL-4, IL-7, IL-11, IL-12, IL-15, and GM-CSF and TNF- $\alpha$ , Flt3/Flk-2 Ligand regulates the development of lymphoid progenitor cells, including dendritic cell, B cell, T cell, and NK cell progenitors. In contrast, Flt3/Flk-2 Ligand has no significant effect on erythropoiesis or megakaryopoiesis (Drexler & Quentmeier; Wodnar-Filipowicz).

Flt3/Flk-2 Ligand exists as membrane-bound and soluble isoforms. Both isoforms are biologically active and signal through the class III tyrosine kinase receptor (Flt3/Flk-2, CD135; Drexler & Quentmeier). Flt3/Flk-2 Ligand is produced by a variety of cell types, including uncommitted and committed hematopoietic cells and stromal fibroblasts, whereas the Flt3/Flk-2 receptor is expressed on CD34+ hematopoietic stem and progenitor cells, leukemic cells, and in the brain, placenta, and testis (Drexler & Quentmeier; Hannum et al.). This product is animal component-free.

## Product Information

Alternative Names:	FL, FLT3L, Flt3-L, Flt3 Ligand, Fms-like tyrosine kinase 3 ligand
Accession Number:	P49771
Amino Acid Sequence:	MTQDCSFQHS PISSDFAVKI RELSDYLLQD YPVTVASNLQ DEELCGGLWR LVLAQRWMER LKTVAGSKMQ GLLERVNTEI HFVTKCAFQP PPSCLRVQT NISRLLQETS EQLVALKPWI TRQNF SRCLE LQCQPDSSL PPPWSPRPLE ATAPT
Predicted Molecular Mass:	17.6 kDa
Species:	Human
Product Formulation:	Lyophilized from a sterile-filtered solution containing sodium phosphate and sodium chloride, pH 7.5.
Source:	E. coli
Purity:	≥ 97%

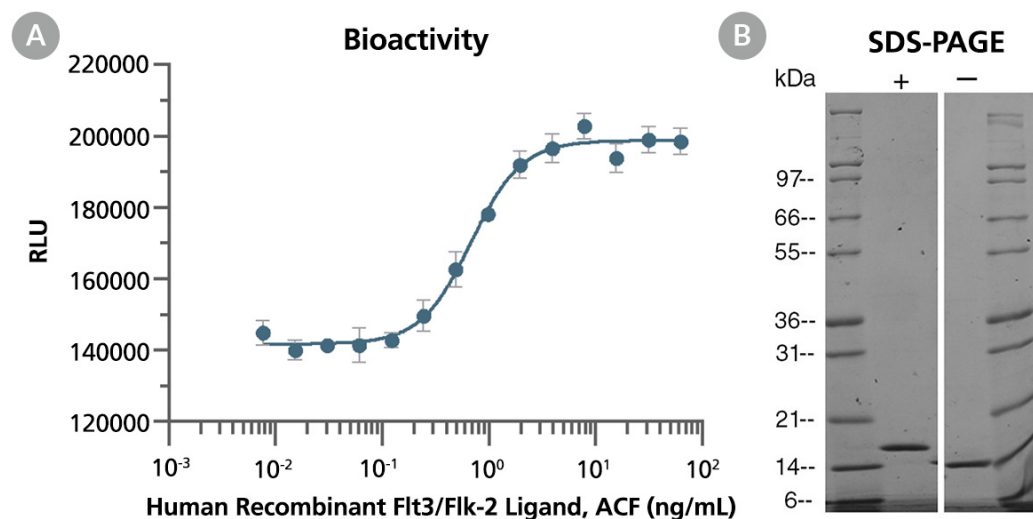
## Specifications

Activity:	The specific activity is $\geq 2 \times 10^5$ units/mg ( $EC_{50} \leq 5$ ng/mL), as determined by a cell proliferation assay using OCI-AML5 cells.
Endotoxin Level:	Measured by kinetic Limulus amebocyte lysate (LAL) analysis and is $\leq 0.1$ EU/ $\mu$ g protein.

## Preparation and Storage

Stability and Storage:	Store at -20 to -80°C. Stable as supplied for 12 months from date of receipt.
Preparation:	Centrifuge vial before opening. Reconstitute the product in sterile water to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. OPTIONAL: After reconstitution, if product will not be used immediately, dilute with concentrated bovine serum albumin (BSA) to a final BSA concentration of 0.1%. The effect of storage of stock solution on product performance should be tested for each application. As a general guide, do not store at 2 - 8°C for more than 1 month or at -20 to -80°C for more than 3 months. Avoid repeated freeze-thaw cycles.

## Data



**Figure 1. Biological Activity and Molecular Mass of Human Recombinant Flt3/Flk-2 Ligand, ACF**

(A) The biological activity of Human Recombinant Flt3/Flk-2 Ligand, ACF was tested by its ability to promote the proliferation of OCI-AML5 cells. The EC<sub>50</sub> is defined as the effective concentration of the growth factor at which cell proliferation is at 50% of maximum. The EC<sub>50</sub> in the above example is  $\leq 5$  ng/mL. (B) 1  $\mu$ g of Human Recombinant Flt3/Flk-2 Ligand, ACF was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant Flt3/Flk-2 Ligand, ACF has a predicted molecular mass of 17.6 kDa.

## Related Products

For a complete list of cytokines or peptide pools, as well as related products available from STEMCELL Technologies, visit [www.stemcell.com/cytokines](http://www.stemcell.com/cytokines) or contact us at [techsupport@stemcell.com](mailto:techsupport@stemcell.com).

## References

- Drexler HG & Quentmeier H. (2004) FLT3: receptor and ligand. *Growth Factors* 22(2): 71–3.
- Hannum C et al. (1994) Ligand for FLT3/FLK2 receptor tyrosine kinase regulates growth of haematopoietic stem cells and is encoded by variant RNAs. *Nature* 368(6472): 643–8.
- Rosnet O et al. (1993) Human FLT3/FLK2 gene: cDNA cloning and expression in hematopoietic cells. *Blood* 82(4): 1110–19.
- Wodnar-Filipowicz A. (2003) Flt3 ligand: role in control of hematopoietic and immune functions of the bone marrow. *News Physiol Sci* 18: 247–51.

PRODUCTS ARE FOR RESEARCH USE ONLY AND NOT INTENDED FOR HUMAN OR ANIMAL DIAGNOSTIC OR THERAPEUTIC USES UNLESS OTHERWISE STATED.

Copyright © 2025 by STEMCELL Technologies Inc. All rights reserved including graphics and images. STEMCELL Technologies & Design, STEMCELL Shield Design, and Scientists Helping Scientists are trademarks of STEMCELL Technologies Canada Inc. All other trademarks are the property of their respective holders. While STEMCELL has made all reasonable efforts to ensure that the information provided by STEMCELL and its suppliers is correct, it makes no warranties or representations as to the accuracy or completeness of such information.