

## Cell-Vive™ GMP Recombinant Human FLT3L (carrier-free)

<b>Catalog# / Size</b>	550624 / 50 µg 550626 / 500 µg
<b>Other Names</b>	FMS-related tyrosine kinase 3 ligand, FLT3LG, Flt-3 Ligand
<b>Description</b>	<p>Human FLT3L was initially cloned from a T cell cDNA library using a mouse probe; the human and mouse FLT3L proteins share 72% amino acid identity. FLT3L is synthesized as a type I membrane-bound protein, which is cleaved to become a soluble growth factor. Additionally, a soluble form of FLT3L has been reported as a result of alternative splicing. TACE (ADAM17) plays a key role in the ectodomain shedding of FLT3L; in fact, serum FLT3L levels are decreased in TACE deficient mice. FLT3L is crucial for the development of the two main subsets of dendritic cells (DCs): conventional DCs (cDCs) and plasmacytoid DCs (pDCs). Changes in development or the number of DCs can alter T cell immunity and tolerance. A feedback loop between DCs and Tregs is regulated via FLT3L, as it has been shown that the increase in Tregs induced by DC expansion delays the onset of type 1 autoimmune diabetes and IBD in mice. Also, FLT3L facilitates formation of Tregs and thus, reduces severity of antigen-induced arthritis in mice. FLT3L is elevated in the synovial fluid of rheumatoid arthritis (RA) patients and FLT3L has been included in panels of preclinical markers for predicting the possible development of RA. The innate sensing pathway triggered by Plasmodium infection regulates DC homeostasis and adaptive immunity via FLT3L release. High levels of FLT3L and increased DCs have been detected in humans and mice during Plasmodium infection.</p>

<b>Quality Statement</b>	<p>BioLegend Cell-Vive™ GMP Recombinant proteins are manufactured and tested in accordance with USP Chapter 1043, Ancillary Materials for Cell, Gene and Tissue-Engineered Products and Ph. Eur. Chapter 5.2.12 in a dedicated GMP facility compliant with ISO 13485:2016. Specifications and processes include:</p> <ul style="list-style-type: none"><li>• Low endotoxin level (&lt;0.1 EU/µg)</li><li>• Purity (≥ 95% or higher)</li><li>• Bioburden testing</li><li>• Mycoplasma testing</li><li>• Batch-to-batch consistency</li><li>• Vendor qualification</li><li>• Raw material traceability and documentation</li><li>• Documented procedures and employee training</li><li>• Equipment maintenance and monitoring records</li><li>• Lot-specific certificates of analysis</li><li>• Quality audits per ISO 13485:2016</li><li>• QA review of released products</li></ul>
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### Product Details

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<b>Source</b>	Human FLT3L, amino acids (Thr27-Pro185) (Accession# U04806), was expressed in CHO cells.
<b>Molecular Mass</b>	The 159 amino acid recombinant protein has a predicted molecular mass of approximately 18 kD. The DTT-reduced and non-reduced protein migrate at approximately 23-33 kD and 20-30 kD by SDS-PAGE. The N-terminal amino acid is Thr.
<b>Purity</b>	>95%, as determined by Coomassie stained SDS-PAGE.
<b>Formulation</b>	Protein was lyophilized from 0.22 µm filtered solution containing PBS, pH 7.2.
<b>Endotoxin Level</b>	Less than 0.1 EU per µg of protein as determined by the LAL method.
<b>Concentration</b>	50 µg and 500 µg sizes are lyophilized
<b>Storage &amp; Handling</b>	Unopened vial can be stored between 2°C and 8°C for up to 2 weeks, at -20°C or colder until the expiration date. Reconstitute lyophilized protein in sterile PBS. Before reconstitution, make sure sterile PBS and product are at room temperature. Quickly spin the vial or gently tap down on the vial to make sure the lyophilized product is at the bottom of the vial before opening. Use aseptic techniques to add the required volume of reconstitution buffer (sterile PBS) to the vial, to obtain the recommended stock concentration 250 µg/mL. Close the vial and leave at ambient temperature for 15-20 minutes. Then gently invert the vial several times or until all of the lyophilized product dissolves. Leave the vial at room temperature for another 15 minutes. If small particulates are still observed after 15 minutes, incubate at room temperature for an additional 30

minutes and leave the vial at 2°C - 8°C overnight. Next day, invert the vial several times or gently pipette the solution up and down before use. If needed, transfer the reconstituted stock solution to a sterile container for additional dilution to no less than 100 µg/mL. Small working aliquots in polypropylene tubes can be made after reconstitution and store the vials at -20°C or lower. Avoid freeze/ thaw cycles. Carrier protein such as 0.2 - 1% endotoxin-free BSA or HSA can be added when preparing the stock solution. Aliquots can be stored between 2°C and 8°C for up to two weeks or stored at -20°C or colder for up to 3 months.

**Activity** Human FLT3L induces IL-6 production in mouse myeloid leukemia M1 cells in a dose dependent manner in the presence of 1 ng/mL of mouse LIF recombinant protein. ED<sub>50</sub> = 1 – 6 ng/mL

**Application** [Bioassay](#)

**Application Notes** Our lyophilized proteins are validated in-house to maintain activity after shipping at ambient temperature and are backed by our [100% satisfaction guarantee](#). If you have any concerns, contact us at [tech@biolegend.com](mailto:tech@biolegend.com).

#### Application References

(PubMed link indicates BioLegend citation)

1. Hernandez Alvarez B, *et al.* 2020. *PLoS Biol.* 18:e3000919. [PubMed](#)
2. Nasri M, *et al.* 2019. *Haematologica.* 104:598-609. [PubMed](#)
3. Skokowa J, *et al.* 2022. *Nat Commun.* 13:2948. [PubMed](#)

**Disclaimer** BioLegend Cell-Vive™ GMP Recombinant proteins are for research use only. Suitable for *ex vivo* cell processing. Not for injection or diagnostic or therapeutic use. Not for resale. BioLegend will not be held responsible for patent infringement or other violations that may occur with the use of our products.

## Antigen Details

**Bioactivity** Induction of IL-6 on M1 cells in the presence of recombinant mouse LIF.

**Cell Sources** Thymic stromal cells, mast cells

**Cell Targets** Hematopoietic stem progenitor cells, progenitor cells, NK cells, and DCs.

**Receptors** RTK Fms-like tyrosine kinase 3 (FLT3).

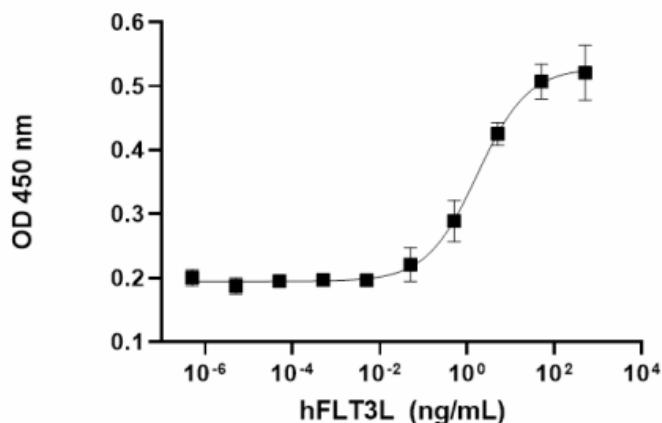
#### Antigen References

1. Hannum C, *et al.* 1994. *Nature.* 368:643-8.
2. Waskow C, *et al.* 2008. *Nat. Immunol.* 9:676-63.
3. Darrasse-Jèse G, *et al.* 2009. *J. Exp. Med.* 206:1853-62.
4. Horiuchi K, *et al.* 2009. *J. Immunol.* 182:7408-14.
5. Svensson MN, *et al.* 2013. *PLoS One.* 8:e54884.
6. Guermonprez P, *et al.* 2013. *Nat. Med.* 19:730-8.

**Regulation** FLT3L stimulates the proliferation of hematopoietic precursors and development of natural killer cells and dendritic cells. FLT3L regulates the homeostatic feedback loop between DCs and Tregs. FcεRI-triggered mast cell degranulation induces an increase of FLT3L in serum.

**Gene ID** [483845](#)

## Product Data



Recombinant human FLT3L induces IL-6 production in mouse myeloid leukemia M1 cells in a dose dependent manner in the presence of 1 ng/mL of mouse LIF recombinant protein. ED<sub>50</sub> = 1 – 6 ng/mL.

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