

**DESCRIPTION**

<b>Source</b>	Chinese Hamster Ovary cell line, CHO-derived human Flt-3 Ligand/FLT3L protein		
	Human Flt-3 Ligand (Thr27-Pro185) Accession # AAA17999.1	6-His tag	Avi-tag
	N-terminus		C-terminus
<b>N-terminal Sequence</b>	Thr27		
<b>Analysis</b>			
<b>Structure / Form</b>	Biotinylated via Avi-tag		
<b>Predicted Molecular Mass</b>	21 kDa		

**SPECIFICATIONS**

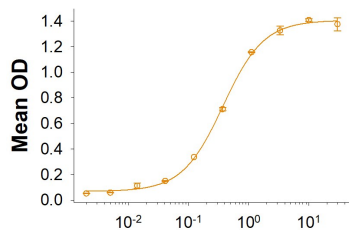
<b>SDS-PAGE</b>	22-39 kDa, under reducing conditions.
<b>Activity</b>	Measured by its binding ability in a functional ELISA. When Recombinant Human Flt-3/FIk-2 Fc Chimera (Catalog # 368-ST) is immobilized at 1 µg/mL (100 µL/well), Biotinylated Recombinant Human Flt-3 Ligand/FLT3L His-tag Avi-tag (Catalog # AV111347) binds with an ED <sub>50</sub> of 0.150-1.50 ng/mL.
<b>Endotoxin Level</b>	<0.10 EU per 1 µg of the protein by the LAL method.
<b>Purity</b>	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

**PREPARATION AND STORAGE**

<b>Reconstitution</b>	Reconstitute at 250 µg/mL in PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<p><b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b></p> <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 3 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

**DATA**

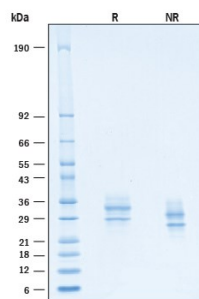
**Binding Activity**



**Biotinylated Recombinant Human Flt-3 Ligand/FLT3L Avi-tag (ng/mL)**

**Biotinylated Recombinant Human Flt-3 Ligand/FLT3L His-tag Avi-tag Protein Binding Activity.** When Recombinant Human Flt-3/FIk-2 Fc Chimera (Catalog # 368-ST) is immobilized at 1 µg/mL (100 µL/well), Biotinylated Recombinant Human Flt-3 Ligand/FLT3L His-tag Avi-tag Protein (Catalog # AV111347) binds with an ED<sub>50</sub> of 0.150-1.50 ng/mL.

**SDS-PAGE**



**Biotinylated Recombinant Human Flt-3 Ligand/FLT3L His-tag Avi-tag Protein SDS-PAGE.** 2 µg/lane of Biotinylated Recombinant Human Flt-3 Ligand/FLT3L His-tag Avi-tag Protein (Catalog # AV111347) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 22-39 kDa.

## BACKGROUND

Flt-3 Ligand, also known as FLT3L, is an alpha-helical cytokine that promotes the differentiation of multiple hematopoietic cell lineages (1-3). Mature human Flt-3 Ligand consists of a 158 amino acid (aa) extracellular domain (ECD) with a cytokine-like domain and a juxtamembrane tether region, a 21 aa transmembrane segment, and a 30 aa cytoplasmic tail (4-7). Within the ECD, human Flt-3 Ligand shares 71% and 65% aa sequence identity with mouse and rat Flt-3 Ligand, respectively (4-6). The human and mouse Flt-3 Ligand proteins show cross-species activity. Flt-3 Ligand is also structurally related to M-CSF and SCF. Flt-3 Ligand is widely expressed in various human and mouse tissues. It is expressed as a noncovalently-linked dimer by T cells and bone marrow and thymic fibroblasts (1, 8). Each 36 kDa chain of the Flt-3 Ligand dimer carries approximately 12 kDa of N- and O-linked carbohydrates (8). Alternate splicing and proteolytic cleavage of the transmembrane form of the Flt-3 Ligand protein can generate a soluble 30 kDa fragment that includes the cytokine-like domain (4, 8). Alternate splicing of human Flt-3 Ligand also generates membrane-associated isoforms that contain either a truncated cytoplasmic tail or an 85 aa substitution following the cytokine-like domain in the ECD of the Flt-3 Ligand protein (4, 5, 8). Both transmembrane and soluble forms of Flt-3 Ligand signal through the tyrosine kinase receptor Flt-3/Flk-2 (3, 4, 6, 7). Flt-3 Ligand induces the expansion of monocytes and immature dendritic cells as well as early B cell lineage differentiation (2, 9). Additionally, Flt-3 Ligand synergizes with IL-3, GM-CSF, and SCF to promote the mobilization and myeloid differentiation of hematopoietic stem cells (4-6). Flt-3 Ligand also cooperates with IL-2, IL-6, IL-7, and IL-15 to induce NK cell development and with IL-3, IL-7, and IL-11 to induce terminal B cell maturation (1, 10). Animal studies show that Flt-3 Ligand reduces the severity of experimentally induced allergic inflammation (11). Our Avi-tag Biotinylated human Flt-3 Ligand His-tag protein features biotinylation at a single site contained within the Avi-tag, a unique 15 amino acid peptide. Protein orientation will be uniform when bound to streptavidin-coated surface due to the precise control of biotinylation and the rest of the protein is unchanged so there is no interference in the protein's bioactivity.

## References:

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