**DESCRIPTION**

**Source**
Spodoptera frugiperda, Sf21 (baculovirus)-derived
Thr27-Pro185
Accession # AAA17999.1

**N-terminal Sequence Analysis**
Thr27

**Predicted Molecular Mass**
17.5 kDa

**SPECIFICATIONS**

**SDS-PAGE**
17-30 kDa, reducing conditions

**Activity**
Measured in a cell proliferation assay using BaF3 mouse pro-B cells transfected with mouse Flt-3.
The ED_{50} for this effect is 0.2-1 ng/mL.
The specific activity of Recombinant Human Flt-3 Ligand is approximately 1.2 x 10^3 U/μg, which is calibrated against recombinant human Flt-3 Ligand WHO Standard (NIBSC code: 96/532).

**Endotoxin Level**
<0.10 EU per 1 μg of the protein by the LAL method.

**Purity**
>97%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.

**Formulation**
Lyophilized from a 0.2 μm filtered solution in Acetonitrile and TFA. See Certificate of Analysis for details.

**PREPARATION AND STORAGE**

**Reconstitution**
Reconstitute 5 μg vials at 50 μg/mL in sterile PBS. Reconstitute 25 μg or larger vials at 100 μg/mL in sterile PBS.

**Shipping**
The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

**Stability & Storage**
Use a manual defrost freezer and avoid repeated freeze-thaw cycles.
- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

**DATA**

**Bioactivity**
Recombinant Human Flt-3 Ligand (Catalog # 308-FK/CF) stimulates cell proliferation in the BaF3 mouse pro-B cell line transfected with mouse Flt-3. The ED_{50} for this effect is 0.2-1 ng/mL.

**SDS-PAGE**
1 μg/lane of Recombinant Human Flt-3 Ligand was resolved with SDS-PAGE under reducing (R) conditions and visualized by silver staining, showing major bands at 22-26 kDa. The multiple bands are due to variable glycosylation of the protein.
Flt-3 Ligand, also known as FL, is an α-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. Human and mouse Flt-3 Ligand show cross-species activity (4-6). Flt-3 Ligand is expressed as a noncovalently-linked dimer by T cells and bone marrow and thymic fibroblasts (1, 8). Each 36 kDa chain carries approximately 12 kDa of N- and O-linked carbohydrates (8). Alternate splicing and proteolytic cleavage of the transmembrane form can generate a soluble 30 kDa fragment that includes the cytokine 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 domain (4, 5, 8). Both transmembrane and soluble 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). It synergizes with IL-3, GM-CSF, and SCF to promote the mobilization and myeloid differentiation of hematopoietic stem cells (4-6). It cooperates with IL-2, -6, -7, and -15 to induce NK cell development and with IL-3, -7, and -11 to induce terminal B cell maturation (1, 10). Animal studies also show Flt-3 Ligand to reduce the severity of experimentally induced allergic inflammation (11).

References: