Recombinant Human Flt-3 Ligand/FLT3L

Catalog Number: 308-FKHB

DESCRIPTION

Source	Human embryonic kidney cell, HEK293-derived human Flt-3 Ligand/FLT3L protein Thr27-Pro185 Accession # AAA17999.1
N-terminal Sequence Analysis	Thr27
Predicted Molecular Mass	18 kDa

SPECIFICATIONS

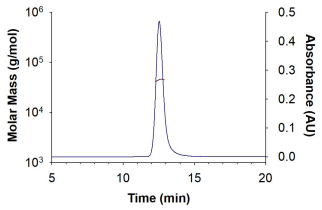
SDS-PAGE	22-31 kDa, under reducing conditions.
Activity	Measured in a cell proliferation assay using BaF3 mouse pro-B cells transfected with mouse Flt-3. The ED_{50} for this effect is 0.150-1.50 ng/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute the 10 µg size at 100 µg/mL in PBS. Reconstitute all other sizes at 250 µg/mL in 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

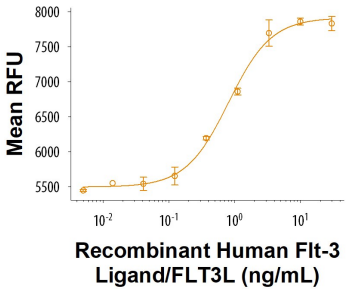
SEC-MALS



SEC-MALS Data	Result
Retention Time	12.3 - 12.9
MW - Predicted (Monomer)	18.0 kDa
MW - MALS	44.9 kDa
Polydispersity	1.001
System Suitability: BSA Monomer 66.4 ± 3.32 kDa	Pass

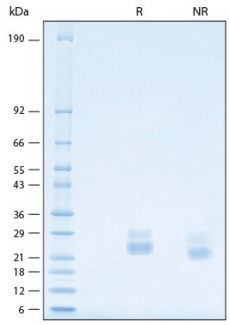
Recombinant Human Flt-3 Ligand/FLT3L Protein SEC-MALS. Recombinant Human FLT-3LG Protein (Catalog # 308-FKHB) has a molecular weight (MW) of 44.9 kDa as analyzed by SEC-MALS, suggesting that this protein is a homodimer. MW may differ from predicted MW due to post-translational modifications (PTMs) present (i.e. Glycosylation).

Bioactivity



Recombinant Human Flt-3 Ligand/FLT3L (HEK293) Protein Bioactivity. Recombinant Human Flt-3 Ligand/FLT3L (HEK293) Protein (Catalog # 308-FKHB) stimulates cell proliferation in the BaF3 mouse pro-B cell line transfected with mouse Flt-3. The ED_{50} for this effect is 0.150-1.50 ng/mL.

SDS-PAGE



Recombinant Human Flt-3 Ligand/FLT3L (HEK293) Protein SDS-PAGE. 2 µg/lane of Recombinant Human Flt-3 Ligand/FLT3L (HEK293) Protein (Catalog # 308-FKHB) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 22-31 kDa.

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Catalog Number: 308-FKHB

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).

References:

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