SYMANSIS
CELL SIGNALING SCIENCE

Product Data Sheet

human cell expressed Flt-3^{HCX} Ligand

Source	A DNA sequence encoding the human Flt-3 Ligand protein sequence (containing the signal peptide sequence and the mature Flt-3 Ligand sequence) was expressed in modified human 293 cells.
Molecular Mass	Symansis Flt-3 Ligand^{HCX} migrates as multiple bands between 20 and 30 kDa in SDS-PAGE due to post-translation modifications, in particular glycosylation. This compares with the unmodified Flt-3 Ligand that has a predicted molecular mass of 17.8 kDa.
pI	Symansis Flt-3 Ligand^{HCX} separates into a number of isoforms with a pI between 3.8 and 5.7 in 2D PAGE due to post-translational modifications, in particular glycosylation. This compares with the unmodified Flt-3 Ligand that has a predicted pI of 6.1.
% Carbohydrate	Symansis purified Flt-3 Ligand^{HCX} consists of 10-40% carbohydrate by weight.
Activity	The ED_{50} of Flt-3 Ligand^{HCX} is typically between 0.5 -5.0 ng/ml as measured in a cell proliferation assay using the OCI/AML5 human leukaemia cell line.
Purity	>95%, as determined by SDS-PAGE and visualized by silver stain.
Formulation	When reconstituted in 0.5 ml sterile phosphate-buffered saline, the solution will contain 1% human serum albumin (HSA) and 10% trehalose.
Reconstitution	It is recommended that 0.5 ml of sterile phosphate-buffered saline be added to the vial.
Storage	Lyophilized products should be stored at 2 to 8°C. Following reconstitution short-term storage at 4°C is recommended, with longer-term storage in aliquots at -18 to -20°C. Repeated freeze thawing is not recommended.
Background Information	Fms-like tyrosine kinase 3 (Flt-3) and its cognate ligand, Flt-3 ligand (Flt-3L), are essential growth factors involved in the survival and differentiation of hematopoietic progenitor and stem cells, specifically the development of NK cells, pre-B and pre-T cells, monocytes/macrophages and dendritic cells. Activation of Flt-3 promotes the survival and proliferation of early progenitor cells. Flt-3 receptor responses are cell type dependent and also influenced by other growth factors such as GM-CSF, G-CSF, IL-3 and Epo. Furthermore, Flt-3 is involved in lymphocyte development in conjunction with cytokines such as IL-3, IL-7 and IL-11. Expression of Flt-3 has been reported in peripheral blood mononuclear cells, thymus and non-immune somatic cells in the heart, lung, spleen, prostate, kidney, pancreas, skeletal muscle, intestine and liver. Both Flt-3 and Flt-3L play vital roles in the development of a number of human leukocyte malignancies including acute myelogenous leukaemia (AML), acute promyelocytic leukaemia (APL), B and T cell acute lymphoblastic leukaemia (ALL), chronic myelogenous leukaemia (CML) and myelodysplasia (MDS). Flt-3L also has a capacity to expand dendritic cells and may facilitate vaccine-induced immune responses against cancer and infectious pathogens. Additionally, due to its role in the development of NK cells, Flt-3L is also effective in promoting immunity against intracellular viral and non-viral pathogens. For a recent review, please refer to Drexler HG and Quentmeier H. (2004) *Growth Factors.* **22**(2):71-3.

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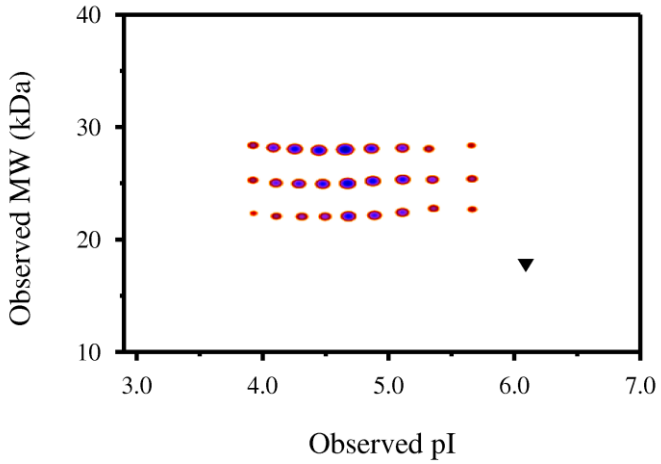
Densitometry

Post-translational modifications result in protein heterogeneity. The densitometry scan demonstrates the purified human cell expressed protein exists in multiple isoforms, which differ according to their level of post-translational modification. Expression of these isoforms is highly significant for cell biology, as they more closely resemble the native human proteins.



The triangle indicates theoretical pI and MW of the protein. The original 2D gel from which the densitometry scan was derived is available upon request.

Theoretical Sequence

TQDCSFQHSPISSDFAVKIRELSDYLLQDYPVTVASNLQDEELCGGLWRLVLAQRWMERL
KTVAGSKMQGLLERVNTEIHFVTKCAFQPPPSCLRFVQTNISRLLQETSEQLVALKPWITR
QNFSRCLELQCQPDSSTLPPPWSPRPLEATAPTAPAS

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