SANTA CRUZ BIOTECHNOLOGY, INC.

Flt 3-L siRNA (m): sc-39489

BACKGROUND

Flt 3 ligand (Flt 3-L), variously designated Flt 3/Flk 2 ligand or FL, is a hematopoietic growth factor that stimulates the proliferation of stem and $CD34^+$ progenitor cells and has been cloned from both mouse and human genomes. Flt 3-L is a potent *in vitro* growth stimulator of granulocyte-macrophage colony-stimulating factor (GM-CSF), interleukin-3 (IL-3), and G-CSF-dependent granulocyte-macrophage committed precursors from Lin $CD34^+$ bone marrow cells as well as other primitive B cell populations. Additionally, Flt 3-L stimulates the proliferation of hematopoietic progenitor cells isolated from mouse fetal liver or adult mouse bone marrow. Flt 3-L does not, however, affect the growth of erythroid-committed progenitors. Flt 3-L exists in two forms and is active as both a soluble and as a membrane-bound ligand. The Flt 3-L receptor, Flt 3, is a tyrosine kinase expressed on $CD34^+$ cells that shares a high degree of homology with the SCF (stem cell factor) receptor, c-Kit and c-Fms.

REFERENCES

1. Hudak, S., et al. 1995. FLT3/FLK2 ligand promotes the growth of murine stem cells and the expansion of colony-forming cells and spleen colony-forming units. Blood 85: 2747-2755.
2. Gabbianelli, M., et al. 1995. Multi-level effects of Flt 3 ligand on human hematopoiesis: expansion of putative stem cells and proliferation of granulomonocytic progenitors/monocytic precursors. Blood 86: 1661-1670.
3. Lyman, S.D., et al. 1995. Identification of soluble and membrane-bound isoforms of the murine Flt 3 ligand generated by alternative splicing of mRNAs. Oncogene 10: 149-157.
4. Lyman, S.D., et al. 1995. Structural analysis of human and murine Flt 3 ligand genomic loci. Oncogene 11: 1165-1172.
5. Meierhoff, G., et al. 1995. Expression of FLT3 receptor and FLT3-ligand in human leukemia-lymphoma cell lines. Leukemia 9: 1368-1372.
6. Hunte, B.E., et al. 1996. Flk2/Flt3 ligand is a potent cofactor for the growth of primitive B cell progenitors. J. Immunol. 156: 489-496.
7. Carow, C.E., et al. 1996. Expression of the hematopoietic growth factor receptor FLT3 (STK-1/Flk2) in human leukemias. Blood 87: 1089-1096.

CHROMOSOMAL LOCATION

Genetic locus: Flt3l (mouse) mapping to 7 B4.

PRODUCT

Flt 3-L siRNA (m) is a pool of 2 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Flt 3-L shRNA Plasmid (m): sc-39489-SH and Flt 3-L shRNA (m) Lentiviral Particles: sc-39489-V as alternate gene silencing products.

For independent verification of Flt 3-L (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-39489A and sc-39489B.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Flt 3-L siRNA (m) is recommended for the inhibition of Flt 3-L expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Flt 3-L gene expression knockdown using RT-PCR Primer: Flt 3-L (m)-PR: sc-39489-PR (20 µl, 497 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.