

G-CSF siRNA (m): sc-39390

BACKGROUND

Granulocyte-colony stimulating factor, G-CSF, is a pleiotropic cytokine that influences differentiation, proliferation and activation of the neutrophilic granulocyte lineage. The murine G-CSF cDNA encodes a 208 amino acid precursor containing a 30 amino acid signal peptide that is proteolytically cleaved to form a 178 amino acid residue mature protein. Two G-CSF cDNAs which are identical except for a three amino acid deletion in the amino terminus of one form of the protein have been isolated from human cells. Murine and human G-CSF share 73% sequence identity at the amino acid level. G-CSF signals through the G-CSF receptor, G-CSFR, a heavily glycosylated 812 amino acid polypeptide with a single transmembrane domain. Stimulation of the G-CSFR results in the activation of the Ras/MAPK pathway and phosphorylation of the adaptor protein Shc. Other studies indicate that the kinases Lyn and Syk and the transcription factor Stat3 are activated in response to G-CSF stimulation.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: Csf3 (mouse) mapping to 11 D.

RESEARCH USE

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

PRODUCT

G-CSF siRNA (m) is a pool of 3 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see G-CSF shRNA Plasmid (m): sc-39390-SH and G-CSF shRNA (m) Lentiviral Particles: sc-39390-V as alternate gene silencing products.

For independent verification of G-CSF (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-39390A, sc-39390B and sc-39390C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

G-CSF siRNA (m) is recommended for the inhibition of G-CSF 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 μ M in 66 μ l. 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 G-CSF gene expression knockdown using RT-PCR Primer: G-CSF (m)-PR: sc-39390-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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