



G-CSFR siRNA (h): sc-40006

BACKGROUND

The diverse biological activities of G-CSF are initiated by the binding of G-CSF to a specific receptor (G-CSFR) that belongs to the cytokine/hematopoietic receptor superfamily. In contrast to the majority of hematopoietic receptors that are activated through the formation of heteromeric complexes composed of α , β and sometimes γ subunits, G-CSFR proteins are believed to form homodimeric complexes upon ligand binding. Four distinct alternative splice variants of G-CSFR have been described, one of which exists as a soluble receptor protein. Although G-CSFR lacks consensus motifs in its cytoplasmic domains that are characteristic of kinase activities, certain sequences have been identified that are conserved among several members of the cytokine receptor superfamily. For example, the carboxy terminal regions of G-CSFR contain a domain, designated box 3, that is only shared with the IL-6R subunit, gp130.

REFERENCES

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3. Fukunaga, R., et al. 1990. Three different mRNAs encoding human granulocyte colony-stimulating factor receptor. *Proc. Natl. Acad. Sci. USA* 87: 8702-8706.
4. Miyajima, A., et al. 1992. Cytokine receptors and signal transduction. *Annu. Rev. Immunol.* 10: 295-331.
5. Saito, M., et al. 1992. Molecular cloning of a murine IL-6 receptor-associated signal transducer, gp130, and its regulated expression *in vivo*. *J. Immunol.* 148: 4066-4071.
6. Cosman, D. 1993. The hematopoietin receptor superfamily. *Cytokine* 5: 95-106.
7. Ishizaka-Ikeda, E., et al. 1993. Signal transduction mediated by growth hormone receptor and its chimeric molecules with the granulocyte colony-stimulating factor. *Proc. Natl. Acad. Sci. USA* 90: 123-127.
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CHROMOSOMAL LOCATION

Genetic locus: CSF3R (human) mapping to 1p34.3.

PRODUCT

G-CSFR siRNA (h) is a target-specific 19-25 nt siRNA 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-CSFR shRNA Plasmid (h): sc-40006-SH and G-CSFR shRNA (h) Lentiviral Particles: sc-40006-V as alternate gene silencing products.

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-CSFR siRNA (h) is recommended for the inhibition of G-CSFR expression in human 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.

GENE EXPRESSION MONITORING

G-CSFR (A-7): sc-514639 is recommended as a control antibody for monitoring of G-CSFR gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor G-CSFR gene expression knockdown using RT-PCR Primer: G-CSFR (h)-PR: sc-40006-PR (20 μ l). 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.