

OSM siRNA (h): sc-39689

BACKGROUND

Oncostatin M (OSM) is a glycoprotein that was originally isolated from the conditioned medium of U937 human histiocytic leukemia cells that had been induced to differentiate into macrophage-like cells by treatment with phorbol 12-myristate 13 acetate. OSM inhibits the growth of a broad range of human tumor cell lines, but does not influence the growth of normal human fibroblasts. High-affinity binding sites for OSM have been detected on normal and tumor cells, and a receptor has been identified by chemical cross-linking studies. Expression of OSM is greatest in activated monocytic and lymphocytic cell lines and in normal adherent macrophages. Amino acid sequence analysis of OSM has revealed homology with leukemia inhibitory factor (LIF), granulocyte colony stimulating factor (G-CSF) and interleukin 6 (IL-6), all of which affect the growth and differentiation of a broad range of cell types, including those of hematopoietic origin.

REFERENCES

1. Zarling, J.M., et al. 1986. Oncostatin M: a growth regulator produced by differentiated histiocytic lymphoma cells. *Proc. Natl. Acad. Sci. USA* 83: 9739-9743.
2. Brown, T.J., et al. 1987. Purification and characterization of cytostatic lymphokines produced by activated human T lymphocytes. *J. Immunol.* 139: 2977-2983.
3. Linsley, P.S., et al. 1989. Identification and characterization of cellular receptors for the growth regulator, oncostatin M. *J. Biol. Chem.* 264: 4282-4289.
4. Malik, N., et al. 1989. Molecular cloning, sequence analysis, and functional expression of a novel growth regulator, oncostatin M. *Mol. Cell. Biol.* 9: 2847-2853.
5. Horn, D., et al. 1990. Regulation of cell growth by recombinant oncostatin M. *Growth Factors* 2: 157-165.
6. Rose, T.M., et al. 1991. Oncostatin M is a member of a cytokine family that includes leukemia-inhibitory factor, granulocyte colony-stimulating factor, and interleukin 6. *Proc. Natl. Acad. Sci. USA* 88: 8641-8645.
7. Gearing, D.P., et al. 1992. The IL-6 signal transducer, gp130: an oncostatin M receptor and affinity converter for the LIF receptor. *Science* 255: 1434-1437.

CHROMOSOMAL LOCATION

Genetic locus: OSM (human) mapping to 22q12.2.

PRODUCT

OSM siRNA (h) 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 OSM shRNA Plasmid (h): sc-39689-SH and OSM shRNA (h) Lentiviral Particles: sc-39689-V as alternate gene silencing products.

For independent verification of OSM (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-39689A, sc-39689B and sc-39689C.

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

OSM siRNA (h) is recommended for the inhibition of OSM 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

OSM (G-1): sc-390253 is recommended as a control antibody for monitoring of OSM 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 OSM gene expression knockdown using RT-PCR Primer: OSM (h)-PR: sc-39689-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.