

GC-1 siRNA (h): sc-75113

BACKGROUND

GC-1, also known as OLFM4 (olfactomedin-4) or GW112, is a 510 amino acid protein that is secreted into extracellular space and contains one olfactomedin-like domain. Expressed at high levels in prostate, colon and small intestine, with lower levels in bone marrow and stomach tissue, GC-1 exists as a homomultimer that functions as an anti-apoptotic factor that promotes cell growth and proliferation. Specifically functioning to assist in the S to G₂/M phase transition and to facilitate cell adhesion, GC-1 interacts with Grim19 and plays an important role in the pathogenesis of pancreatic, stomach and colon cancer. The gene encoding GC-1 maps to human chromosome 13, which houses over 400 genes, such as BRCA2 and RB1, and comprises nearly 4% of the human genome.

REFERENCES

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- Liu, W., et al. 2006. The glycoprotein hGC-1 binds to cadherin and lectins. *Exp. Cell Res.* 312: 1785-1797.
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- Chin, K.L., et al. 2008. The regulation of OLFM4 expression in myeloid precursor cells relies on NFκB transcription factor. *Br. J. Haematol.* 143: 421-432.
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CHROMOSOMAL LOCATION

Genetic locus: OLFM4 (human) mapping to 13q14.3.

PRODUCT

GC-1 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 μM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see GC-1 shRNA Plasmid (h): sc-75113-SH and GC-1 shRNA (h) Lentiviral Particles: sc-75113-V as alternate gene silencing products.

For independent verification of GC-1 (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-75113A, sc-75113B and sc-75113C.

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

GC-1 siRNA (h) is recommended for the inhibition of GC-1 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 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 GC-1 gene expression knockdown using RT-PCR Primer: GC-1 (h)-PR: sc-75113-PR (20 μl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

- Ren, X., et al. 2021. Quantitative proteomic analysis of synovial tissue reveals that upregulated OLFM4 aggravates inflammation in rheumatoid arthritis. *J. Proteome Res.* E-published.

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.