SANTA CRUZ BIOTECHNOLOGY, INC.

GC-1 siRNA (m): sc-145354

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 G_2/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 13q14.3, which houses over 400 genes, such as BRCA2 and RB1, and comprises nearly 4% of the human genome.

REFERENCES

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3. Zhang, X., Huang, Q., Yang, Z., Li, Y. and Li, C.Y. 2004. GW112, a novel antiapoptotic protein that promotes tumor growth. Cancer Res. 64: 2474-2481.
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5. Kobayashi, D., Koshida, S., Moriai, R., Tsuji, N. and Watanabe, N. 2007. Olfactomedin 4 promotes S-phase transition in proliferation of pancreatic cancer cells. Cancer Sci. 98: 334-340.
6. Liu, W., Zhu, J., Cao, L. and Rodgers, G.P. 2007. Expression of hGC-1 is correlated with differentiation of gastric carcinoma. Histopathology 51: 157-165.
7. Chin, K.L., Aerbajinai, W., Zhu, J., Drew, L., Chen, L., Liu, W. and Rodgers, G.P. 2008. The regulation of OLFM4 expression in myeloid precursor cells relies on NFκB transcription factor. Br. J. Haematol. 143: 421-432.
8. Liu, W., Liu, Y., Zhu, J., Wright, E., Ding, I. and Rodgers, G.P. 2008. Reduced hGC-1 protein expression is associated with malignant progression of colon carcinoma. Clin. Cancer Res. 14: 1041-1049.

CHROMOSOMAL LOCATION

Genetic locus: Olfm4 (mouse) mapping to 14 D3.

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.

PRODUCT

GC-1 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see GC-1 shRNA Plasmid (m): sc-145354-SH and GC-1 shRNA (m) Lentiviral Particles: sc-145354-V as alternate gene silencing products.

For independent verification of GC-1 (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-145354A, sc-145354B and sc-145354C.

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 (m) is recommended for the inhibition of GC-1 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 GC-1 gene expression knockdown using RT-PCR Primer: GC-1 (m)-PR: sc-145354-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.