

# GSG1L siRNA (m): sc-145802

## BACKGROUND

GSG1L (germ cell-specific gene 1-like) is a 331 amino acid multi-pass membrane protein belonging to the GSG1 family. Existing as 4 alternatively spliced isoforms, GSG1L is encoded by a gene located on human chromosome 16p12.1, which encodes over 900 genes, comprises nearly 3% of the human genome and is associated with a variety of genetic disorders. The GAN gene is located on chromosome 16 and, with mutation, may lead to giant axonal neuropathy, a nervous system disorder characterized by increasing malfunction with growth. A rare disorder known as Rubinstein-Taybi syndrome is associated with chromosome 16, as is Crohn's disease, which is a gastrointestinal inflammatory condition.

## REFERENCES

1. Gilbert, F. 1999. Disease genes and chromosomes: disease maps of the human genome. *Chromosome 16. Genet. Test.* 3: 243-254.
2. Demir, E., Bomont, P., Erdem, S., Cavalier, L., Demirci, M., Kose, G., Muftuoglu, S., Cakar, A.N., Tan, E., Aysun, S., Topcu, M., Guicheney, P., Koenig, M. and Topaloglu, H. 2005. Giant axonal neuropathy: clinical and genetic study in six cases. *J. Neurol. Neurosurg. Psychiatry* 76: 825-832.
3. Deng, W. and Roberts, S.G. 2006. Core promoter elements recognized by transcription factor IIB. *Biochem. Soc. Trans.* 34: 1051-1053.
4. Wierstra, I. and Alves, J. 2006. FOXM1c transactivates the human c-Myc promoter directly via the two TATA boxes P1 and P2. *FEBS J.* 273: 4645-4667.
5. Rakha, E.A., Green, A.R., Powe, D.G., Roylance, R. and Ellis, I.O. 2006. Chromosome 16 tumor-suppressor genes in breast cancer. *Genes Chromosomes Cancer* 45: 527-535.
6. Hartman, W.R., Walters, D.E. and Hentosh, P. 2007. Presence of the anti-leukemic nucleotide analog, 2-chloro-2'-deoxyadenosine-5'-monophosphate, in a promoter sequence alters DNA binding of TATA-binding protein (TBP). *Arch. Biochem. Biophys.* 459: 223-232.
7. Martianov, I., Ramadass, A., Serra Barros, A., Chow, N. and Akoulitchev, A. 2007. Repression of the human dihydrofolate reductase gene by a non-coding interfering transcript. *Nature* 445: 666-670.
8. Choi, H.S., Lee, S.H., Kim, H. and Lee, Y. 2008. Germ cell-specific gene 1 targets testis-specific poly(A) polymerase to the endoplasmic reticulum through protein-protein interactions. *FEBS Lett.* 582: 1203-1209.
9. Zhang, W., St-Gelais, F., Grabner, C.P., Trinidad, J.C., Sumioka, A., Morimoto-Tomita, M., Kim, K.S., Straub, C., Burlingame, A.L., Howe, J.R. and Tomita, S. 2009. A transmembrane accessory subunit that modulates kainate-type glutamate receptors. *Neuron* 61: 385-396.

## CHROMOSOMAL LOCATION

Genetic locus: Gsg1l (mouse) mapping to 7 F3.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## PRODUCT

GSG1L 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see GSG1L shRNA Plasmid (m): sc-145802-SH and GSG1L shRNA (m) Lentiviral Particles: sc-145802-V as alternate gene silencing products.

For independent verification of GSG1L (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-145802A, sc-145802B and sc-145802C.

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

## APPLICATIONS

GSG1L siRNA (m) is recommended for the inhibition of GSG1L 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  $\mu$ M in 66  $\mu$ 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 GSG1L gene expression knockdown using RT-PCR Primer: GSG1L (m)-PR: sc-145802-PR (20  $\mu$ 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.