SANTA CRUZ BIOTECHNOLOGY, INC.

GS1 siRNA (h): sc-60768

BACKGROUND

The Adiponutrin family consists of Adiponutrin (ADPN), adipocyte triglyceride lipase (ATGL, also designated Desnutrin), GS1, GS2, GS2-like and PNPLA1. ADPN, ATGL and GS2 display lipase activity, which is dependent upon the presence of an activated serine residue. GS1, also designated DXF68S1E or haloacid dehalogenase-like hydrolase domain containing 1A (HDHD1A), is a 214-amino acid protein that is detected in human placenta and fibroblasts. The gene which encodes for GS1, HDHD1A, is of interest because it is an X-linked gene that escapes X-inactivation. This characteristic of the HDHD1A gene is particularly important in the understanding of human X chromosome structural organization as well as the mechanism of X-inactivation.

REFERENCES

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2. Yen, P.H., et al. 1993. Isolation of a new gene from the distal short arm of the human X chromosome that escapes X-inactivation. Hum. Mol. Genet. 1: 47-52.
3. Soehnge, H., et al. 1997. Cloning and sequencing of Ribosomal Protein L27a and a gene similar to human GS1 in *Drosophila*. Gene 185: 257-263.
4. Online Mendelian Inheritance in Man, OMIM™. 1998. Johns Hopkins University, Baltimore, MD. MIM Number: 306480. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. van Noort, V., et al. 2003. Predicting gene function by conserved co-expression. Trends Genet. 19: 238-242.
6. Wieland, I., et al. 2003. Further delineation of Wittwer syndrome and refinement of the mapping region. Am. J. Med. Genet. A 116A: 57-60.
7. Gerhard, D.S., et al. 2004. The status, quality, and expansion of the NIH full-length cDNA project: the mammalian gene collection (MGC). Genome Res. 14: 2121-2127.

CHROMOSOMAL LOCATION

Genetic locus: HDHD1 (human) mapping to Xp22.31.

PRODUCT

GS1 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 GS1 shRNA Plasmid (h): sc-60768-SH and GS1 shRNA (h) Lentiviral Particles: sc-60768-V as alternate gene silencing products.

For independent verification of GS1 (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-60768A, sc-60768B and sc-60768C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

GS1 siRNA (h) is recommended for the inhibition of GS1 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.

GENE EXPRESSION MONITORING

GS1 (B-4): sc-166043 is recommended as a control antibody for monitoring of GS1 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 GS1 gene expression knockdown using RT-PCR Primer: GS1 (h)-PR: sc-60768-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.