SANTA CRUZ BIOTECHNOLOGY, INC.

HSL siRNA (h): sc-106861

BACKGROUND

HSL (hormone-sensitive lipase), a cytosolic neutral lipase regulated by reversible phosphorylation, catalyzes the rate limiting step in triglyceride lipolysis. HSL hydrolyzes stored triglycerides to free fatty acids in adipose and heart tissues. In organs with steroidogenic tissues, such as small intestine, HSL converts cholesteryl esters to free cholesterol for steroid hormone production. HSL is highly expressed in jejunal enterocytes and in the mucosa of the small intestine. Two major isoforms of HSL have been described resulting from the use of alternative translational start codons. The short isoform is expressed in adipose tissue while the long isoform is expressed in steroidogenic tissues such as testis. The long isoform, often referred to as testicular HSL contains an N-terminus of approximately 300 amino acids not present in the short isoform of HSL.

REFERENCES

1. Langin, D., et al. 1993. Gene organization and primary structure of human hormone-sensitive lipase: possible significance of a sequence homology with a lipase of Moraxella TA144, an antarctic bacterium. Proc. Natl. Acad. Sci. USA 90: 4897-4901.
2. Holst, L.S., et al. 1996. Molecular cloning, genomic organization and expression of a testicular isoform of hormone-sensitive lipase. Genomics 35: 441-447.
3. Grober, J., et al. 1998. Characterization of the promoter of human adipocyte hormone-sensitive lipase. Biochem. J. 328: 453-461.
4. Shen, W.J., et al. 2000. Hormone-sensitive lipase functions as an oligomer. Biochemistry 39: 2392-2398.
5. Kabbaj, O., et al. 2001. Expression, activity and subcellular localization of testicular hormone-sensitive lipase during postnatal development in the guinea pig. Biol. Reprod. 65: 601-612.
6. Grober, J., et al. 2003. Hormone-sensitive lipase is a cholesterol esterase of the intestinal mucosa. J. Biol. Chem. 278: 6510-6515.

CHROMOSOMAL LOCATION

Genetic locus: LIPE (human) mapping to 19q13.2.

PRODUCT

HSL 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 HSL shRNA Plasmid (h): sc-106861-SH and HSL shRNA (h) Lentiviral Particles: sc-106861-V as alternate gene silencing products.

For independent verification of HSL (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-106861A, sc-106861B and sc-106861C.

PROTOCOLS

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

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

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

HSL (G-7): sc-74489 is recommended as a control antibody for monitoring of HSL 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 HSL gene expression knockdown using RT-PCR Primer: HSL (h)-PR: sc-106861-PR (20 µl, 556 bp). 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.