

Perilipin siRNA (h): sc-61322

BACKGROUND

The PAT (Perilipin, adipophilin, TIP47) family proteins are evolutionary related proteins associated with lipid droplets and implicated in intracellular lipid metabolism. The phosphoprotein Perilipin (Peri), also designated lipid droplet-associated protein, belongs to the Perilipin subfamily of proteins. Perilipin localizes on the surface of intracellular lipid droplets within adipocytes, where it protects lipid storage droplets by coating them in adipocytes until they are digested by hormone sensitive lipase (HSL), thereby modulating adipocyte lipid metabolism. As a critical regulator of lipolysis, elevated Perilipin levels have been linked to obesity, as the absence results in leanness. In its phosphorylated state, Perilipin is maximally sensitive to HSL.

REFERENCES

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2. Tansey, J.T., et al. 2004. The central role of Perilipin in lipid metabolism and adipocyte lipolysis. *IUBMB Life* 56: 379-385.
3. Qi, L., et al. 2005. Intragenic linkage disequilibrium structure of the human Perilipin gene (PLIN) and haplotype association with increased obesity risk in a multiethnic Asian population. *J. Mol. Med.* 83: 448-56.
4. Meadows, J.W., et al. 2005. Expression and localization of adipophilin and Perilipin in human fetal membranes: association with lipid bodies and enzymes involved in prostaglandin synthesis. *J. Clin. Endocrinol. Metab.* 90: 2344-2350.
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6. Robenek, H., et al. 2005. PAT family proteins pervade lipid droplet cores. *J. Lipid Res.* 46: 1331-1338.
7. Wolins, N.E., et al. 2005. S3-12, Adipophilin, and TIP47 package lipid in adipocytes. *J. Biol. Chem.* 280: 19146-19155.
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CHROMOSOMAL LOCATION

Genetic locus: PLIN1 (human) mapping to 15q26.1.

PRODUCT

Perilipin 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Perilipin shRNA Plasmid (h): sc-61322-SH and Perilipin shRNA (h) Lentiviral Particles: sc-61322-V as alternate gene silencing products.

For independent verification of Perilipin (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-61322A, sc-61322B and sc-61322C.

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

APPLICATIONS

Perilipin siRNA (h) is recommended for the inhibition of Perilipin 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 μ M in 66 μ 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.

GENE EXPRESSION MONITORING

Perilipin (G-2): sc-390169 is recommended as a control antibody for monitoring of Perilipin 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 Perilipin gene expression knockdown using RT-PCR Primer: Perilipin (h)-PR: sc-61322-PR (20 μ l, 422 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.

PROTOCOLS

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