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SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

linkedin.com/company/szaboscandic

SANTA CRUZ BIOTECHNOLOGY, INC.

ADRP siRNA (h2): sc-270191

BACKGROUND

Mannose 6-phophate receptors (MPRs) deliver lysosomal hydrolase to endosomes from the Golgi and back again. Cargo selection protein TIP47, also designated placental protein 17, is required for the transport from endosomes to the *trans*-Golgi network and interacts with the cytoplasmic domains of both cation-dependent and cation-independent MPRs. Another member of the peripilin family, adipophilin (ADRP), is a protein associated with the globule surface membrane material of milk lipid globules. The phos-phoprotein Perilipin (Peri) is located 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 lipase. As a critical regulator of lipolysis, elevated Perilipin levels have been linked to obesity.

REFERENCES

1. Heid, H.W., et al. 1996. Adipocyte differentiation-related protein is secreted into milk as a constituent of milk lipid globule membrane. Biochem. J. 320: 1025-1030.
2. Souza, S.C., et al. 2002. Modulation of hormone-sensitive lipase and protein kinase A-mediated lipolysis by Perilipin A in an adenoviral reconstituted system. J. Biol. Chem. 277: 8267-8272.
3. Kern, P.A., et al. 2004. Perilipin expression in human adipose tissue is elevated with obesity. J. Clin. Endocrinol. Metab. 89: 1352-1358.
4. Gross, D.N., et al. 2005. Dynamics of lipid droplet associated proteins during hormonally stimulated lipolysis in engineered adipocytes: stabilization and lipid droplet binding of ADRP/adipophilin. Mol. Endocrinol. 20: 459-466.
5. Elchalal, U., et al. 2005. Insulin and fatty acids regulate the expression of the fat droplet-associated protein adipophilin in primary human trophoblasts. Am. J. Obstet. Gynecol. 193: 1716-1723.
6. Wolins, N.E., et al. 2005. S3-12, adipophilin, and TIP47 package lipid in adipocytes. J. Biol. Chem. 280: 19146-19155.

CHROMOSOMAL LOCATION

Genetic locus: PLIN2 (human) mapping to 9p22.1.

PRODUCT

ADRP siRNA (h2) 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 ADRP shRNA Plasmid (h2): sc-270191-SH and ADRP shRNA (h2) Lentiviral Particles: sc-270191-V as alternate gene silencing products.

For independent verification of ADRP (h2) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-270191A, sc-270191B and sc-270191C.

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

ADRP siRNA (h2) is recommended for the inhibition of ADRP 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

ADRP (B-6): sc-377429 is recommended as a control antibody for monitoring of ADRP 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 ADRP gene expression knockdown using RT-PCR Primer: ADRP (h2)-PR: sc-270191-PR (20 µl). 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.