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Acrp30 shRNA (m) Lentiviral Particles: sc-45891-V

BACKGROUND

Acrp30 (adipocyte complement-related protein of 30 kDa or AdipoQ) is a secretory protein made exclusively in adipocytes with mRNA induced over 100-fold during adipocyte differentiation. Posttranscriptional modification of Acrp30 yields several oligomeric forms of varying molecular weight, including a monomer, a dimer, a trimer, a hexamer and a polymer. Acrp30 is an abundant serum protein, secreted exclusively from fat cells, and is implicated in energy homeostasis and obesity. Due to the dysregulation of Acrp30 in cases of obesity in humans and mice and the strong structural similarity to TNF α , Acrp30 is a suspected regulator of whole body energy homeostasis. In addition, regulated exocytosis of Acrp30 appears to require phosphatidylinositol-3-kinase activity, since insulin-stimulated Acrp30 secretion is blocked by pharmacologic inhibitors of this enzyme.

REFERENCES

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5. Das, K., Lin, Y., Widen, E., Zhang, Y. and Scherer, P.E. 2001. Chromosomal localization, expression pattern, and promoter analysis of the mouse gene encoding adipocyte-specific secretory protein Acrp30. *Biochem. Biophys. Res. Commun.* 280: 1120-1129.

CHROMOSOMAL LOCATION

Genetic locus: Adipoq (mouse) mapping to 16 B1.

PRODUCT

Acrp30 shRNA (m) Lentiviral Particles is a pool of concentrated, transduction-ready viral particles containing 3 target-specific constructs that encode 19-25 nt (plus hairpin) shRNA designed to knock down gene expression. Each vial contains 200 μ l frozen stock containing 1.0×10^6 infectious units of virus (IFU) in Dulbecco's Modified Eagle's Medium with 25 mM HEPES pH 7.3. Suitable for 10-20 transductions. Also see Acrp30 siRNA (m): sc-45891 and Acrp30 shRNA Plasmid (m): sc-45891-SH as alternate gene silencing products.

STORAGE

Store lentiviral particles at -80°C . Stable for at least one year from the date of shipment. Once thawed, particles can be stored at 4°C for up to one week. Avoid repeated freeze thaw cycles.

APPLICATIONS

Acrp30 shRNA (m) Lentiviral Particles is recommended for the inhibition of Acrp30 expression in mouse cells.

SUPPORT REAGENTS

Control shRNA Lentiviral Particles: sc-108080. Available as 200 μ l frozen viral stock containing 1.0×10^6 infectious units of virus (IFU); contains an shRNA construct encoding a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA.

GENE EXPRESSION MONITORING

Acrp30 (A-13): sc-26497 is recommended as a control antibody for monitoring of Acrp30 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 (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Acrp30 gene expression knockdown using RT-PCR Primer: Acrp30 (m)-PR: sc-45891-PR (20 μ l). Annealing temperature for the primers should be $55-60^\circ\text{C}$ and the extension temperature should be $68-72^\circ\text{C}$.

BIOSAFETY

Lentiviral particles can be employed in standard Biosafety Level 2 tissue culture facilities (and should be treated with the same level of caution as with any other potentially infectious reagent). Lentiviral particles are replication-incompetent and are designed to self-inactivate after transduction and integration of shRNA constructs into genomic DNA of target cells.

RESEARCH USE

The purchase of this product conveys to the buyer the nontransferable right to use the purchased amount of the product and all replicates and derivatives for research purposes conducted by the buyer in his laboratory only (whether the buyer is an academic or for-profit entity). The buyer cannot sell or otherwise transfer (a) this product (b) its components or (c) materials made using this product or its components to a third party, or otherwise use this product or its components or materials made using this product or its components for Commercial Purposes.

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