SANTA CRUZ BIOTECHNOLOGY, INC.

GPAT2 shRNA (m) Lentiviral Particles: sc-140655-V

BACKGROUND

GPAT2 (glycerol-3-phosphate acyltransferase 2, mitochondrial), also known as Gm116 or xGPAT1, is an 801 amino acid mitochondrial multi-pass membrane protein belonging to the GPAT/DAPAT family. GPAT2 is highly expressed in testis with lower levels in heart, liver, kidney, spleen and adipose cells. Inhibited by N-ethylmaleimide (NEM), GPAT2 esterifies an acyl-group from acyl-ACP to the sn-1 position of glycerol-3-phosphate, an essential step in glycerolipid biosynthesis. GPAT2 contain a HXXXXD motif, which is critical for acyltransferase activity and may constitute the binding site for the phosphate moiety of the glycerol-3-phosphate. Three isoforms of GPAT2 exist due to alternative splicing events.

REFERENCES

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6. Takeuchi, K. and Reue, K. 2009. Biochemistry, physiology, and genetics of GPAT, AGPAT, and lipin enzymes in triglyceride synthesis. Am. J. Physiol. Endocrinol. Metab. 296: 1195-1209.
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CHROMOSOMAL LOCATION

Genetic locus: Gpat2 (mouse) mapping to 2 F1.

PRODUCT

GPAT2 shRNA (m) Lentiviral Particles are concentrated, transduction-ready viral particles containing a target-specific construct that encodes a 19-25 nt (plus hairpin) shRNA designed to knock down gene expression. Each vial contains 200 µl frozen stock containing 1.0 x 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 GPAT2 siRNA (m): sc-140655 and GPAT2 shRNA Plasmid (m): sc-140655-SH as alternate gene silencing products.

APPLICATIONS

GPAT2 shRNA (m) Lentiviral Particles is recommended for the inhibition of GPAT2 expression in mouse cells.

SUPPORT REAGENTS

Control shRNA Lentiviral Particles: sc-108080. Available as 200 µl frozen viral stock containing 1.0 x 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor GPAT2 gene expression knockdown using RT-PCR Primer: GPAT2 (m)-PR: sc-140655-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° 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.

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.

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.

PROTOCOLS

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