SANTA CRUZ BIOTECHNOLOGY, INC.

ACSBG2 siRNA (h): sc-97139

BACKGROUND

ACSBG2 (acyl-CoA synthetase bubblegum family member 2), also known as BGR, BRGL or PRTDNY3, is a 666 amino acid protein belonging to the ATP-dependent AMP-binding enzyme family and the bubblegum subfamily. Encoded by a gene that maps to human chromosome 19p13.3, ACSBG2 exhibits testis-specific expression; highest levels are found in adult testis, with weak to moderate levels in fetal and elderly testis. Existing as four alternatively spliced isoforms, ACSBG2 localizes to cytoplasm and peripheral membrane. ACSBG2 participates in ATP and nucleotide binding, acyl-CoA thioesterase activity, ligase activity and long-chain fatty acid-CoA ligase activity. ACSBG2 also mediates activation of long-chain fatty acids for both synthesis of cellular lipids and degradation via β-oxidation, and displays increased ability to activate oleic and linoleic acid. ACSBG2 may play a role in spermatogenesis.

REFERENCES

1. Zheng, Y., et al. 2005. Identification and characterization of the BGR-like gene with a potential role in human testicular development/spermatogenesis. Asian J. Androl. 7: 21-32.
2. Fraisl, P., et al. 2006. A novel mammalian bubblegum-related acyl-CoA synthetase restricted to testes and possibly involved in spermatogenesis. Arch. Biochem. Biophys. 451: 23-33.
3. Pei, Z., et al. 2006. The second member of the human and murine bubblegum family is a testis- and brainstem-specific acyl-CoA synthetase. J. Biol. Chem. 281: 6632-6641.
4. Watkins, P.A., et al. 2007. Evidence for 26 distinct acyl-coenzyme A synthetase genes in the human genome. J. Lipid Res. 48: 2736-2750.
5. Perez-Chacón, G., et al. 2009. Control of free arachidonic acid levels by phospholipases A2 and lysophospholipid acyltransferases. Biochim. Biophys. Acta 1791: 1103-1113.
6. Pei, Z., et al. 2009. Acyl-CoA synthetase VL3 knockdown inhibits human glioma cell proliferation and tumorigenicity. Cancer Res. 69: 9175-9182.

CHROMOSOMAL LOCATION

Genetic locus: ACSBG2 (human) mapping to 19p13.3.

PRODUCT

ACSBG2 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 ACSBG2 shRNA Plasmid (h): sc-97139-SH and ACSBG2 shRNA (h) Lentiviral Particles: sc-97139-V as alternate gene silencing products.

For independent verification of ACSBG2 (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-97139A, sc-97139B and sc-97139C.

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

ACSBG2 siRNA (h) is recommended for the inhibition of ACSBG2 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ACSBG2 gene expression knockdown using RT-PCR Primer: ACSBG2 (h)-PR: sc-97139-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.