SANTA CRUZ BIOTECHNOLOGY, INC.

ACSBG1 siRNA (m): sc-140826

BACKGROUND

ACSBG1 (acyl-CoA synthetase bubblegum family member 1), also known as Lipodisin, BG1, BGM, LPD or GR-LACS, is a 724 amino acid protein that localizes to both the cytoplasm and the endoplasmic reticulum and belongs to the ATP-dependent AMP-binding enzyme family. Expressed primarily in brain and at lower levels in adrenal gland and testis, ACSBG1 functions to mediate the activation of long-chain and very long-chain fatty acids, thereby playing an important role in the synthesis and degradation of cellular lipids. Defects in the gene encoding ACSBG1 may be associated with X-linked adrenoleukodystrophy (X-ALD), a neurodegenerative disorder that affects the adrenal glands and the white matter of the brain and is characterized by urinary disturbances, sensory loss and cognitive defects.

REFERENCES

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3. Steinberg, S.J., Morgenthaler, J., Heinzer, A.K., Smith, K.D. and Watkins, P.A. 2000. Very long-chain acyl-CoA synthetases. Human "bubblegum" represents a new family of proteins capable of activating very long-chain fatty acids. J. Biol. Chem. 275: 35162-35169.
4. Pei, Z., Oey, N.A., Zuidervaart, M.M., Jia, Z., Li, Y., Steinberg, S.J., Smith, K.D. and Watkins, P.A. 2003. The acyl-CoA synthetase "bubblegum" (lipidosin): further characterization and role in neuronal fatty acid β-oxidation. J. Biol. Chem. 278: 47070-47078.

CHROMOSOMAL LOCATION

Genetic locus: Acsbg1 (mouse) mapping to 9 A5.3.

PRODUCT

ACSBG1 siRNA (m) is a pool of 2 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 ACSBG1 shRNA Plasmid (m): sc-140826-SH and ACSBG1 shRNA (m) Lentiviral Particles: sc-140826-V as alternate gene silencing products.

For independent verification of ACSBG1 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-140826A and sc-140826B.

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

ACSBG1 siRNA (m) is recommended for the inhibition of ACSBG1 expression in mouse 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 ACSBG1 gene expression knockdown using RT-PCR Primer: ACSBG1 (m)-PR: sc-140826-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.