SANTA CRUZ BIOTECHNOLOGY, INC.

AWAT2 siRNA (h): sc-90922

BACKGROUND

AWAT2 (acyl-CoA wax alcohol acyltransferase 2), also known as DC4 (diacylglycerol O-acyltransferase candidate 4), MFAT (multifunctional O-acyltransferase) or WS (wax synthase), is a 333 amino acid multi-pass membrane protein and multifunctional acyltransferase belonging to the diacylglycerol acyltransferase family. Highly expressed in undifferentiated peripheral sebocytes of skin where it is suggested to function in lipid metabolism, AWAT2 is also found in tissues such as the preputial gland and eyelid, which are rich in sebaceous glands. As an acyltransferase, AWAT2 primarily produces wax esters by esterifying wax with acyl-CoA-derived fatty acids and likely catalyzes the synthesis of retinyl esters and diacylglycerols. The gene encoding AWAT2 maps to human chromosome Xq13.1 and mouse chromosome X C3.

REFERENCES

1. Yamashita, A., et al. 1997. Acyltransferases and transacylases involved in fatty acid remodeling of phospholipids and metabolism of bioactive lipids in mammalian cells. J. Biochem. 122: 1-16.
2. Winter, A., et al. 2003. Genomic organization of the DGAT2/MOGAT gene family in cattle *(Bos taurus)* and other mammals. Cytogenet. Genome Res. 102: 42-47.
3. Cheng, J.B. and Russell, D.W. 2004. Mammalian wax biosynthesis. II. Expression cloning of wax synthase cDNAs encoding a member of the acyltransferase enzyme family. J. Biol. Chem. 279: 37798-37807.
4. Turkish, A.R., et al. 2005. Identification of two novel human acyl-CoA wax alcohol acyltransferases: members of the diacylglycerol acyltransferase 2 (DGAT2) gene superfamily. J. Biol. Chem. 280: 14755-14764.
5. Yen, C.L., et al. 2005. A human skin multifunctional O-acyltransferase that catalyzes the synthesis of acylglycerols, waxes, and retinyl esters. J. Lipid Res. 46: 2388-2397.

CHROMOSOMAL LOCATION

Genetic locus: AWAT2 (human) mapping to Xq13.1.

PRODUCT

AWAT2 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 AWAT2 shRNA Plasmid (h): sc-90922-SH and AWAT2 shRNA (h) Lentiviral Particles: sc-90922-V as alternate gene silencing products.

For independent verification of AWAT2 (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-90922A, sc-90922B and sc-90922C.

PROTOCOLS

See our web site at www.scbt.com or our catalog 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

AWAT2 siRNA (h) is recommended for the inhibition of AWAT2 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 AWAT2 gene expression knockdown using RT-PCR Primer: AWAT2 (h)-PR: sc-90922-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.