

β -ketoacyl synthase siRNA (m): sc-146434

BACKGROUND

β -ketoacyl synthase exists in mammals, fungi, plants and prokaryotes, but may exhibit different functions among various species. Mammalian β -ketoacyl synthase, which is also known as OXSM (3-oxoacyl-[acyl-carrier-protein] synthase, mitochondrial) or KS is a 459 amino acid protein expressed abundantly in heart, skeletal muscle, liver and kidney. β -ketoacyl synthase is localized to mitochondria where it aids in lipid metabolism and fatty acid biosynthesis. β -ketoacyl synthase may biosynthesize lipoic acid by generating its octanoyl-acyl carrier protein which is the precursor of Lipoic acid. For fatty acid biosynthesis, β -ketoacyl synthase is required for the construction of fatty acyl chains by connecting short carbon units together by Claisen condensation reactions. These fatty acid chains are important for phospholipid membranes. β -ketoacyl synthase can form a dimer and has a cysteine active site on its C-2 carbon. β -ketoacyl synthase is inactivated by cerulenin, an antibiotic which interacts with the active site on β -ketoacyl synthase and binds to the hydrophobic area that forms at the β -ketoacyl synthase dimer interface, thereby preventing dimerization.

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PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: Oxsm (mouse) mapping to 14 A2.

PRODUCT

β -ketoacyl synthase siRNA (m) is a target-specific 19-25 nt siRNA designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see β -ketoacyl synthase shRNA Plasmid (m): sc-146434-SH and β -ketoacyl synthase shRNA (m) Lentiviral Particles: sc-146434-V as alternate gene silencing 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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

β -ketoacyl synthase siRNA (m) is recommended for the inhibition of β -ketoacyl synthase 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 μ M in 66 μ l. 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 β -ketoacyl synthase gene expression knockdown using RT-PCR Primer: β -ketoacyl synthase (m)-PR: sc-146434-PR (20 μ l). 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.