SANTA CRUZ BIOTECHNOLOGY, INC.

OSCP siRNA (m): sc-76010

BACKGROUND

Oligomycin-sensitivity conferring protein (OSCP), also designated ATP5O, is the O subunit of ATP synthase which localizes to the mitochondria and catalyzes ATP synthesis. Mitochondrial ATP synthases (ATPases) transduce the energy contained in membrane electrochemical proton gradients into the energy required for synthesis of high-energy phosphate bonds. ATPases contain two linked complexes: F_1, the hydrophilic catalytic core; and F_0, the membrane-embedded protein channel. F_1 consists of three α chains and three β chains, which are weakly homologous, as well as one γ chain, one δ chain and one ε chain. F_0 consists of three subunits: a, b and c. The ε chain of F_1 contains 50 amino acids and is the smallest of the five ATPase F1 chains.

REFERENCES

1. Hundal, T., et al. 1983. Lack of ability of trypsin-treated mitochondrial F_1-ATPase to bind the oligomycin-sensitivity conferring protein (OSCP). FEBS Lett. 162: 5-10.
2. Hundal, T., et al. 1984. The oligomycin sensitivity conferring protein (OSCP) of beef heart mitochondria: studies of its binding to F_1 and its function. J. Bioenerg. Biomembr. 16: 535-550.
3. Dupuis, A., et al. 1985. Interactions between the oligomycin sensitivity conferring protein (OSCP) and beef heart mitochondrial F_1-ATPase. 1. Study of the binding parameters with a chemically radiolabeled OSCP. Biochemistry 24: 728-733.
4. Joshi, S., et al. 1992. Oligomycin sensitivity conferring protein (OSCP) of mitochondrial ATP synthase. The carboxyl-terminal region of OSCP is essential for the reconstitution of oligomycin-sensitive H^+-ATPase. J. Biol. Chem. 267: 12860-12867.
5. Joshi, S., et al. 1996. Oligomycin sensitivity conferring protein of mitochondrial ATP synthase: deletions in the N-terminal end cause defects in interactions with F_1, while deletions in the C-terminal end cause defects in interactions with F_0. Biochemistry 35: 12094-12103.
6. Mao, Y., et al. 1997. Structural interactions of the oligomycin sensitivity conferring protein in the yeast ATP synthase. Arch. Biochem. Biophys. 337: 8-16.

CHROMOSOMAL LOCATION

Genetic locus: Atp5o (mouse) mapping to 16 C4.

PRODUCT

OSCP siRNA (m) 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 OSCP shRNA Plasmid (m): sc-76010-SH and OSCP shRNA (m) Lentiviral Particles: sc-76010-V as alternate gene silencing products.

For independent verification of OSCP (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-76010A, sc-76010B and sc-76010C.

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

OSCP siRNA (m) is recommended for the inhibition of OSCP 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.

GENE EXPRESSION MONITORING

OSCP (A-8): sc-365162 is recommended as a control antibody for monitoring of OSCP gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor OSCP gene expression knockdown using RT-PCR Primer: OSCP (m)-PR: sc-76010-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.

PROTOCOLS

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