



# ATP5I siRNA (h): sc-88980

## BACKGROUND

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. The two complexes are linked by a central stalk and a peripheral stalk. During catalysis, ATP synthesis in the catalytic domain of  $F_1$  is coupled, via a rotary mechanism of the central stalk subunits, with proton translocation across the membrane. ATP5I, also known as mitochondrial ATP synthase subunit E or ATP5K, is a 69 amino acid protein member of the ATPase E subunit family. Localized to the inner membrane of the mitochondria, ATP5I is a part of the  $F_0$  complex.

## REFERENCES

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3. Ying, H., et al. 2001. Antisense of ATP synthase subunit e inhibits the growth of human hepatocellular carcinoma cells. *Oncol. Res.* 12: 485-490.
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6. Ackerman, S.H., et al. 2007. Methods to determine the status of mitochondrial ATP synthase assembly. *Methods Mol. Biol.* 372: 363-377.
7. Grover, G.J., et al. 2008. Energetic signalling in the control of mitochondrial  $F_1F_0$  ATP synthase activity in health and disease. *Int. J. Biochem. Cell Biol.* 40: 2698-2701.
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## CHROMOSOMAL LOCATION

Genetic locus: ATP5I (human) mapping to 4p16.3.

## PRODUCT

ATP5I siRNA (h) 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ATP5I shRNA Plasmid (h): sc-88980-SH and ATP5I shRNA (h) Lentiviral Particles: sc-88980-V as alternate gene silencing products.

## STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at  $-20^\circ\text{C}$  with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at  $-20^\circ\text{C}$ , avoid contact with RNases and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

ATP5I siRNA (h) is recommended for the inhibition of ATP5I 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  $\mu$ M in 66  $\mu$ 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.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.