

SEPHS2 siRNA (h): sc-93120

BACKGROUND

SEPHS2 (selenophosphate synthetase 2), also known as SPS2, Selenium donor protein 2 or Selenide water dikinase 2, is a member of the selenophosphate synthetase 1 family of proteins. SEPHS2 is one of two mammalian homologs of the eubacteria selenophosphate synthetase protein SelD. SelD is an enzyme that generates the selenium donor for the biosynthesis of selenocysteine. SEPHS2 has a similar function to SelD and specifically catalyzes the formation of selenophosphate (the active selenium donor) from selenide and ATP. The knockdown of SEPHS2 expression greatly impairs selenoprotein biosynthesis, suggesting that SEPHS2 is the mammalian enzyme responsible for generating the selenium donor and regulating selenoprotein synthesis. In addition, SEPHS2 is itself a selenoprotein, implying that it may also function as an auto-regulator.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: SEPHS2 (human) mapping to 16p11.2.

PRODUCT

SEPHS2 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see SEPHS2 shRNA Plasmid (h): sc-93120-SH and SEPHS2 shRNA (h) Lentiviral Particles: sc-93120-V as alternate gene silencing products.

For independent verification of SEPHS2 (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-93120A, sc-93120B and sc-93120C.

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

SEPHS2 siRNA (h) is recommended for the inhibition of SEPHS2 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 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 SEPHS2 gene expression knockdown using RT-PCR Primer: SEPHS2 (h)-PR: sc-93120-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.