



Type I 5-phosphatase siRNA (m): sc-154827

BACKGROUND

The inositol polyphosphate 5-phosphatases selectively remove the phosphate from the 5-position of various phosphatidylinositols, which generate second messengers in response to extracellular signals. The type I inositol polyphosphate 5-phosphatase is predominantly expressed in heart, brain, skeletal muscle, and human placenta. The 5-phosphatase associates with 14-3-3 ζ , and, in turn, activates the hydrolysis of inositol 1,4,5-trisphosphate and inositol 1,3,4,5-tetrakisphosphate. The type II inositol polyphosphate 5-phosphatase encodes a full length protein and a splice variant, which is the predominant form. The 5-phosphatase is ubiquitously expressed, and hydrolyzes inositol 1,4,5-trisphosphate, inositol 1,3,4,5-tetrakisphosphate, and phosphatidylinositol 4,5-bisphosphate. Both type I and II 5-phosphatases are thought to regulate the level of intracellular calcium by acting as signal terminating enzymes.

REFERENCES

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5. Campbell, J.K., et al. 1997. Activation of the 43 kDa inositol polyphosphate 5-phosphatase by 14-3-3 ζ . *Biochemistry* 36: 15363-15370.
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CHROMOSOMAL LOCATION

Genetic locus: Inpp5a (mouse) mapping to 7 F4.

PRODUCT

Type I 5-phosphatase 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Type I 5-phosphatase shRNA Plasmid (m): sc-154827-SH and Type I 5-phosphatase shRNA (m) Lentiviral Particles: sc-154827-V as alternate gene silencing products.

For independent verification of Type I 5-phosphatase (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-154827A, sc-154827B and sc-154827C.

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

Type I 5-phosphatase siRNA (m) is recommended for the inhibition of Type I 5-phosphatase 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 Type I 5-phosphatase gene expression knockdown using RT-PCR Primer: Type I 5-phosphatase (m)-PR: sc-154827-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.

PROTOCOLS

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