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PP4R2 siRNA (m): sc-152398

BACKGROUND

In eukaryotes, the phosphorylation and dephosphorylation of proteins on serine and threonine residues is an essential means of regulating a broad range of cellular functions, including division, homeostasis and apoptosis. A group of proteins that are intimately involved in this process are the protein phosphatases. PP4R2 (Serine/threonine-protein phosphatase 4 regulatory subunit 2) is a 417 amino acid centrosomal protein that regulates PPX, a phosphatase that is involved in many intracellular events. Specifically, PP4R2 regulates PPX at centrosomal microtubule organizing centers, where it targets PPX to this location. PP4R2 interacts with the SMN complex, which leads to the enhancement of temporal localization of small nuclear ribonucleoproteins (snRNPs), suggesting that PP4R2 is involved in the maturation of spliceosomal snRNPs. A complex formed by PPX, PP4R3A and PP4R2 dephosphorylates Histone H2A.X on Ser140. There are three isoforms of PP4R2 that are produced as a result of alternative splicing events.

REFERENCES

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3. Carnegie, G.K., et al. 2003. Protein phosphatase 4 interacts with the survival of motor neurons complex and enhances the temporal localisation of snRNPs. *J. Cell Sci.* 116: 1905-1913.
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CHROMOSOMAL LOCATION

Genetic locus: Ppp4r2 (mouse) mapping to 6 D3.

PRODUCT

PP4R2 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 PP4R2 shRNA Plasmid (m): sc-152398-SH and PP4R2 shRNA (m) Lentiviral Particles: sc-152398-V as alternate gene silencing products.

For independent verification of PP4R2 (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-152398A, sc-152398B and sc-152398C.

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

PP4R2 siRNA (m) is recommended for the inhibition of PP4R2 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 PP4R2 gene expression knockdown using RT-PCR Primer: PP4R2 (m)-PR: sc-152398-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.