SANTA CRUZ BIOTECHNOLOGY, INC.

PPP1R6 siRNA (h): sc-76209

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. In general, the protein phosphatase (PP) holoenzyme is a trimeric complex composed of a regulatory subunit, a variable subunit and a catalytic subunit. PPP1R6 (protein phosphatase 1, regulatory subunit 6), also known as PPP1R3D in humans and Ppp1r3d in rodents, is a 299 amino acid protein that contains one CBM21 (carbohydrate binding type-21) domain and exists as a regulatory subunit of the PP1 holoenzyme. Expressed ubiquitously with highest expression in heart and skeletal muscle, PPP1R6 functions as a glycogen-targeting subunit of PP1 and participates in cell division, glycogen metabolism and protein synthesis.

REFERENCES

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2. Johnson, D.F., et al. 1996. Identification of protein-phosphatase-1-binding domains on the glycogen and myofibrillar targetting subunits. Eur. J. Biochem. 239: 317-325.
3. Armstrong, C.G., et al. 1997. PPP1R6, a novel member of the family of glycogen-targetting subunits of protein phosphatase 1. FEBS Lett. 418: 210-214.
4. Lee, E.Y., et al. 1999. Phosphorylase phosphatase: new horizons for an old enzyme. Front. Biosci. 4: D270-D285.
5. Brady, M.J. and Saltiel, A.R. 2001. The role of protein phosphatase-1 in Insulin action. Recent Prog. Horm. Res. 56: 157-173.
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CHROMOSOMAL LOCATION

Genetic locus: PPP1R3D (human) mapping to 20q13.33.

PRODUCT

PPP1R6 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PPP1R6 shRNA Plasmid (h): sc-76209-SH and PPP1R6 shRNA (h) Lentiviral Particles: sc-76209-V as alternate gene silencing products.

For independent verification of PPP1R6 (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-76209A, sc-76209B and sc-76209C.

PROTOCOLS

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

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

PPP1R6 siRNA (h) is recommended for the inhibition of PPP1R6 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 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PPP1R6 gene expression knockdown using RT-PCR Primer: PPP1R6 (h)-PR: sc-76209-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.