SANTA CRUZ BIOTECHNOLOGY, INC.

PP2Cη siRNA (h): sc-61391

BACKGROUND

Eukaryotic protein phosphorylation and dephosphorylation on serine and threonine residues regulates numerous cell functions, including division, homeostasis and apoptosis. A group of proteins that play a major role in this process are the serine/threonine protein phosphatases. Protein phosphatase (PP) holoenzyme is a trimeric complex that contains a regulatory subunit, a variable subunit and a catalytic subunit. PP2C family members are negative regulators of cell stress response pathways. The PP2Cη enzyme contains 406 amino acids and localizes to the nucleus. It contains six motifs conserved in all PP2C family members, and PP2Cη has a unique nuclear localization signal between motifs three and four.

REFERENCES

1. Cheng, A., et. al. 2000. Dephosphorylation of human cyclin-dependent kinases by protein phosphatase type 2Cα and β2 isoforms. J. Biol. Chem. 275: 34744-34749.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 608979. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Komaki, K., et. al. 2003. Molecular cloning of PP2Cη, a novel member of the protein phosphatase 2C family. Biochim. Biophys. Acta 1630: 130-137.
4. Gerhard, D.S., et. al. 2004. The status, quality, and expansion of the NIH full-length cDNA project: the Mammalian Gene Collection (MGC). Genome Res. 14: 2121-2127.
5. Brautigan, D.L., et al. 2005. Allosteric activation of protein phosphatase 2C by D-chiro-inositol-galactosamine, a putative mediator mimetic of Insulin action. Biochemistry 44: 11067-11073.

CHROMOSOMAL LOCATION

Genetic locus: PPM1M (human) mapping to 3p21.2.

PRODUCT

PP2Cη 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 PP2Cη shRNA Plasmid (h): sc-61391-SH and PP2Cη shRNA (h) Lentiviral Particles: sc-61391-V as alternate gene silencing products.

For independent verification of PP2Cη (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-61391A, sc-61391B and sc-61391C.

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.

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

PP2Cη siRNA (h) is recommended for the inhibition of PP2Cη 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 PP2Cη gene expression knockdown using RT-PCR Primer: PP2Cη (h)-PR: sc-61391-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.