SANTA CRUZ BIOTECHNOLOGY, INC.

PP6 siRNA (m): sc-76206

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. Four major families of protein phosphatase catalytic subunit have been identified, designated PP1, PP2A, PP2B and PP2C. An additional protein phosphatase catalytic subunit, PPX (also known as PP4), is a putative member of a novel PP family. PP6 (protein phosphatase 6), also known as PPP6C, is a 305 amino acid cytoplasmic protein that belongs to the PPP phosphatase family. Ubiquitously expressed, PP6 is component of a signaling pathway regulating cell cycle progression in response to IL-2 receptor stimulation and is involved in suppressing inflammatory responses by specifically down-regulating TR4.

REFERENCES

1. Huang, X., et al. 1998. Molecular cloning, expression, and characterization of a novel human serine/threonine protein phosphatase, PP7, that is homologous to *Drosophila* retinal degeneration C gene product (rdgC). J. Biol. Chem. 273: 1462-1468.
2. Honkanen, R.E., et al. 2002. Regulators of serine/threonine protein phosphatases at the dawn of a clinical era? Curr. Med. Chem. 9: 2055-2075.
3. Goshima, G., et al. 2003. The role of Ppe1/PP6 phosphatase for equal chromosome segregation in fission yeast kinetochore. EMBO J. 22: 2752-2763.
4. Kloeker, S., et al. 2003. Parallel purification of three catalytic subunits of the protein serine/threonine phosphatase 2A family ($PP2A_C$, $PP4_C$, and $PP6_C$) and analysis of the interaction of $PP2A_C$ with α4 protein. Protein Expr. Purif. 31: 19-33.
5. Stefansson, B., et al. 2006. Protein phosphatase 6 subunit with conserved Sit4-associated protein domain targets IκBε. J. Biol. Chem. 281: 22624-22634.

CHROMOSOMAL LOCATION

Genetic locus: Ppp6c (mouse) mapping to 2 B.

PRODUCT

PP6 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PP6 shRNA Plasmid (m): sc-76206-SH and PP6 shRNA (m) Lentiviral Particles: sc-76206-V as alternate gene silencing products.

For independent verification of PP6 (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-76206A, sc-76206B and sc-76206C.

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

PP6 siRNA (m) is recommended for the inhibition of PP6 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 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.

GENE EXPRESSION MONITORING

PP6 (E-2): sc-393294 is recommended as a control antibody for monitoring of PP6 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PP6 gene expression knockdown using RT-PCR Primer: PP6 (m)-PR: sc-76206-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.

PROTOCOLS

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