SANTA CRUZ BIOTECHNOLOGY, INC.

PR48 siRNA (h): sc-39204

BACKGROUND

The phosphorylation and dephosphorylation of proteins on serine and threonine residues is an essential means of regulating a broad range of cellular functions. The protein phosphatase (PP) holoenzyme is a trimeric complex composed of a regulatory subunit, a variable subunit and a catalytic subunit. PR48 is a regulatory subunit of protein phosphatase 2A (PP2A). PP2A activity is required for the initiation of DNA replication in yeast, viral and vertebrate systems. PR48 localizes to the nucleus and binds specifically to Cdc6, a highly conserved protein which is required for the formation of prereplicative complexes. PR48 is considered to be involved in the dephosphorylation of Cdc6 by PP2A, a process important to the control of DNA replication in mammalian cell.

REFERENCES

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3. Lin, F.C. and Arndt, K.T. 1995. The role of *Saccharomyces cerevisiae* type 2A phosphatase in the actin cytoskeleton and in entry into mitosis. EMBO J. 14: 2745-2759.
4. Gavin, K.A., et al. 1995. Conserved initiator proteins in eukaryotes. Science 270: 1667-1671.
5. Coleman, T.R., et al. 1996. The *Xenopus* Cdc6 protein is essential for the initiation of a single round of DNA replication in cell-free extracts. Cell 87: 53-63.
6. Yan, Z., et al. 1998. Cdc6 is regulated by E2F and is essential for DNA replication in mammalian cells. Proc. Natl. Acad. Sci. USA 95: 3603-3608.
7. Lin, X.H., et al. 1998. Protein phosphatase 2A is required for the initiation of chromosomal DNA replication. Proc. Natl. Acad. Sci. USA 95: 14693-14698.
8. Yan, Z., et al. 2000. PR48, a novel regulatory subunit of protein phosphatase 2A, interacts with Cdc6 and modulates DNA replication in human cells. Mol. Cell. Biol. 20: 1021-1029.

CHROMOSOMAL LOCATION

Genetic locus: PPP2R3B (human) mapping to Xp22.33.

PRODUCT

PR48 siRNA (h) is a target-specific 19-25 nt siRNA 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 PR48 shRNA Plasmid (h): sc-39204-SH and PR48 shRNA (h) Lentiviral Particles: sc-39204-V as alternate gene silencing products.

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

PR48 siRNA (h) is recommended for the inhibition of PR48 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 PR48 gene expression knockdown using RT-PCR Primer: PR48 (h)-PR: sc-39204-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.