SANTA CRUZ BIOTECHNOLOGY, INC.

P2P-R siRNA (h): sc-40900

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Rb protein and p53 are both cell cycle checkpoint components. Evidence suggests that p53 plays a role in regulating the phosphorylation of Rb by inducing p21 transcription, thus preventing Rb phosphorylation at the G_1 to S transition. Protein-protein interactions seem to be central in p53 cellular activities, as previously demonstrated with MDM2 and SV40 large T antigen. Two novel proteins have been identified by their abilities to bind to p53 and/or Rb. Human RBQ-1 (also designated RBBP6) has been cloned as a novel protein that binds to the retinoblastoma (Rb) gene product. A related mouse protein, P2P-R, also designated PACT (for p53 associated cellular protein-testis derived), has been shown to bind to both Rb and p53. Recombinant P2P-R binds to wildtype p53 but not to mutant p53, and it can interfere with p53 specific DNA binding. RBQ-1 may be a truncated human form of the P2P-R protein.

REFERENCES

1. Lane, D.P., et al. 1979. T antigen is bound to a host protein in SV4-transformed cells. Nature 278: 261-263.
2. DeCaprio, J.A., et al. 1988. SV40 large tumor antigen forms a specific complex with the product of the retinoblastoma susceptibility gene. Cell 54: 275-283.
3. Sturzbecher, H.W., et al. 1988. Mouse p53 blocks SV40 DNA replication *in vitro* and downregulates T antigen DNA helicase activity. Oncogene 3: 405-413.
4. Chellappan, S.P., et al. 1991. The E2F transcription factor is a cellular target for the Rb protein. Cell 65: 1053-1061.
5. Momand, J., et al. 1992. The MDM2 oncogene product forms a complex with the p53 protein and inhibits p53-mediated transactivation. Cell 69: 1237-1245.
6. El-Deiry, W.S., et al. 1993. WAF1, a potential mediator of p53 tumor suppression. Cell 75: 817-825.
7. Sakai, Y., et al. 1995. cDNA sequence and chromosomal localization of a novel human protein, RBQ-1 (RBBP6), that binds to the retinoblastoma gene product. Genomics 30: 98-101.
8. Simons, A., et al. 1997. PACT: cloning and characterization of a cellular p53 binding protein that interacts with Rb. Oncogene 14: 145-155.

CHROMOSOMAL LOCATION

Genetic locus: RBBP6 (human) mapping to 16p12.1.

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.

PRODUCT

P2P-R siRNA (h) is a pool of 2 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 P2P-R shRNA Plasmid (h): sc-40900-SH and P2P-R shRNA (h) Lentiviral Particles: sc-40900-V as alternate gene silencing products.

For independent verification of P2P-R (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-40900A and sc-40900B.

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

P2P-R siRNA (h) is recommended for the inhibition of P2P-R 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.

GENE EXPRESSION MONITORING

P2P-R (M56): sc-9962 is recommended as a control antibody for monitoring of P2P-R 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor P2P-R gene expression knockdown using RT-PCR Primer: P2P-R (h)-PR: sc-40900-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.