SANTA CRUZ BIOTECHNOLOGY, INC.

PARP-10 siRNA (h): sc-63306

BACKGROUND

Poly(ADP-ribose) polymerase-1 (PARP-1), also designated PARP, is a nuclear DNA-binding, zinc finger protein that influences DNA repair, DNA replication, modulation of chromatin structure and apoptosis. In response to genotoxic stress, PARP-1 catalyzes the transfer of ADP-ribose units from NAD^+ to a number of acceptor molecules, including chromatin. PARP-1 recognizes DNA strand interruptions, can complex with RNA, and negatively regulates transcription. Actinomycin D- and etoposide-dependent induction of caspases mediates cleavage of PARP-1 into a p89 fragment that traverses into the cytoplasm. PARP-10 is a PARP enzyme that is involved in the control of cell proliferation. PARP-10 localizes to the nuclear and cytoplasmic compartments, where it inhibits c-Myc- and E1A-mediated fibroblast cotransformation.

REFERENCES

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2. Lazebnik, Y.A., et al. 1994. Cleavage of poly(ADP-ribose) polymerase by a proteinase with properties like ICE. Nature 371: 346-347.
3. Darmon, A.J., et al. 1995. Activation of the apoptotic protease CPP32 by cytotoxic T-cell-derived granzyme B. Nature 377: 446-448.
4. Wang, Z.Q., et al 1997. PARP is important for genomic stability but dispensable in apoptosis. Genes Dev. 11: 2347-58.
5. Jeggo, P.A. 1998. DNA repair: PARP-another guardian angel? Curr. Biol. 8: R49-R51.
6. d'Adda di Fagagna, F., et al. 1999. Functions of poly(ADP-ribose) polymerase in controlling telomere length and chromosomal stability. Nat. Genet. 23: 76-80.
7. Beneke, R., et al. 2000. DNA excision repair and DNA damage-induced apoptosis are linked to poly(ADP-ribosyl)ation but have different requirements for p53. Mol. Cell. Biol. 20: 6695-6703.
8. Vispe, S., et al. 2000. A cellular defense pathway regulating transcription through poly(ADP-ribosyl)ation in response to DNA damage. Proc. Natl. Acad. Sci. USA 97: 9886-9891.
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CHROMOSOMAL LOCATION

Genetic locus: PARP10 (human) mapping to 8q24.3.

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

PARP-10 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 PARP-10 shRNA Plasmid (h): sc-63306-SH and PARP-10 shRNA (h) Lentiviral Particles: sc-63306-V as alternate gene silencing products.

For independent verification of PARP-10 (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-63306A, sc-63306B and sc-63306C.

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

PARP-10 siRNA (h) is recommended for the inhibition of PARP-10 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

PARP-10 (5H11): sc-53858 is recommended as a control antibody for monitoring of PARP-10 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 PARP-10 gene expression knockdown using RT-PCR Primer: PARP-10 (h)-PR: sc-63306-PR (20 µl, 497 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.