SANTA CRUZ BIOTECHNOLOGY, INC.

TP53TG5 siRNA (h): sc-76718

BACKGROUND

p53, a DNA-binding, oligomerization domain- and transcription activation domain-containing tumor suppressor, upregulates growth arrest and apoptosis-related genes in response to stress signals, thereby influencing programmed cell death, cell differentiation, and cell cycle control mechanisms. TP53TG5 (TP53-target gene 5 protein), also known as TP53-inducible gene 5 protein, is a 290 amino acid protein that interacts with p53 and may modulate p53 signaling pathways. TP53TG5 is highly expressed in brain, small intestine and heart, and is less abundant in prostate, ovary, skeletal muscle, colon and spleen. Expression of TP53TG5 is induced by p53, UV-radiation, by hydrogen peroxide treatment or by treatment with a DNA-damaging reagent.

REFERENCES

1. Matlashewski, G., et al. 1984. Isolation and characterization of a human p53 cDNA clone: expression of the human p53 gene. EMBO J. 3: 3257-3262.
2. Kern, S.E., et al. 1991. Identification of p53 as a sequence-specific DNA-binding protein. Science 252: 1708-1711.
3. Ng, C.C., et al. 1999. Isolation and characterization of a novel TP53-inducible gene, TP53TG3. Genes Chromosomes Cancer 26: 329-335.
4. Isaka, S., et al. 2000. Isolation and characterization of a novel TP53-inducible gene, TP53TG5, which suppresses growth and shows cell cycle-dependent transition of expression. Genes Chromosomes Cancer 27: 345-352.
5. Viallard, J.F., et al. 2001. Molecular mechanisms controlling the cell cycle: fundamental aspects and implications for oncology. Cancer Radiother. 5: 109-129.
6. Deloukas, P., et al. 2001. The DNA sequence and comparative analysis of human chromosome 20. Nature 414: 865-871.
7. 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.

CHROMOSOMAL LOCATION

Genetic locus: TP53TG5 (human) mapping to 20q13.12.

PRODUCT

TP53TG5 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 TP53TG5 shRNA Plasmid (h): sc-76718-SH and TP53TG5 shRNA (h) Lentiviral Particles: sc-76718-V as alternate gene silencing products.

For independent verification of TP53TG5 (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-76718A, sc-76718B and sc-76718C.

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

TP53TG5 siRNA (h) is recommended for the inhibition of TP53TG5 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 TP53TG5 gene expression knockdown using RT-PCR Primer: TP53TG5 (h)-PR: sc-76718-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.