

# DSCP1 siRNA (h): sc-93555

## BACKGROUND

DSCP1 (damage-stimulated cytoplasmic protein 1), also known as TP53I13 (tumor protein p53-inducible protein 13), is a 393 amino acid single-pass type I membrane protein that is ubiquitously expressed in normal adult tissues. Genotoxic stresses of adriamycin and/or ultraviolet beam irradiation lead to upregulation of DSCP1 in a p53-dependent manner. Overexpression of DSCP1 inhibits tumor cell growth, suggesting that it may act as a tumor suppressor. The gene encoding DSCP1 maps to human chromosome 17, which comprises over 2.5% of the human genome and encodes over 1,200 genes. Two key tumor suppressor genes are associated with chromosome 17, namely, p53 and BRCA1. Tumor suppressor p53 is necessary for maintenance of cellular genetic integrity by moderating cell fate through DNA repair versus cell death. Malfunction or loss of p53 expression is associated with malignant cell growth and Li-Fraumeni syndrome.

## REFERENCES

1. Smith, M.L. and Fornace, A.J. 1996. Mammalian DNA damage-inducible genes associated with growth arrest and apoptosis. *Mutat. Res.* 340: 109-124.
2. Gilbert, F. 1998. Disease genes and chromosomes: disease maps of the human genome. *Chromosome 17. Genet. Test.* 2: 357-381.
3. Komarova, E.A. and Gudkov, A.V. 1998. Could p53 be a target for therapeutic suppression? *Semin. Cancer Biol.* 8: 389-400.
4. Hata, T., Ogawa, T., Yokoyama, T.A., Fukushima, S., Horii, A. and Furukawa, T. 2004. DSCP1, a novel TP53-inducible gene, is upregulated by strong genotoxic stresses and its overexpression inhibits tumor cell growth *in vitro*. *Int. J. Oncol.* 24: 513-520.
5. Ben-Porath, I. and Weinberg, R.A. 2005. The signals and pathways activating cellular senescence. *Int. J. Biochem. Cell Biol.* 37: 961-976.

## CHROMOSOMAL LOCATION

Genetic locus: TP53I13 (human) mapping to 17q11.2.

## PRODUCT

DSCP1 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see DSCP1 shRNA Plasmid (h): sc-93555-SH and DSCP1 shRNA (h) Lentiviral Particles: sc-93555-V as alternate gene silencing products.

For independent verification of DSCP1 (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-93555A, sc-93555B and sc-93555C.

## PROTOCOLS

See our web site at [www.scbt.com](http://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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

DSCP1 siRNA (h) is recommended for the inhibition of DSCP1 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  $\mu$ M in 66  $\mu$ l. 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 DSCP1 gene expression knockdown using RT-PCR Primer: DSCP1 (h)-PR: sc-93555-PR (20  $\mu$ l). 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.