

# WDR79 siRNA (h): sc-93974

## BACKGROUND

WD-repeats are motifs that are found in a variety of proteins and are characterized by a conserved core of 40-60 amino acids that commonly form a tertiary propeller structure. While proteins that contain WD-repeats participate in a wide range of cellular functions, they are generally involved in regulatory mechanisms concerning chromatin assembly, cell cycle control, signal transduction, RNA processing, apoptosis and vesicular trafficking. WDR79 (WD repeat-containing protein 79), also known as TCAB1 or WRAP53, is a 548 amino acid nuclear protein that is expressed in all tissues. WDR79 is a component of the telomerase holoenzyme complex, which is a ribonucleoprotein complex that is essential for replication of chromosome termini that elongates telomeres in most eukaryotes and controls telomerase localization to Cajal body. The mRNA encoding WDR79 plays a critical role in maintaining basal p53 mRNA levels and in p53 induction upon DNA damage.

## REFERENCES

1. van der Voorn, L., et al. 1992. The WD-40 repeat. *FEBS Lett.* 307: 131-134.
2. Neer, E.J., et al. 1994. The ancient regulatory-protein family of WD-repeat proteins. *Nature* 371: 297-300.
3. Garcia-Closas, M., et al. 2007. Common genetic variation in TP53 and its flanking genes, WDR79 and ATP1B2, and susceptibility to breast cancer. *Int. J. Cancer* 121: 2532-2538.
4. Farnebo, M. 2009. WRAP53, a novel regulator of p53. *Cell Cycle* 8: 2343-2346.
5. Mahmoudi, S., et al. 2009. WRAP53, a natural p53 antisense transcript required for p53 induction upon DNA damage. *Mol. Cell* 33: 462-471.

## CHROMOSOMAL LOCATION

Genetic locus: WRAP53 (human) mapping to 17p13.1.

## PRODUCT

WDR79 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 WDR79 shRNA Plasmid (h): sc-93974-SH and WDR79 shRNA (h) Lentiviral Particles: sc-93974-V as alternate gene silencing products.

For independent verification of WDR79 (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-93974A, sc-93974B and sc-93974C.

## 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

WDR79 siRNA (h) is recommended for the inhibition of WDR79 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.

## GENE EXPRESSION MONITORING

WDR79 (1F12): sc-517078 is recommended as a control antibody for monitoring of WDR79 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).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor WDR79 gene expression knockdown using RT-PCR Primer: WDR79 (h)-PR: sc-93974-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## SELECT PRODUCT CITATIONS

1. Yuan, P., et al. 2014. Telomerase Cajal body protein 1 depletion inhibits telomerase trafficking to telomeres and induces G<sub>1</sub> cell cycle arrest in A549 cells. *Oncol. Lett.* 8: 1009-1016.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.