

# WAPL siRNA (h): sc-76910

## BACKGROUND

WAPL (wings apart-like), also known as WAPAL or FOE, is a 1,190 amino acid protein that contains one WAPL domain and is expressed as two alternatively spliced isoforms, one of which localizes to the nucleus. Expressed in an isoform-dependent manner in heart, skeletal muscle and uterine cervix tumor tissue, WAPL is involved in sister-chromatid adhesion and overall cell growth, specifically playing a role in the development and metastasis of cancerous tissue. The gene encoding WAPL maps to human chromosome 10, which houses over 1,200 genes and comprises nearly 4.5% of the human genome. Defects in some of the genes that map to chromosome 10 are associated with Charcot-Marie Tooth disease, Jackson-Weiss syndrome, Usher syndrome, nonsyndromic deafness, Wolman's syndrome, Cowden syndrome, multiple endocrine neoplasia type 2 and porphyria.

## REFERENCES

1. Oikawa, K., et al. 2004. Expression of a novel human gene, human wings apart-like (hWAPL), is associated with cervical carcinogenesis and tumor progression. *Cancer Res.* 64: 3545-3549.
2. Kwiatkowski, B.A., et al. 2004. Identification and cloning of a novel chromatin-associated protein partner of Epstein-Barr nuclear protein 2. *Exp. Cell Res.* 300: 223-233.
3. Kuroda, M., et al. 2005. A dioxin sensitive gene, mammalian WAPL, is implicated in spermatogenesis. *FEBS Lett.* 579: 167-172.
4. Kueng, S., et al. 2006. Wapl controls the dynamic association of cohesin with chromatin. *Cell* 127: 955-967.
5. Gandhi, R., et al. 2006. Human Wapl is a cohesin-binding protein that promotes sister-chromatid resolution in mitotic prophase. *Curr. Biol.* 16: 2406-2417.
6. Ohbayashi, T., et al. 2007. Unscheduled overexpression of human WAPL promotes chromosomal instability. *Biochem. Biophys. Res. Commun.* 356: 699-704.
7. Oikawa, K., et al. 2008. Expression of various types of alternatively spliced WAPL transcripts in human cervical epithelia. *Gene* 423: 57-62.

## CHROMOSOMAL LOCATION

Genetic locus: WAPAL (human) mapping to 10q23.2.

## PRODUCT

WAPL 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 WAPL shRNA Plasmid (h): sc-76910-SH and WAPL shRNA (h) Lentiviral Particles: sc-76910-V as alternate gene silencing products.

For independent verification of WAPL (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-76910A, sc-76910B and sc-76910C.

## 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

WAPL siRNA (h) is recommended for the inhibition of WAPL 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

WAPL (A-7): sc-365189 is recommended as a control antibody for monitoring of WAPL 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<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor WAPL gene expression knockdown using RT-PCR Primer: WAPL (h)-PR: sc-76910-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.

## PROTOCOLS

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