

# POLDIP3 siRNA (h): sc-76192

## BACKGROUND

POLDIP3 (polymerase  $\delta$ -interacting protein 3), also known as SKAR or PDIP46, is a 421 amino acid nuclear protein. POLDIP3 interacts with DNA pol  $\delta$  2, a protein essential to DNA replication, recombination and repair. POLDIP3 is a substrate for the signaling intermediate Rsk-1 and is thought to regulate cell growth. POLDIP3 contains one RRM (RNA recognition motif) domain and is phosphorylated upon DNA damage. POLDIP3 is ubiquitously expressed, with highest levels found in heart, kidney, skeletal muscle and brain. Due to alternative splicing, POLDIP3 is expressed as two isoforms.

## REFERENCES

1. Hirosawa, M., et al. 2001. Identification of novel transcribed sequences on human chromosome 22 by expressed sequence tag mapping. *DNA Res.* 8: 1-9.
2. Liu, L., et al. 2003. Identification of a novel protein, PDIP38, that interacts with the p50 subunit of DNA polymerase delta and proliferating cell nuclear antigen. *J. Biol. Chem.* 278: 10041-10047.
3. Richardson, C.J., et al. 2004. SKAR is a specific target of S6 kinase 1 in cell growth control. *Curr. Biol.* 14: 1540-1549.
4. Andersen, J.S., et al. 2005. Nucleolar proteome dynamics. *Nature* 433: 77-83.
5. Smyk, A., et al. 2006. Human enhancer of rudimentary is a molecular partner of PDIP46/SKAR, a protein interacting with DNA polymerase  $\delta$  and S6K1 and regulating cell growth. *FEBS J.* 273: 4728-4741.
6. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 611520. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
7. Ma, X.M., et al. 2008. SKAR links pre-mRNA splicing to mTOR/S6K1-mediated enhanced translation efficiency of spliced mRNAs. *Cell* 133: 303-313.

## CHROMOSOMAL LOCATION

Genetic locus: POLDIP3 (human) mapping to 22q13.2.

## PRODUCT

POLDIP3 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 POLDIP3 shRNA Plasmid (h): sc-76192-SH and POLDIP3 shRNA (h) Lentiviral Particles: sc-76192-V as alternate gene silencing products.

For independent verification of POLDIP3 (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-76192A, sc-76192B and sc-76192C.

## 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

POLDIP3 siRNA (h) is recommended for the inhibition of POLDIP3 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

POLDIP3 (G-2): sc-398931 is recommended as a control antibody for monitoring of POLDIP3 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 POLDIP3 gene expression knockdown using RT-PCR Primer: POLDIP3 (h)-PR: sc-76192-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. Schumann, S., et al. 2016. Interactions between KSHV ORF57 and the novel human TREX proteins, CHTOP and CIP29. *J. Gen. Virol.* 97: 1904-1910.

## RESEARCH USE

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