



# SZABO SCANDIC

Part of Europa Biosite

## Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

Weitere Information auf den folgenden Seiten!  
See the following pages for more information!



### Lieferung & Zahlungsart

siehe unsere [Liefer- und Versandbedingungen](#)

### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

### SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

[mail@szabo-scandic.com](mailto:mail@szabo-scandic.com)

[www.szabo-scandic.com](http://www.szabo-scandic.com)

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

# DNA pol $\lambda$ shRNA (h) Lentiviral Particles: sc-43729-V

## BACKGROUND

DNA polymerase lambda (pol  $\lambda$ ), also designated DNA polymerase  $\kappa$  or Pol  $\beta$ 2, is a low-fidelity polymerase which plays a role in both spontaneous and DNA damage-induced mutagenesis. Encoded by the POLL gene, pol  $\lambda$  is a member of the DNA polymerase type-X family. Pol  $\lambda$  extends primer-terminal mismatches opposite nondamaged DNA templates, suggesting that it may assist in extending mismatched base pairs during normal DNA replication. In addition, pol  $\lambda$  may play a role in the mutagenic bypass of T-T dimers. Proliferating cell nuclear antigen (PCNA), a protein essential to DNA replication, interacts with pol  $\lambda$  and thus influences the ability of pol  $\lambda$  to synthesize DNA.

## REFERENCES

- Zhang, Y., et al. 2000. Human DNA polymerase  $\kappa$  synthesizes DNA with extraordinarily low fidelity. *Nucleic Acids Res.* 28: 4147-4156.
- Ohashi, E., et al. 2000. Fidelity and processivity of DNA synthesis by DNA polymerase  $\kappa$ , the product of the human DINB1 gene. *J. Biol. Chem.* 275: 39678-39684.
- Paunesku, T., et al. 2001. Proliferating cell nuclear antigen (PCNA): ring-master of the genome. *Int. J. Radiat. Biol.* 77: 1007-1021.
- O-Wang, J., et al. 2001. DNA polymerase  $\kappa$ , implicated in spontaneous and DNA damage-induced mutagenesis, is overexpressed in lung cancer. *Cancer Res.* 61: 5366-5369.
- Ogi, T., et al. 2001. Expression of human and mouse genes encoding pol $\kappa$ : testis-specific developmental regulation and AhR-dependent inducible transcription. *Genes Cells* 6: 943-953.
- Washington, M.T., et al. 2002. Human DINB1-encoded DNA polymerase  $\kappa$  is a promiscuous extender of mispaired primer termini. *Proc. Natl. Acad. Sci. USA* 99: 1910-1914.
- Haracska, L., et al. 2002. Stimulation of DNA synthesis activity of human DNA polymerase  $\kappa$  by PCNA. *Mol. Cell. Biol.* 22: 784-791.

## CHROMOSOMAL LOCATION

Genetic locus: POLL (human) mapping to 10q24.32.

## PRODUCT

DNA pol  $\lambda$  shRNA (h) Lentiviral Particles is a pool of concentrated, transduction-ready viral particles containing 3 target-specific constructs that encode 19-25 nt (plus hairpin) shRNA designed to knock down gene expression. Each vial contains 200  $\mu$ l frozen stock containing  $1.0 \times 10^6$  infectious units of virus (IFU) in Dulbecco's Modified Eagle's Medium with 25 mM HEPES pH 7.3. Suitable for 10-20 transductions. Also see DNA pol  $\lambda$  siRNA (h): sc-43729 and DNA pol  $\lambda$  shRNA Plasmid (h): sc-43729-SH as alternate gene silencing products.

## STORAGE

Store lentiviral particles at  $-80^\circ$  C. Stable for at least one year from the date of shipment. Once thawed, particles can be stored at  $4^\circ$  C for up to one week. Avoid repeated freeze thaw cycles.

## APPLICATIONS

DNA pol  $\lambda$  shRNA (h) Lentiviral Particles is recommended for the inhibition of DNA pol  $\lambda$  expression in human cells.

## SUPPORT REAGENTS

Control shRNA Lentiviral Particles: sc-108080. Available as 200  $\mu$ l frozen viral stock containing  $1.0 \times 10^6$  infectious units of virus (IFU); contains an shRNA construct encoding a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA.

## GENE EXPRESSION MONITORING

DNA pol  $\lambda$  (E-11): sc-373844 is recommended as a control antibody for monitoring of DNA pol  $\lambda$  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 (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker<sup>™</sup> compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz<sup>™</sup> Mounting Medium: sc-24941.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor DNA pol  $\lambda$  gene expression knockdown using RT-PCR Primer: DNA pol  $\lambda$  (h)-PR: sc-43729-PR (20  $\mu$ l). Annealing temperature for the primers should be  $55-60^\circ$  C and the extension temperature should be  $68-72^\circ$  C.

## BIOSAFETY

Lentiviral particles can be employed in standard Biosafety Level 2 tissue culture facilities (and should be treated with the same level of caution as with any other potentially infectious reagent). Lentiviral particles are replication-incompetent and are designed to self-inactivate after transduction and integration of shRNA constructs into genomic DNA of target cells.

## RESEARCH USE

The purchase of this product conveys to the buyer the nontransferable right to use the purchased amount of the product and all replicates and derivatives for research purposes conducted by the buyer in his laboratory only (whether the buyer is an academic or for-profit entity). The buyer cannot sell or otherwise transfer (a) this product (b) its components or (c) materials made using this product or its components to a third party, or otherwise use this product or its components or materials made using this product or its components for Commercial Purposes.

## PROTOCOLS

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