SANTA CRUZ BIOTECHNOLOGY, INC.

# DNA pol δ 3 siRNA (m): sc-143070

## BACKGROUND

DNA replication, recombination and repair, all of which are necessary for genomic stability, require the presence of exonucleases. In DNA replication, exonucleases are involved in the processing of Okazaki fragments, whereas in DNA repair, they function to excise damaged DNA fragments and correct recombinational mismatches. These exonucleases include the family of DNA polymerases, namely DNA pol α, β, δ and ε. DNA pol δ and DNA pol ε are multisubunit enzymes, with DNA pol δ consisting of two subunits which interact with the sliding DNA clamp protein PCNA. DNA pol δ 3, also known as POLD3 or p66, is a 466 amino acid nuclear protein that is required for the proper function of DNA pol δ.

## REFERENCES


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2. Hughes, P., et al. 1999. Isolation and identification of the third subunit of mammalian DNA polymerase δ by PCNA-affinity chromatography of mouse FM3A cell extracts. Nucleic Acids Res. 27: 2108-2114.
3. Liu, G., et al. 2006. The p66 and p12 subunits of DNA polymerase δ are modified by ubiquitin and ubiquitin-like proteins. Biochem. Biophys. Res. Commun. 349: 360-366.
4. Masuda, Y., et al. 2007. Dynamics of human replication factors in the elongation phase of DNA replication. Nucleic Acids Res. 35: 6904-6916.
5. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 611415. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
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7. Baranovskiy, A.G., et al. 2008. X-ray structure of the complex of regulatory subunits of human DNA polymerase δ. Cell Cycle 7: 3026-3036.
8. Baranovskiy, A.G., et al. 2008. Crystallization and preliminary crystallographic analysis of the complex of the second and third regulatory subunits of human Pol δ. Acta Crystallogr. Sect. F Struct. Biol. Cryst. Commun. 64: 822-824.


## CHROMOSOMAL LOCATION

Genetic locus: Pold3 (mouse) mapping to 7 E2.

## PRODUCT

DNA pol δ 3 siRNA (m) is a target-specific 19-25 nt siRNA designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see DNA pol δ 3 shRNA Plasmid (m): sc-143070-SH and DNA pol δ 3 shRNA (m) Lentiviral Particles: sc-143070-V as alternate gene silencing products.

## PROTOCOLS

See our web site at 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 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

DNA pol δ 3 siRNA (m) is recommended for the inhibition of DNA pol δ 3 expression in mouse 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 µM in 66 µl. 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 DNA pol δ 3 gene expression knockdown using RT-PCR Primer: DNA pol δ 3 (m)-PR: sc-143070-PR (20 µl). 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.