

DNA pol μ siRNA (m): sc-155886

BACKGROUND

DNA polymerase μ shares a number of characteristics with DNA polymerase β as well as with terminal deoxynucleotidyltransferase. Pol μ purportedly plays a role in microhomology mediated joining and the repair of double-stranded breaks. However, unlike other DNA polymerases, which show substrate specificity for deoxynucleotides, DNA Pol μ incorporates both deoxynucleotides and ribonucleotides in a template-directed manner. This unusual capability implies a novel role for this polymerase in DNA repair.

REFERENCES

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2. Zhang, Y., et al. 2002. Lesion bypass activities of human DNA polymerase μ . *J. Biol. Chem.* 277: 44582-44587.
3. Mahajan, K.N., et al. 2002. Association of DNA polymerase μ (pol μ) with Ku and ligase IV: role for pol μ in end-joining double-strand break repair. *Mol. Cell. Biol.* 22: 5194-5202.
4. Havener, J.M., et al. 2003. Translesion synthesis past platinum DNA adducts by human DNA polymerase μ . *Biochemistry* 42: 1777-1788.
5. Nick McElhinny, S.A., et al. 2003. Polymerase μ is a DNA-directed DNA/RNA polymerase. *Mol. Cell. Biol.* 23: 2309-2315.
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7. Washington, M.T., et al. 2004. Efficient and error-free replication past a minor-groove DNA adduct by the sequential action of human DNA polymerases ι and κ . *Mol. Cell. Biol.* 24: 5687-5693.
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CHROMOSOMAL LOCATION

Genetic locus: Polm (mouse) mapping to 11 A1.

PRODUCT

DNA pol μ 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see DNA pol μ shRNA Plasmid (m): sc-155886-SH and DNA pol μ shRNA (m) Lentiviral Particles: sc-155886-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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

DNA pol μ siRNA (m) is recommended for the inhibition of DNA pol μ 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 μ M in 66 μ 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

DNA pol μ (E-8): sc-398666 is recommended as a control antibody for monitoring of DNA pol μ 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 κ BP-HRP: sc-516102 or m-IgG κ 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 κ BP-FITC: sc-516140 or m-IgG κ 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 DNA pol μ gene expression knockdown using RT-PCR Primer: DNA pol μ (m)-PR: sc-155886-PR (20 μ 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.