

# DNA Pol $\mu$ (C-15): sc-27769

## BACKGROUND

DNA polymerase mu (Pol mu) is a DNA-dependent DNA polymerase that shares relation to terminal deoxynucleotidyl transferase (TdT), and is prone to induce template/primer misalignments and misincorporation. Pol mu incorporates both ribonucleotides and deoxynucleotides in a template-directed manner and mediates an end-joining pathway for repair of double-strand breaks. Up-regulation of pol mu gene expression may be a contributing factor to the pathogenesis of a subset of B-cell non-Hodgkin's lymphomas through DNA repair-associated genomic instability.

## REFERENCES

1. Havener, J.M., et al. 2003. Translesion synthesis past platinum DNA adducts by human DNA polymerase mu. *Biochemistry*. 42: 1777-1788.
2. Nick McElhinny, S.A., et al. 2003. Polymerase mu is a DNA-directed DNA/RNA polymerase. *Mol Cell Biol*. 23: 2309-2315.
3. Ruiz, J.F., et al. 2003. Lack of sugar discrimination by human Pol mu requires a single glycine residue. *Nucleic Acids Res*. 31: 4441-4449.
3. 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 iota and kappa. *Mol. Cell. Biol*. 24: 5687-5693.
4. Covo, S., et al. 2004. Lesion bypass by human DNA polymerase mu reveals a template-dependent, sequence-independent nucleotidyl transferase activity. *J Biol Chem* 279: 859-865.
6. Chiu, A., et al. 2002. DNA polymerase mu gene expression in B-cell non-Hodgkin's lymphomas: an analysis utilizing in situ hybridization. *Am. J. Pathol*. 161: 1349-1355.
7. Zhang, Y., et al. 2002. Lesion bypass activities of human DNA polymerase mu. *J. Biol. Chem*. 277: 44582-44587.
8. Mahajan, K.N., et al. 2002. Association of DNA polymerase mu (pol mu) with Ku and ligase IV: role for pol mu in end-joining double-strand break repair. *Mol. Cel. Bio*. 22: 5194-5202.

## SOURCE

DNA Pol m (C-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of DNA Polymerase mu of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-27769 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## APPLICATIONS

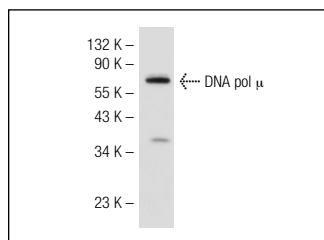
DNA Pol  $\mu$  (C-15) is recommended for detection of DNA Polymerase mu of mouse, rat, human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for DNA pol  $\mu$  siRNA (h): sc-105304, DNA pol  $\mu$  siRNA (m): sc-155886, DNA pol  $\mu$  shRNA Plasmid (h): sc-105304-SH, DNA pol  $\mu$  shRNA Plasmid (m): sc-155886-SH, DNA pol  $\mu$  shRNA (h) Lentiviral Particles: sc-105304-V and DNA pol  $\mu$  shRNA (m) Lentiviral Particles: sc-155886-V.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



DNA pol  $\mu$  (C-15): sc-27769. Western blot analysis of DNA pol  $\mu$  expression in Jurkat whole cell lysate.

## PROTOCOLS

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

## RESEARCH USE

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