SANTA CRUZ BIOTECHNOLOGY, INC.

DNA Pol μ (E-15): sc-27768

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

DNA polymerase μ shares a number of characteristics with DNA polymerase β as well as with terminal deoxynucleotideyltransferase. 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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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.l 22: 5194-5202.

CHROMOSOMAL LOCATION

Genetic locus: POLM (human) mapping to 7p13; Polm (mouse) mapping to 11 A1.

SOURCE

DNA Pol m (E-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of DNA Polymerase μ of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-27768 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

DNA Pol μ (E-15) is recommended for detection of DNA Pol μ of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 μ siRNA (h): sc-105304, DNA Pol μ siRNA (m): sc-155886, DNA Pol μ shRNA Plasmid (h): sc-105304-SH, DNA Pol μ shRNA Plasmid (m): sc-155886-SH, DNA Pol μ shRNA (h) Lentiviral Particles: sc-105304-V and DNA Pol μ 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) 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.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.