SANTA CRUZ BIOTECHNOLOGY, INC.

DNA pol ζ (V-15): sc-5941

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

DNA replication, recombination and repair, all of which are necessary for genomic stability, require the presence of exonucleases. In DNA replication, these enzymes 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. DNA pol α, β, δ, and ε are involved in DNA replication and repair. DNA pol δ and DNA pol ε are multisubunit enzymes, with DNA pol δ consisting of two subunits p125, which interacts with the sliding DNA clamp protein PCNA, and p50. The nuclear-encoded DNA pol γ is the only DNA polymerase required for the replication of the mitochondrial DNA. DNA pol ζ is ubiquitously expressed in various tissues and mediates the cellular mechanism of damage-induced mutagenesis. DNA pol θ is a DNA polymerase-helicase that binds ATP and is involved in the repair of interstrand crosslinks.

REFERENCES

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4. Diede, S.J. and Gottschling, D.E. 1999. Telomerase-mediated telomere addition *in vivo* requires DNA primase and DNA polymerases α and δ. Cell 99: 723-733
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7. Sharief, F.S., Vojta, P.J., Ropp, P.A. and Copeland, W.C. 1999. Cloning and chromosomal mapping of the human DNA polymerase θ (POLQ), the eighth human DNA polymerase. Genomics 59: 90-96.
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CHROMOSOMAL LOCATION

Genetic locus: REV3L (human) mapping to 6q21; Rev3l (mouse) mapping to 10 B1.

SOURCE

DNA pol ζ (V-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of DNA pol ζ of human origin.

STORAGE

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

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-5941 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

DNA pol ζ (V-15) is recommended for detection of DNA pol ζ 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).

DNA pol ζ (V-15) is also recommended for detection of DNA pol ζ in additional species, including bovine and porcine.

Suitable for use as control antibody for DNA pol ζ siRNA (h): sc-37790, DNA pol ζ siRNA (m): sc-37791, DNA pol ζ shRNA Plasmid (h): sc-37790-SH, DNA pol ζ shRNA Plasmid (m): sc-37791-SH, DNA pol ζ shRNA (h) Lentiviral Particles: sc-37790-V and DNA pol ζ shRNA (m) Lentiviral Particles: sc-37791-V.

Molecular Weight of DNA pol ζ: 353 kDa.

Positive Controls: K-562 nuclear extract: sc-2130 or Jurkat nuclear extract: sc-2132.

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.

RESEARCH USE

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

PROTOCOLS

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