SANTA CRUZ BIOTECHNOLOGY, INC.

# DNA pol α (G-16): sc-5921

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.

## CHROMOSOMAL LOCATION

Genetic locus: POLA1 (human) mapping to Xp22.11; Pola1 (mouse) mapping to X C3.

## SOURCE

DNA pol α (G-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of DNA pol α of mouse 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-5921 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

DNA pol α (G-16) is recommended for detection of DNA pol α of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

DNA pol α (G-16) is also recommended for detection of DNA pol α in additional species, including equine, canine, bovine and avian.

Suitable for use as control antibody for DNA pol α siRNA (h): sc-37771, DNA pol α siRNA (m): sc-37772, DNA pol α shRNA Plasmid (h): sc-37771-SH, DNA pol α shRNA Plasmid (m): sc-37772-SH, DNA pol α shRNA (h) Lentiviral Particles: sc-37771-V and DNA pol α shRNA (m) Lentiviral Particles: sc-37772-V.

Molecular Weight of DNA pol α: 180 kDa.

Positive Controls: Jurkat nuclear extract: sc-2132, K-562 nuclear extract: sc-2130 or KNRK nuclear extract: sc-2141.

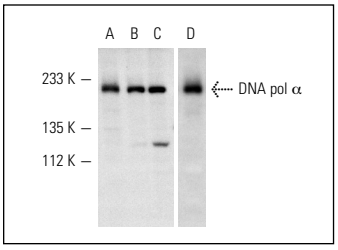
## RESEARCH USE

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

## STORAGE

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

## DATA




DNA pol α (G-16): sc-5921. Western blot analysis of DNA pol α expression in Jurkat (**A**,**D**), K-562 (**B**) and KNRK (**C**) nuclear extracts. Antibodies tested include DNA pol α (G-16): sc-5921 (**A-C**) and DNA pol α (N-19): sc-5920 (**B**).

## SELECT PRODUCT CITATIONS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4. Yang, Z.F., et al. 2007. The Ets transcription factor GABP is required for cell-cycle progression. Nat. Cell Biol. 9: 339-346.
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8. Li, Y., et al. 2012. The involvement of acidic nucleoplasmic DNA-binding protein (And-1) in the regulation of prereplicative complex (pre-RC) assembly in human cells. J. Biol. Chem. 287: 42469-42479.
9. Hao, J., et al. 2015. And-1 coordinates with Claspin for efficient Chk1 activation in response to replication stress. EMBO J. 34: 2096-2110.