SANTA CRUZ BIOTECHNOLOGY, INC.

DNA pol α (H-230): sc-48818

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 (H-230) is a rabbit polyclonal antibody raised against amino acids 1211-1440 mapping near the C-terminus of DNA pol α 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.

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 α (H-230) 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), immunohistochemistry (including paraffin-embedded sections) (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 (H-230) is also recommended for detection of DNA pol α in additional species, including equine, canine and bovine.

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.

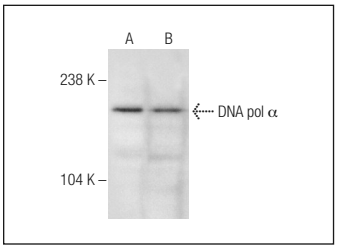
Molecular Weight of DNA pol α: 180 kDa.

Positive Controls: MOLT-4 nuclear extract: sc-2151, Ramos nuclear extract: sc-2153 or Jurkat nuclear extract: sc-2132.

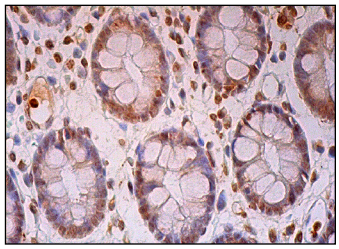
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



DNA pol α (H-230): sc-48818. Western blot analysis of DNA pol α expression in MOLT-4 (**A**) and Ramos (**B**) nuclear extracts.



DNA pol α (H-230): sc-48818. Immunoperoxidase staining of formalin fixed, paraffin-embedded human colon tissue showing nuclear staining of glandular cells and Interstitial cells.

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.