SANTA CRUZ BIOTECHNOLOGY, INC.

DNA pol δ cat (H-300): sc-10784

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

DNA replication, recombination and repair, all of which are necessary for genome 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. Exonucleases involved in these processes include DNA polymerases, including DNA pol δ and ε. DNA pol δ consists of two subunits, p125 which interacts directly with the sliding DNA clamp protein PCNA, and p50. DNA pol δ can be regulated by cell cycle proteins. DNA pol ε is a multiple subunit enzyme, the catalytic subunit of which is encoded by the POL2 gene. The exact reactions catalyzed by DNA pol δ and ε on leading and lagging strands have not yet been elucidated.

REFERENCES

1. Lee, M.Y., et al. 1984. Further studies on calf thymus DNA polymerase δ purified to homogeneity by a new procedure. Biochemistry 23: 1906-1913.
2. Hamatake, R.K., et al. 1990. Purification and characterization of DNA polymerase II from the yeast *Saccharomyces cerevisiae*. Identification of the catalytic core and a possible holoenzyme form of the enzyme. J. Biol. Chem. 265: 4072-4083.
3. Goulian, M., et al. 1990. Discontinuous DNA synthesis by purified mammalian proteins. J. Biol. Chem. 265: 18461-18471.
4. Morrison, A., et al. 1990. A third essential DNA polymerase in *S. cerevisiae*. Cell 62: 1143-1151.
5. Zeng, X.R., et al. 1994. Regulation of human DNA polymerase δ during the cell cycle. J. Biol. Chem. 269: 24027-24033.
6. Johnson, R.E., et al. 1995. Requirement of the yeast RTH1 5' to 3' exonuclease for the stability of simple repetitive DNA. Science 269: 238-240.

CHROMOSOMAL LOCATION

Genetic locus: POLD1 (human) mapping to 19q13.33; Pold1 (mouse) mapping to 7 B4.

SOURCE

DNA pol δ cat (H-300) is a rabbit polyclonal antibody raised against amino acids 1-300 of DNA pol δ cat 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.

RESEARCH USE

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

APPLICATIONS

DNA pol δ cat (H-300) is recommended for detection of DNA pol δ cat 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).

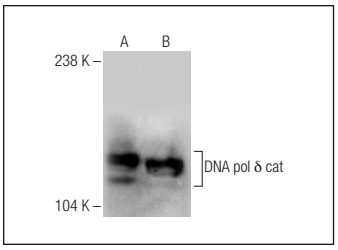
DNA pol δ cat (H-300) is also recommended for detection of DNA pol δ cat in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for DNA pol δ cat siRNA (h): sc-37777, DNA pol δ cat siRNA (m): sc-37778, DNA pol δ cat shRNA Plasmid (h): sc-37777-SH, DNA pol δ cat shRNA Plasmid (m): sc-37778-SH, DNA pol δ cat shRNA (h) Lentiviral Particles: sc-37777-V and DNA pol δ cat shRNA (m) Lentiviral Particles: sc-37778-V.

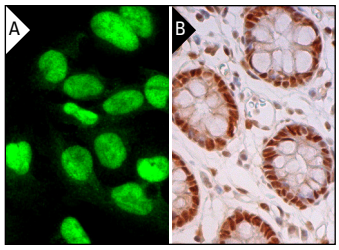
Molecular Weight of DNA pol δ cat: 125 kDa.

Positive Controls: K-562 nuclear extract: sc-2130, MOLT-4 nuclear extract: sc-2151 or KNRK whole cell lysate: sc-2214.

DATA



DNA pol δ cat (H-300): sc-10784. Western blot analysis of DNA pol δ cat expression in K-562 (**A**) and MOLT-4 (**B**) nuclear extracts.



DNA pol δ cat (H-300): sc-10784. Immunofluorescence staining of formalin-fixed Hep G2 cells showing nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human colon tissue showing nuclear staining of glandular cells and endothelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Jurvansuu, J., et al. 2005. Viral transport of DNA damage that mimics a stalled replication fork. J. Virol. 79: 569-580.
2. Uchimura, A., et al. 2009. DNA polymerase δ is required for early mammalian embryogenesis. PLoS ONE 4: e4184.
3. Wang, X., et al. 2013. Recruitment of Brd4 to the human papillomavirus type 16 DNA replication complex is essential for replication of viral DNA. J. Virol. 87: 3871-3884.

MONOS Satisfaction Guaranteed

Try **DNA pol δ cat (A-9): sc-17776** or **DNA pol δ cat (H-8): sc-374025**, our highly recommended monoclonal alternatives to DNA pol δ cat (H-300).