

DNA pol δ 2 (2762C3a): sc-81250

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 such as 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

- 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.
- 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.
- Goulian, M., et al. 1990. Discontinuous DNA synthesis by purified mammalian proteins. *J. Biol. Chem.* 265: 18461-18471. Published erratum appears in *J. Biol. Chem.* 1990. 265: 22569.
- Morrison, A., et al. 1990. A third essential DNA polymerase in *S. cerevisiae*. *Cell* 62: 1143-1151.
- Zeng, X.R., et al. 1994. Regulation of human DNA polymerase δ during the cell cycle. *J. Biol. Chem.* 269: 24027-24033.
- 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.
- Zhang, P., et al. 1999. Direct interaction of proliferating cell nuclear antigen with the p125 catalytic subunit of mammalian DNA polymerase δ . *J. Biol. Chem.* 274: 26647-26653.

CHROMOSOMAL LOCATION

Genetic locus: POLD2 (human) mapping to 7p13.

SOURCE

DNA pol δ 2 (2762C3a) is a mouse monoclonal antibody raised against a recombinant protein corresponding to a region near the N-terminus of DNA pol δ 2 of human origin.

PRODUCT

Each vial contains 100 μ g IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 1.0% stabilizer protein.

PROTOCOLS

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

APPLICATIONS

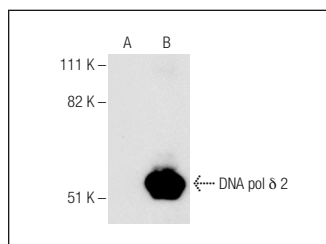
DNA pol δ 2 (2762C3a) is recommended for detection of DNA pol δ 2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for DNA pol δ 2 siRNA (h): sc-37783, DNA pol δ 2 shRNA Plasmid (h): sc-37783-SH and DNA pol δ 2 shRNA (h) Lentiviral Particles: sc-37783-V.

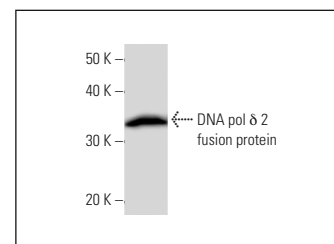
Molecular Weight of DNA pol δ 2: 50 kDa.

Positive Controls: Jurkat nuclear extract: sc-2132 or HeLa whole cell lysate: sc-2200.

DATA



DNA pol δ 2 (2762C3a): sc-81250. Western blot analysis of DNA pol δ 2 expression in non-transfected: sc-117752 (A) and mouse DNA pol δ 2 transfected: sc-125254 (B) 293T whole cell lysates.



DNA pol δ 2 (2762C3a): sc-81250. Western Blot analysis of human recombinant DNA pol δ 2 fusion protein.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

RESEARCH USE

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