SANTA CRUZ BIOTECHNOLOGY, INC.

DNA pol δ 2 (m): 293T Lysate: sc-125254

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

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. Require-ment of the yeast RTH1 5' to 3' exonuclease for the stability of simple repetitive DNA. Science 269: 238-240.
7. 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 (mouse) mapping to 11 A1.

PRODUCT

DNA pol δ 2 (m): 293T Lysate represents a lysate of mouse DNA pol δ 2 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

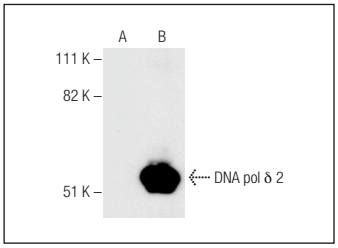
APPLICATIONS

DNA pol δ 2 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive DNA pol δ 2 antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

DNA pol δ 2 (2762C3a): sc-81250 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse DNA pol δ 2 expression in DNA pol δ 2 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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.

RESEARCH USE

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