SANTA CRUZ BIOTECHNOLOGY, INC.

DNA pol δ 2 (C-20): sc-8800

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. Requirement of the yeast RTH1 5' to 3' exonuclease for the stability of simple repetitive DNA. Science 269: 238-240.

CHROMOSOMAL LOCATION

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

SOURCE

DNA pol δ 2 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of DNA pol δ 2 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.

Blocking peptide available for competition studies, sc-8800 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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 δ 2 (C-20) 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), 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).

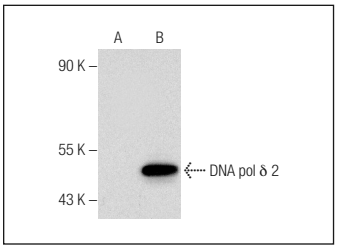
DNA pol δ 2 (C-20) is also recommended for detection of DNA pol δ 2 in additional species, including equine, canine and bovine.

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.

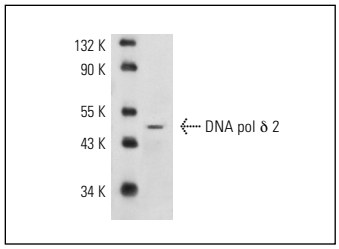
Molecular Weight of DNA pol δ 2: 50 kDa.

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

DATA



DNA pol δ 2 (C-20): sc-8800. 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 (C-20): sc-8800. Western blot analysis of DNA pol δ 2 expression in Jurkat nuclear extract.

SELECT PRODUCT CITATIONS

1. Baldeck, N., et al. 2015. FF483-484 motif of human Polη mediates its interaction with the POLD2 subunit of Polδ and contributes to DNA damage tolerance. Nucleic Acids Res. 43: 2116-2125.

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.