SANTA CRUZ BIOTECHNOLOGY, INC.

DNA pol ε B (C-17): sc-8805

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. Erratum: J. Biol. Chem. 265: 22569.
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.

CHROMOSOMAL LOCATION

Genetic locus: POLE2 (human) mapping to 14q21.3; Pole2 (mouse) mapping to 12 C2.

SOURCE

DNA pol ε B (C-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of DNA pol ε B 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-8805 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.

RESEARCH USE

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

APPLICATIONS

DNA pol ε B (C-17) is recommended for detection of DNA pol ε B 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

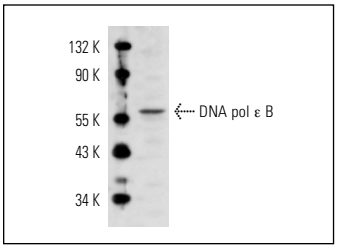
DNA pol ε B (C-17) is also recommended for detection of DNA pol ε B in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for DNA pol ε B siRNA (h): sc-37781, DNA pol ε B siRNA (m): sc-37782, DNA pol ε B shRNA Plasmid (h): sc-37781-SH, DNA pol ε B shRNA Plasmid (m): sc-37782-SH, DNA pol ε B shRNA (h) Lentiviral Particles: sc-37781-V and DNA pol ε B shRNA (m) Lentiviral Particles: sc-37782-V.

Molecular Weight of DNA pol ε B: 59 kDa.

Positive Controls: SK-N-SH cell lysate: sc-2410, Jurkat whole cell lysate: sc-2204 or HeLa nuclear extract: sc-2120.

DATA



DNA pol ε B (C-17): sc-8805. Western blot analysis of DNA pol ε B expression in SK-N-SH whole cell lysate.

SELECT PRODUCT CITATIONS

1. Laios, I., et al. 2003. Mechanisms governing the accumulation of estrogen receptor α in MCF-7 breast cancer cells treated with hydroxytamoxifen and related antiestrogens. J. Steroid Biochem. Mol. Biol. 87: 207-221.
2. Sugiyama, T., et al. 2012. Interaction of heliquinomycin with single-stranded DNA inhibits MCM4/6/7 helicase. J. Biochem. 151: 129-137.

PROTOCOLS

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