DNA Polymerase beta (JM93-12)

Cat#: ET1705-12

Product Type: Recombinant rabbit monoclonal IgG, primary antibodies

Species reactivity: Human, Mouse, Rat, Zebrafish

Applications: WB, IHC, IP, ICC

Molecular Wt.: 38 kDa

Clone number: JM93-12

Description: DNA replication, recombination and repair, all of which are necessary for genomic 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. These exonucleases include the family of DNA polymerases. DNA pol α, β, δ, and e are involved in DNA replication and repair. DNA pol δ and DNA pol e are multisubunit enzymes, with DNA pol δ consisting of two subunits p125, which interacts with the sliding DNA clamp protein PCNA, and p50. The nuclear-encoded DNA pol γ is the only DNA polymerase required for the replication of the mitochondrial DNA. DNA pol ζ is ubiquitously expressed in various tissues and mediates the cellular mechanism of damage-induced mutagenesis. DNA pol œ is a DNA polymerase-helicase that binds ATP and is involved in the repair of interstrand crosslinks.

Immunogen:
Recombinant protein.

Positive control:
PC-12, NIH-3T3, A431, Zebrafish tissue lysates, rat lung tissue, human breast cancer tissue, human stomach cancer tissue, human uterus tissue.

Subcellular location:
Nucleus, Cytoplasm.

Database links:
SwissProt: P06746(Human) Q8K409(Mouse) P06766(Rat)

Recommended Dilutions:
WB: 1:500 **IHC:** 1:50-1:200
ICC: 1:20-1:50 **IP:** 1:10-1:20

Storage Buffer:
1*TBS (pH7.4), 1%BSA, 40%Glycerol. Preservative: 0.05% Sodium Azide.

Storage Instruction:
Store at +4° C after thawing. Aliquot store at -20° C or -80° C. Avoid repeated freeze / thaw cycles.

Purity: ProA affinity purified.

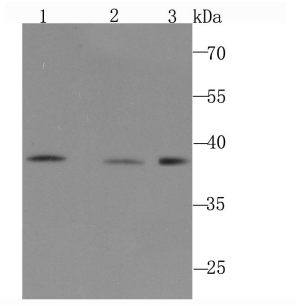

Fig1: Western blot analysis of DNA Polymerase beta on different cell lysate using anti-DNA Polymerase beta antibody at 1/1,000 dilution.
Positive control:
Lane1: PC-12 Lane2: NIH-3T3 Lane3: A431

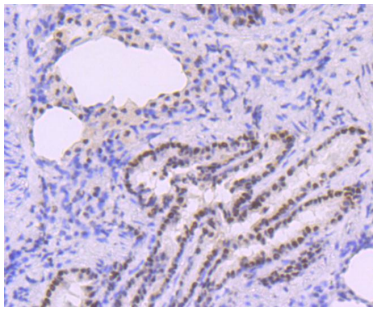

Fig2: Immunohistochemical analysis of paraffin-embedded rat lung tissue using anti-DNA Polymerase beta antibody. Counter stained with hematoxylin.

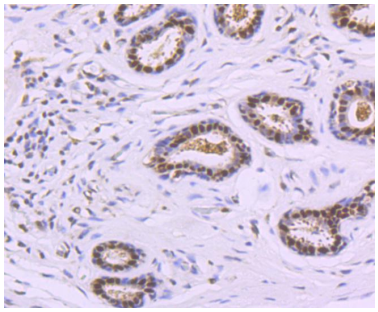

Fig3: Immunohistochemical analysis of paraffin-embedded human breast cancer tissue using anti-DNA Polymerase beta antibody. Counter stained with hematoxylin.

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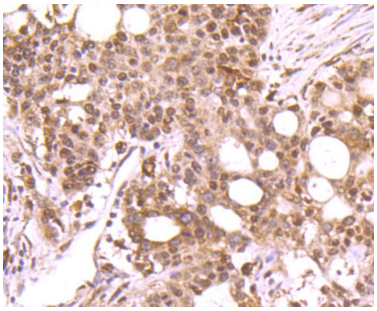

Fig4: Immunohistochemical analysis of paraffin-embedded human stomach cancer tissue using anti-DNA Polymerase beta antibody. Counter stained with hematoxylin.

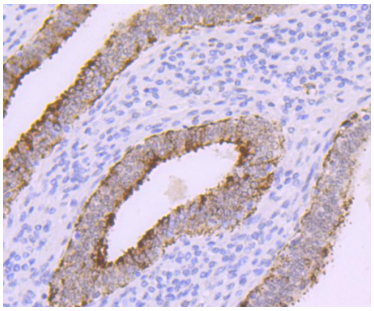

Fig5: Immunohistochemical analysis of paraffin-embedded human uterus tissue using anti-DNA Polymerase beta antibody. Counter stained with hematoxylin.

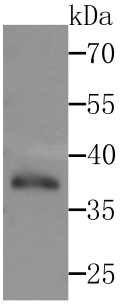

Fig6: Western blot analysis of DNA Polymerase beta on Zebrafish tissue lysates using anti-DNA Polymerase beta antibody at 1/200 dilution.

Background References

1. Sun H et al. The FEN1 L209P mutation interferes with long-patch base excision repair and induces cellular transformation. Oncogene 36:194-207 (2017).
2. Kirby TW et al. DNA polymerase ß contains a functional nuclear localization signal at its N-terminus. Nucleic Acids Res 45:1958-1970 (2017).