

TREVIGEN® Product Data

For Research Use Only. Not For Use In Diagnostic Procedures

Human DNA Polymerase β

Catalog #: 4020-500-EB

Contents: 4020-500-01 Human DNA Polymerase β **Size:** 500 Units
3900-200-08 10X REC™ Buffer 8 2 X 1 ml

Description: Human DNA Polymerase β is constitutively expressed in cells and functions by filling in gaps in DNA that are formed following base excision repair. The activity of DNA Polymerase β is not affected by aphidicolin, an inhibitor of DNA polymerases α , δ , and ϵ .

Source: Purified from *E. coli* containing a recombinant plasmid harboring the human DNA polymerase β gene.

Unit Definition: One Unit is the amount of enzyme required to catalyze the incorporation of 1 nmole of dNTP into an acid-insoluble form in 1 hour at 37°C.

Specificity: The enzyme can fill small gaps (up to 6 nucleotides) and nicks in DNA, catalyze DNA synthesis after nucleotide excision repair, and release 5'-terminal deoxyribose phosphate residues from incised AP sites.

Assay Conditions: 1X REC Buffer 8 (50 mM Tris-Cl (pH 8.8), 10 mM MgCl₂, 10 mM KCl, 1.0 mM DTT, 1% glycerol), 50 μ M dCTP, 50 μ M dGTP, 50 μ M dATP, 50 μ M α -³²P-dTTP, and 100 μ g/ml of Activated DNA (Cat# 4667-50-06) in a reaction volume of 100 μ l are incubated for 5 min at 37°C.

Storage Buffer: 20 mM Tris-Cl (pH 7.8), 1.0 mM DTT, 1 mM EDTA, 100 mM NaCl, and 50% (v/v) glycerol.

Storage Conditions: Store at -20°C in a manual defrost freezer.

References:

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3. Jenkins, T.M., J.K. Saxena, A. Kumar, S.H. Wilson, and E.J. Ackerman. 1992. DNA polymerase β and DNA synthesis in *Xenopus* oocytes and in a nuclear extract. *Science* **258**:475-478.
4. Vens C, E. Dahmen-Mooren, M. Verwijs-Janssen, W. Blyweert, L. Graversen, H. Bartelink, A.C. Begg. 2002. The role of DNA polymerase beta in determining sensitivity to ionizing radiation in human tumor cells. *Nucleic Acids Res.* **30**:2995-3004.
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6. Kedar P.S., S.J. Kim, A. Robertson, E. Hou, R. Prasad, J.K. Horton, S.H. Wilson. 2002. Direct interaction between mammalian DNA polymerase beta and proliferating cell nuclear antigen. *J Biol Chem.* **277**:31115-23.

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Human DNA

Polymerase β

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Storage: -20 °C

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