

# TREVIGEN® Product Data

For Research Use Only. Not For Use In Diagnostic Procedures

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## Human DNA Polymerase $\beta$

**Catalog #:** 4020-100-EB

**Contents:** 4020-100-01 Human DNA Polymerase  $\beta$  **Size:** 100 Units  
3900-200-08 10X REC™ Buffer 8 1 ml

**Description:** Human DNA Polymerase  $\beta$  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  $\beta$  is not affected by aphidicolin, an inhibitor of DNA polymerases  $\alpha$ ,  $\delta$ , and  $\epsilon$ .

**Source:** Purified from *E. coli* containing a recombinant plasmid harboring the human DNA polymerase  $\beta$  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 MgCl<sub>2</sub>, 10 mM KCl, 1.0 mM DTT, 1% glycerol), 50  $\mu$ M dCTP, 50  $\mu$ M dGTP, 50  $\mu$ M dATP, 50  $\mu$ M  $\alpha$ -<sup>32</sup>P-dTTP, and 100  $\mu$ g/ml of Activated DNA (Cat# 4667-50-06) in a reaction volume of 100  $\mu$ 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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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  $\beta$**

Catalog#: 4020-100-EB

Storage: -20 °C

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