

# T4 DNA Polymerase

## Technical Specifications



Catalog No. 30081-1 300 Units (1 x 100µl) or  
 Catalog No. 30081-3 1,500 Units (5 x Cat. No. 30081-1)  
 Includes 10X DNA Polymerase Buffer A (1 ml)  
**Store at -20°C.**  
 For *In Vitro* Research Use Only.  
 Not for Drug or Diagnostic use. Not for use in humans or animals.

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<b>Product Description</b>	T4 DNA Polymerase, 3,000 units/ml.
<b>Storage Buffer</b>	50% glycerol, 100 mM KPO <sub>4</sub> (pH 6.5) and 1 mM DTT.
<b>Stability</b>	T4 DNA Polymerase, is stable for one year from the date received if stored at -20°C.
<b>Recommended Reaction Conditions</b>	3 U T4 DNA Polymerase; 1X reaction Buffer containing 10 mM Tris-HCl (pH7.9), 10 mM MgCl <sub>2</sub> , 50 mM NaCl and 1 mM DTT.
<b>Activity Determination</b>	One unit catalyzes the incorporation of 10nmol of dNTP into acid-insoluble material in 30 minutes at 37°C in 10 mM Tris-HCl (pH 7.9), 50 mM NaCl, 10 mM MgCl <sub>2</sub> , 1 mM DTT, 200 µM dGTP, dATP, dTTP, dCTP (a mix of unlabeled and [ <sup>33</sup> P]dCTP), 10 µg Activated Calf Thymus DNA, and 0.1 mg/ml BSA.
<b>Absence of Endonuclease or Nicking Activity</b>	Incubation of 3 U of T4 DNA Polymerase with 1 µg of supercoiled pBR322 DNA for 16 hours at 37°C resulted in no detectable conversion to relaxed or linear forms by agarose gel electrophoresis.
<b>Absence of Exonuclease Activity</b>	Incubation of 3 U of T4 DNA Polymerase with 1 µg of HindIII-cut lambda DNA for 16 hours at 37°C resulted in no smearing of bands on agarose gels.
<b>Purity</b>	>99% pure by SDS PAGE. No detectable DNA contamination.

### Applications

- Fill in of 5' overhanging ends to create blunt-ends (1).
- Exonuclease removal of 3' overhanging to create blunt-ends (1).
- *in vitro* mutagenesis (2).

**Additional Reagents:** Supplied with 10X DNA Polymerase Buffer A.

**Heat Inactivation:** 70°C for 15 min.

### References

1. Tabor, S. and Struhl, K. (1989) In DNA-Dependent DNA Polymerases. F. M. Ausebel, R. Brent, R. E. Kingston, D. D. Moore, J. G. Seidman, J. A. Smith and K. Struhl (Eds.), *Current Protocols in Molecular Biology*, pp. 3.5.10-3.5.12.
2. Kunkel, T.A., Roberts, J.D. and Zakour, R.A. (1987) R. Wu and L. Grossman (Eds.), *Methods Enzymol.*, 154, pp. 367-382. San Diego: Academic Press.

### Warranty

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