

# invitrogen™

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## DNA Polymerase I (*E. coli*)

**Cat. No. 18010-025**

**Conc.: 10 U/μl**

**Size: 1,000 units**

**Store at -20°C (not frost-free).**

### Description:

DNA Polymerase I (*E. coli*) exhibits three activities: a 5' → 3' DNA polymerase, a 3' → 5' exonuclease, and a 5' → 3' exonuclease. It may be used to fill in a 3' recessed end of DNA (1) and in nick translation reactions (2). The enzyme is purified from *E. coli* lambda lysogen NM984 (3).

### Unit Definition:

One unit incorporates 10 nmol of deoxyribonucleotide into acid-precipitable material in 30 min at 37°C.

### Storage Buffer:

50 mM potassium phosphate (pH 7.0)

100 mM KCl

1 mM DTT

50% (v/v) glycerol

### Quality Control:

This product has passed the following quality control assays: absence of detectable endodeoxyribonuclease activity; pancreatic DNase I dependence for nick translation; performance in a nick translation reaction.

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**For research use only. Not for use in diagnostic procedures.**

Functional Assay Conditions:

Nick translation reaction (4):

50 mM Tris-HCl (pH 7.8)  
5 mM MgCl<sub>2</sub>  
10 mM 2-mercaptoethanol  
10 µg/ml BSA  
1 µg DNA  
200 pg pancreatic DNase I  
14.1 µCi [<sup>3</sup>H] dTTP (45 Ci/mmole)  
20 µM dATP, dCTP, dGTP  
2 units DNA Polymerase I  
Reaction Volume: 100 µl  
Incubation: 30 to 60 min at 15°C

References:

1. (1984) *FOCUS*<sup>®</sup>, 6:1, 6.
2. Kelly, W. S. and Stump, K. H. (1979) *J. Biol. Chem.* 254, 3206.
3. Maniatis, T., Jeffrey, A. and Kleid, D. G. (1975) *Proc. Natl. Acad. Sci. U.S.A.* 72, 1184.
4. Hartman, C. P. and Rabussay, D. (1981) in *Gene Amplification and Analysis* (Chirikjian, J. G., and Papas, T. S., eds.) Vol. 2, p.17, Elsevier/North Holland, New York.

REFER TO THE GIBCO BRL CATALOGUE AND REFERENCE GUIDE FOR NOTES ON CONDITIONS WHICH AFFECT ENZYME ACTIVITY.