



T4 DNA Polymerase

Manual

Catalog #	3222
Package Size	500 units
Volume	100 µl
Concentration	5 units/µl



Important!

-20°C Storage Required

- * Immediately inspect packages
- * Freeze upon receipt



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Description:

Intact Genomics T4 DNA Polymerase has both a DNA-dependent DNA polymerase activity and a potent 3'→5' exonuclease activity.

Physical Purity:

The purity of this enzyme is >95% homogeneity as determined by SDS-PAGE using Coomassie[®] Blue staining (see figure below).

Product Source:

E. coli cells with a cloned gene of bacteriophage T4 DNA Polymerase.

Applications:

- 3'-overhang removal to form blunt ends (1, 2).
- 5'-overhang fill-in to form blunt ends (1, 2).
- Probe labeling using replacement synthesis (2).
- DNA library preparation for next-generation sequencing.
- Ligation-independent cloning of PCR products.
- Second strand synthesis in site-directed mutagenesis (3).

Product Components:

- T4 DNA Polymerase
- 10x T4 DNA Polymerase Buffer

Storage:

- -20 °C
- 50 mM Tris-HCl (pH 7.5), 0.1 mM EDTA, 1 mM β-mercaptoethanol, 1 mM DTT, 25% (v/v) glycerol.

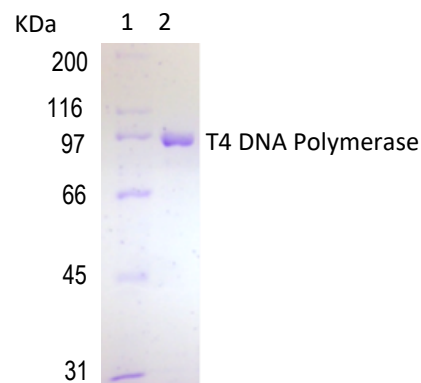


Figure: Lane 1. Protein Marker
Lane 2. T4 DNA Polymerase

10X T4 DNA Polymerase Reaction Buffer:

500 mM Tris-HCl, 100 mM MgCl₂, 50 mM dithiothreitol, pH 7.5 @ 25°C.

Unit Definition:

One unit of T4 DNA Polymerase converts 10 nmol of dNTPs into acid-insoluble material in 30 minutes at 37°C under standard assay conditions.

Inactivation:

Inactivated by heating at 70°C for 15 min.

Quality Control Assays:

T4 DNA Polymerase is free from detectable endonuclease and RNase activities.

Protocol:

Blunting ends by 3' overhang removal or 3' recessed end fill-in:

1. Dissolve DNA in 1x reaction buffer supplemented with 100 μM dNTPs.
2. Add 1 unit T4 DNA Polymerase per μg DNA.
3. Incubate at room temperature for 5-30 minutes. Stop reaction by heating at 70°C for 20 minutes.

Related Products:

- *Taq* DNA Polymerase (Cat.# 3243)
- *Taq* DNA Polymerase 2x Premix (Cat.# 3249)
- T4 DNA Ligase (Cat.# 3212)

Ordering Information:

- Order online within the USA. Place orders on **www.intactgenomics.com** using our secure Shopping Cart.
- Order by email, phone, or fax.
Email: **sales@intactgenomics.com**
Phone: (314) 942-3655 | Toll-free : 855-835-7172 | Fax: (314) 942-3656
- Order via our distributors.

References:

1. Tabor, S. and Struhl, K. (1989). DNA-Dependent DNA Polymerases. Current Protocols in Molecular Biology. 3.5.10-3.5.12. New York: John Wiley & Sons, Inc.
2. Sambrook, J. et al. (1989). Molecular Cloning: A Laboratory Manual. (2nd ed.), 5.44-5.47. Cold Spring Harbor: Cold Spring Harbor Laboratory Press.
3. Kunkel, T.A. et al. (1987). Methods Enzymol. 154, 367-382.

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Our hours are Monday - Friday, 8AM to 5PM, U.S. Central Standard Time.

Intact Genomics, Inc.

11840 Westline Industrial Drive, Suite 120,
St. Louis, MO. 63146, USA

Phone: (314) 942-3655 | **Toll-free :** 855-835-7172 | **Fax:** (314) 942-3656

Email: sales@intactgenomics.com | ig@intactgenomics.com

Website: www.intactgenomics.com

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