



LIFE TECH

Life Technologies™
Your Molecular & Cell Technology Partner

IG Intact Genomics®

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

India Contact:
Life Technologies (India) Pvt. Ltd.
Ph: +91-11-42208000, 42208111, 42208222
Mobile: +91-9810521400
Email: customerservice@lifetechindia.com
www.lifetechindia.com

Intact Genomics, Inc.



visit us online for more
products & custom services

Table of Contents

Product Description.....	3
Physical Purity.....	3
Product Source.....	3
Applications.....	3
Product Components.....	3
Storage.....	3
Reaction Buffer.....	4
Unit Definition.....	4
Inactivation.....	4
Quality Control.....	4
Protocol.....	4
Related Products.....	5
Ordering Information.....	5
References.....	5
Technical Support.....	6

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.

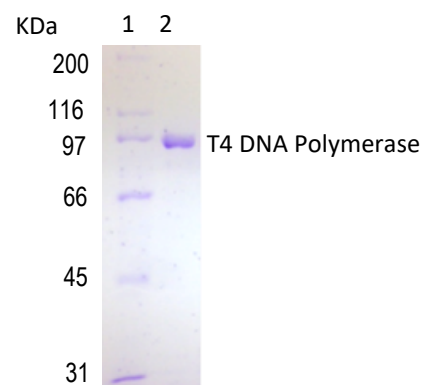


Figure: Lane 1. Protein Marker
Lane 2. T4 DNA Polymerase

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.

Intact Genomics owns the following registered trademarks granted by the United States Patent and Trademark Office (USPTO): Intact Genomics®, IG®, ig®, igTherapeutics®, FastAmp®, i7®, DirectPlate®.

All technology protocols discussed within this manual are assumed proprietary to Intact Genomics. This Product may be covered by pending or issued patents or may have certain limitations. Please contact us for more information. Purchase of this material conveys to buyer the non-transferable right to use the material purchased in research conducted by buyer, whether for teaching, non-commercial or commercial research purposes. Buyer may not sell or otherwise transfer these materials, its components, or unmodified descendants to a third party.

Product Use Limitation and Disclaimers

This product is for research purposes only. It is not intended for therapeutic or diagnostic purposes in humans or animals. This product contains chemicals which may be harmful if misused or direct human contact is made.

Intact Genomics is dedicated to practicing and maintaining science and technology ethics. Buyer agrees to use the purchased materials in full compliance with applicable law and regulations.

Technical Support & Customer Services

Intact Genomics (IG®) is dedicated to customer satisfaction regarding the use of our products for your research needs. Each new lot of our products is thoroughly tested to ensure it meets high quality standards and provides excellent results. We appreciate your business and your feedback regarding the performance of our products in your applications. Please follow the instructions carefully and contact us if additional assistance is needed.

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

India Contact:
Life Technologies (India) Pvt. Ltd.
Ph: +91-11-42208000, 42208111, 42208222
Mobile: +91-9810521400
Email: customerservice@lifetechindia.com
www.lifetechindia.com

© 2024 Intact Genomics, Inc
All Rights Reserved

