

EconoTaq® DNA Polymerase

Technical Specifications

5,000 Units/mL
 Catalog No.: 30031-1 (1,000 U/200 µL)
 30031-2 (5 X 1,000 U)
 30031-3 (10 X 1,000U)
 30031-0 (Trial Size, 250 U/50 µL)

Includes: 10X Reaction Buffer with MgCl₂ (4 x 1.5 mL for each 1,000U).

Store at -20°C.



For *In Vitro* Research Use Only.
 Not for Drug or Diagnostic use. Not for use in humans or animals.

Product Description	EconoTaq DNA Polymerase: 1,000 U/200 µL (Pt. # 93366-1); or Trial Size 250 U/ 50 µL (Pt. #93366-0).
Storage Buffer	50% glycerol, 10 mM Tris-HCl (pH 7.5), 100 mM KCl, 0.1mM EDTA, 1 mM DTT, 0.1% Triton X-100.
Stability	EconoTaq DNA Polymerase is stable for one year from the date received if stored at -20°C.
Recommended Reaction Conditions	1 - 2.5 U EconoTaq DNA Polymerase; 1X Reaction Buffer; 200 uM each dNTP; 1 µM primers.
Activity Determination	One unit catalyzes the incorporation of 10 nmoles of dNTP into acid-insoluble material in 30 minutes at 70°C in 50 mM Tris-HCl (pH 9.0), 50 mM NaCl, 5 mM MgCl ₂ , 200 µM dGTP, dATP, dTTP, dCTP (a mix of unlabeled and [³³ P]dCTP), 10 µg Activated Calf Thymus DNA, and 0.1 mg/mL BSA.
Absence of Endonuclease or Nicking Activity	Incubation of 10 U of EconoTaq DNA Polymerase with 1 µg of supercoiled pBR322 DNA for 16 hours at 70°C resulted in no detectable conversion to relaxed or linear forms by agarose gel electrophoresis.
Absence of Exonuclease Activity	Incubation of 10 U of EconoTaq DNA Polymerase with 1 µg of HindIII-cut lambda DNA for 16 hours at 70°C resulted in no smearing of bands on agarose gels.
Quality Control	The enzyme is tested in DNA amplification using a variety of templates and primers.
Purity	>99% pure by SDS-PAGE. No detectable DNA contamination.

Additional Reagents: Supplied with 10X Reaction Buffer (Pt. #98367-1) containing 100 mM Tris-HCl (pH 9.0), 500 mM KCl, 15 mM MgCl₂, 1% Triton X-100.

Recommended PCR conditions:	
Template DNA*	1.0 μ L
10X EconoTaq Reaction Buffer	5.0 μ L
dNTP mix** (2.5 mM each)	4.0 μ L
Primer 1 (100 μ M)	0.5 μ L
Primer 2 (100 μ M)	0.5 μ L
EconoTaq (5 U/ μ L)	0.5 μ L
ddH ₂ O	38.5 μ L
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Total	50.0 μ L

*10-50 ng of plasmid DNA; 50-200 ng of genomic DNA.

** 2.5 mM dNTP Mix, PCR Grade, can be purchased from Lucigen (Cat. No. 30030-1).

Cycling Conditions:		Pre-heat thermal cycler to 94°C.	
		Incubate PCR reactions 2 min. at 94°C.	X 1 cycle
Denature	15-30 sec.	at 94°C	X 25 cycles
Anneal***	15-30 sec.	at 50-65°C	
Extend	1 min./kb	at 72°C	
Final Extension	5-10 min.	at 72°C	X 1 cycle
Hold	Indefinitely	at 4°C	

***Anneal at T_m of primer \pm 2°C.

PLEASE NOTE

Some applications in which Lucigen's EconoTaq DNA Polymerase can be used may be covered by patents issued and applicable in the United States and certain other countries. Because purchase of this product does not include a license to perform any patented application, users of this product may be required to obtain a patent license depending upon the particular application in which the product is used. The PCR process is the subject of European Patent Nos. 201,184 and 200,262 owned by Hoffman-LaRoche. Those patents expired on March 28, 2006. The corresponding PCR process patents in the United States expired on March 29, 2005. It is the sole responsibility of the buyer to ensure that use of the product does not infringe the patent rights of third parties.

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2