

# EconoTaq<sup>®</sup> DNA Polymerase (Including 10X Reaction Buffer without Mg<sup>++</sup>)



## Technical Specifications

<p>5,000 Units/ml            Catalog No.: 30032-1 (1,000 U/ 200 µl)                              30032-2 ( 5 X 1,000 U)                              30032-3 ( 10 X 1,000U)</p> <p>Includes: 10X Reaction Buffer without MgCl<sub>2</sub> (3 x 1.5 ml); and a separate tube of 25 mM MgCl<sub>2</sub> (1.5 ml) for each 1,000U.</p> <p><b>Store at -20°C.</b></p> <p>For <i>In Vitro</i> Research Use Only.            Not for Drug or Diagnostic use. Not for use in humans or animals.</p>
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<b>Product Description</b>	EconoTaq DNA Polymerase: 1,000 U (200 µl); (Pt. # 93366-1);
<b>Storage Buffer</b>	50% glycerol, 10 mM Tris-HCl (pH 7.5), 100 mM KCl, 0.1mM EDTA, 1 mM DTT, 0.1% Triton X-100.
<b>Stability</b>	EconoTaq DNA Polymerase is stable for one year from the date received if stored at -20°C.
<b>Recommended Reaction Conditions</b>	1 – 2.5 U EconoTaq DNA Polymerase; 1X Reaction Buffer <sup>**</sup> ; 1-4 mM MgCl <sub>2</sub> ; 100-200 µM each dNTP; 1 µM primers
<b>Activity Determination</b>	One unit catalyzes the incorporation of 10nmol 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 <sub>2</sub> , 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 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.
<b>Absence of Exonuclease Activity</b>	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.
<b>Quality Control</b>	The enzyme is tested in DNA amplification using a variety of templates and primers.
<b>Purity</b>	>99% pure by SDS PAGE. No detectable DNA contamination.

**Additional Reagents:** Supplied with 10X Reaction Buffer without Mg<sup>++</sup> (Pt. #98375) containing 100 mM Tris-HCl (pH 9.0), 500 mM KCl, and 1% Triton X-100; and a separate tube of 25 mM MgCl<sub>2</sub> (Pt. #95374).

**\*\*** The buffer that accompanies EconoTaq (Catalog No. 30032-1) **does not contain MgCl<sub>2</sub>**. Add the appropriate amount of the provided 25 mM MgCl<sub>2</sub> to achieve the final desired concentration. Lucigen also provides EconoTaq with 10X Buffer that contains MgCl<sub>2</sub> (Catalog No. 30031-1).

Please see reverse side for reaction conditions and licensing information.

# EconoTaq<sup>®</sup> DNA Polymerase with separate MgCl<sub>2</sub>

<b>Recommended PCR conditions:</b>		
Template DNA*		1.0 µl
10 X EconoTaq <sup>®</sup> Reaction Buffer (-Mg)		5.0 µl
MgCl <sub>2</sub>	(25 mM)	3.0 µl
dNTP mix**	(2.5 mM each)	4.0 µl
Primer 1	(100 pmol/µl)	0.5 µl
Primer 2	(100 pmol/µl)	0.5 µl
EconoTaq	(5 U/µl)	0.5 µl
ddH <sub>2</sub> O		35.5 µl
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Total		50.0 µl

\*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).

<b>Cycling Conditions:</b>	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<sub>m</sub> of primer ± 2°C.

EconoTaq DNA Polymerase has low activity at room temperature, and its activity increases as the temperature is raised to 72°C. It does NOT have "hot-start" features.

## Related Lucigen Products

- dNTPs, PCR Grade
- EconoTaq<sup>®</sup> PLUS and PLUS GREEN 2X Master Mixes
- Gel-Ready™ DNA Ladders
- GC Cloning and Amplification Kits

## 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.

## Warranty

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