Manual

EconoTaq DNA Polymerase
(including 10X Reaction Buffer without Mg^{++})

For Research Use Only. Not for use in diagnostic procedures.

IMPORTANT
-20 ºC storage required
immediately upon receipt

BIOSEARCH™ TECHNOLOGIES
GENOMIC ANALYSIS BY LGC

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Contents

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1. Product description

EconoTaq™ DNA Polymerase (including 10X Reaction Buffer without Mg^{++}). 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.

Storage buffer: EconoTaq DNA Polymerase is supplied in: 50% glycerol, 10 mM Tris-HCl (pH 7.5), 100 mM KCl, 0.1 mM EDTA, 1 mM DTT, 0.1% Triton® X-100 (Rohm & Haas).

Reaction buffer: Supplied with 10X EconoTaq Reaction Buffer without Mg^{++} containing 100 mM Tris-HCl (pH 9.0), 500 mM KCl, 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*; 1-4 mM $MgCl_{2;}$ 100-200 µM each dNTP; 1 µM each primer.

Activity determination: One unit catalyses 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.

Quality control: The enzyme is tested in DNA amplification using a variety of templates and primers.

* The buffer that accompanies EconoTaq (Catalog No. 30032-1) does not contain $MgCl_2$. Add the appropriate amount of the provided 25 mM $MgCl_2$ to achieve the final desired concentration. LGC, Biosearch Technologies™ also provides EconoTaq with 10X Buffer that contains $MgCl_2$ (Catalog No. 30031-1).

2. Product specifications

Specification	Assay description	Acceptance criteria
Physical purity assessment	Physical purity is evaluated by SDS-PAGE.	>99% purity; no detectable DNA contamination.
Exonuclease activity	EconoTaq DNA Polymerase (10 units) is incubated with 1 µg of *Hin*d III digested lambda DNA for 16 hours at 70 °C and analysed by agarose gel electrophoresis.	No detectable exonuclease activity: no smearing of lambda DNA bands on the agarose gel.
Endonuclease activity	EconoTaq DNA Polymerase (10 units) is incubated with 1 µg of pBR322 supercoiled DNA for 16 hours at 70 °C and analysed by agarose gel electrophoresis.	No detectable endonuclease activity: no conversion of supercoiled pBR322 DNA to relaxed or linear forms based on agarose gel analysis.

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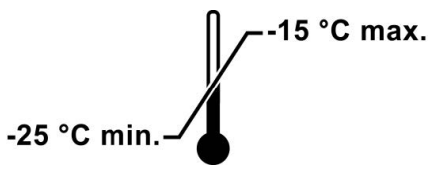
3. Product designations and kit components

Product	Concentration	Kit size	Catalogue number	Reagent description	Part number	Volume
EconoTaq DNA Polymerase	5,000 units/mL	1,000 units	30032-1	EconoTaq DNA Polymerase	F93366-1	200 µL
				10X EconoTaq Reaction Buffer without $MgCl_2$	F98375-1	6 mL
				25 mM $MgCl_2$	F95374-1	1.5 mL
		5,000 units	30032-2	EconoTaq DNA Polymerase	F93366-1	1.0 mL
				10X EconoTaq Reaction Buffer without $MgCl_2$	F98375-1	30 mL
				25 mM $MgCl_2$	F95374-1	7.5 mL
		10,000 units	30032-3	EconoTaq DNA Polymerase	F93366-1	2.0 mL
				10X EconoTaq Reaction Buffer without $MgCl_2$	F98375-1	60 mL
				25 mM $MgCl_2$	F95374-1	15 mL

4. Storage conditions

Store all kits and components at -20 °C



5. Protocol

5.1. Recommended PCR conditions:

1.0	µL Template DNA*	
5.0	µL 10X EconoTaq Reaction Buffer (-Mg)	
3.0	µL $MgCl_2$	(25 mM)
4.0	µL dNTP mix**	(2.5 mM each)
0.5	µL Primer 1	(100 µM)
0.5	µL Primer 2	(100 µM)
0.5	µL EconoTaq DNA Polymerase	(5 U/µL)
35.5	µL ddH_2O	
50.0	µL Total reaction volume	

* 10-50 ng of plasmid DNA; 50-200 ng of genomic DNA.
** 2.5 mM dNTP Mix, PCR Grade, can be purchased from LGC Biosearch Technologies™ (Cat. no. 30030-1).

5.2. 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 ± 2 °C.

6. Technical support

If you require any further support, please do not hesitate to contact our Technical Support Team: techsupport@lgcgroup.com.

PLEASE NOTE

Some applications in which Biosearch Technologies' 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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