

ZymoTaq™ DNA Polymerase

Cat. Nos. E2001 (50 Reactions)
E2002 (200 Reactions)

Storage: -20 °C



ZYMO RESEARCH

The Beauty of Science is to Make Things Simple

Product Information

Features:

- Hot start DNA polymerase
- Allows for quick and easy setup at room temperature
- Robust product formation
- Reduces the occurrence of non-specific product formation
- Ideal for the amplification of *bisulfite-treated* DNA for methylation detection
- Compatible with real-time and quantitative PCR and suitable for TA-cloning

Description:

The ZymoTaq™ DNA Polymerase product contains all the reagents needed to perform “hot start” PCR. The inclusion of a heat-activated, thermal-stable DNA polymerase reduces primer dimer and non-specific product formation that can occur when performing conventional PCR. This unique product is specifically designed for the amplification of *bisulfite-treated* DNA for methylation detection, real-time and quantitative PCR that are SYBR Green and probe based. The product generates specific amplicons with little or no by-product formation. Simple and easy to use: heat at 95 °C for 10 minutes to initiate polymerization.

ZymoTaq™ DNA polymerase is a heat-activated, “hot start” polymerase that has 3'-terminal transferase activity. The addition of “A” overhangs to amplified DNA makes it ideal for use in TA-cloning.

Product Contents:

	E2001 (50 Rxns.)	E2002 (200 Rxns.)	Storage Temp.
ZymoTaq™ DNA Polymerase (5 U/μl)	20 μl	80 μl	-20 °C
2X Reaction Buffer	2 x 625 μl	8 x 625 μl	-20 °C
dNTP Mix (25 mM each dNTP)	25 μl	100 μl	-20 °C
DNase/RNase-Free H ₂ O	2 x 1 ml	5 x 1 ml	-20 °C

Storage:

Store at -20 °C for up to 12 months. Avoid repeated freeze/thawing of reagents. Prolonged storage at -80 °C.

Enzyme Concentration:

Reaction conditions at 1X (50 μl total volume) will contain 2 U of ZymoTaq™ DNA polymerase. ZymoTaq™ DNA Polymerase is at a concentration of 5 U/μl.

Unit Definition:

One unit (U) enzyme is defined as the amount of enzyme required for the incorporation of 10 nM dNTPs into an acid-insoluble form in 30 minutes at 72 °C.

Proposed Reaction Setup (50 μl):

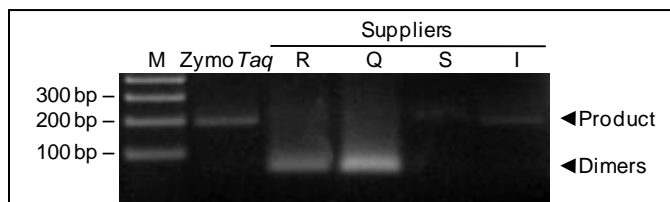
Reagent	Volume	Final conc.
2X Reaction Buffer	25 μl	1X
dNTP Mix	0.5 μl	0.25 mM each dNTP
Forward Primer (10 μM)	Variable	0.3 to 1 μM
Reverse Primer (10 μM)	Variable	0.3 to 1 μM
Template DNA	Variable	< 200 ng/50 μl
ZymoTaq™ DNA Polymerase (5 U/μl)	0.4 μl	2 U/50 μl
ddH ₂ O	to 50 μl	–
Total volume	50 μl	

Note: The final concentration of MgCl₂ in the reaction (above) is 1.75 mM. If required, scale reaction reagent volumes accordingly to optimize the MgCl₂, primer, and/or template concentrations.

Suggested Conditions For PCR:

Initial denaturation	95 °C	10 min.
Denaturation	94 to 96 °C	30 sec.
Annealing	Variable	30 to 40 sec.
Extension	72 °C	30 to 60 sec. for ≤ 1kb*
	30-40 Cycles	
Final extension	72 °C	7 min.
Hold	4 °C	> 4 min.

***Note:** Add 15 to 30 seconds to the extension time for each additional kb over 1 kb. Make adjustments to the temperature if necessary.



Efficient PCR amplification of bisulfite treated DNA for methylation detection. The figure shows 200 bp product formation from bisulfite-treated DNA using ZymoTaq™ PreMix versus the polymerase systems from Suppliers R, Q, S, and I, respectively. In each case, equal amounts of bisulfite-treated DNA (EZ DNA Methylation-Direct™ Kit from Zymo Research) were used for each PCR, and the products separated in a 2.0% (w/v) agarose/TAE/EtBr gel. Also evident from the image, is the low occurrence of both primer dimerization and non-specific product formation.

Related Products:

	E2003 (50 Rxns.)	E2004 (200 Rxns.)	Conc.	Storage Temp.
ZymoTaq™ PreMix	2 x 625 μl	8 x 625 μl	2X	-20 °C
DNase/RNase-Free H ₂ O	2 x 1 ml	5 x 1 ml	-	-20 °C

Continued on reverse side...

ZYMO RESEARCH CORP.

Phone: (949) 679-1190 ▪ Toll Free: (888) 882-9682 ▪ Fax: (949) 266-9452 ▪ info@zymoresearch.com ▪ www.zymoresearch.com

Also Available:

Product Name	Size	Catalog number
EZ DNA Methylation™ Kit	50	D5001
	200	D5002
	2 x 96	D5003
	2 x 96	D5004
EZ DNA Methylation-Gold™ Kit	50	D5005
	200	D5006
	2 x 96	D5007
	2 x 96	D5008
EZ DNA Methylation-Direct™ Kit	50	D5020
	200	D5021
	2 x 96	D5022
	2 x 96	D5023
EZ DNA Methylation-Startup™ Kit	1 Kit	D5024
EZ Bisulfite DNA Clean-up Kit™	50	D5025
	200	D5026
	2 x 96	D5027
	2 x 96	D5028
Universal Methylated DNA Standard	1 set	D5010
Universal Methylated Human DNA Standard	1 set	D5011
Universal Methylated Mouse DNA Standard	1 set	D5012
Human HCT116 DKO Methylation Standards	1 set	D5014
Human HCT116 DKO Non-methylated DNA Standard	5 µg	D5014-1
Human HCT116 DKO Methylated DNA Standard	5 µg	D5014-2
Bisulfite Converted Universal Methylated Human DNA Standard	1 set	D5015
<i>E. coli</i> Non-methylated Genomic DNA	5 µg	D5016
Methylated-DNA IP Kit	10	D5101
ChIP DNA Clean & Concentrator™	50	D5201
	50	D5205
Anti-5-Methylcytosine Monoclonal Antibody (clone 10G4)	50 µg	A3001-50
	200 µg	A3001-200
CpG Methylase (M.SssI)	200 units	E2010
	400 units	E2011

Trademarks and Disclaimers:

™ Trademarks of Zymo Research Corporation.

This product is for research use only and should only be used by trained professionals. Wear protective gloves and eye protection. Follow the safety guidelines and rules enacted by your research institution or facility.

The Polymerase Chain Reaction (PCR) process is covered by U.S. Patent: #4,683,195; 4,683,202 assigned to Hoffmann-La Roche. Patent pending in other countries. No license under these patents to use the PCR process is conveyed expressly or by implication to the purchaser by the purchase of Zymo Research's products. Further information on purchasing licenses to practice the PCR process can be obtained from the director of Licensing at Applied Biosystems, 850 Lincoln Centre Drive, Foster City, California 94404 or at Roche Molecular Systems, Inc., 1145 Atlantic Avenue, Alameda, California 94501.

Version 1.0.3

ZYMO RESEARCH CORP.

Phone: (949) 679-1190 ▪ Toll Free: (888) 882-9682 ▪ Fax: (949) 266-9452 ▪ info@zymoresearch.com ▪ www.zymoresearch.com