Zymo*Taq*™ PreMix

Cat. Nos. E2003 (50 Rxns.)
E2004 (200 Rxns.)

ZYMO RESEARCH
The Beauty of Science is to Make Things Simple

Storage: -20°C

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:

Zymo*Taq*™ PreMix is supplied as a 2X concentrated "master mix" containing 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 Zymo*Taq*™ PreMix yields specific amplicon formation with little or no by-products. Simple and easy to use, just add water, primers, and template DNA to the Zymo*Taq*™ PreMix and then heat at 95°C for 10 minutes to initiate polymerization.

Zymo*Taq*™ 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:

	E2003 (50 Rxns.)	E2004 (200 Rxns.)	Conc.	Storage Temp.
Zymo*Taq*™ PreMix	2 x 625 µl	8 x 625 µl	2X	-20°C
DNase/RNase-Free H_2O	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 is at -80°C.

Enzyme Concentration:

Reaction conditions at 1X (50 µl total volume) will contain 2 U of Zymo*Taq*™ DNA polymerase. As the Zymo*Taq*™ PreMix (2X), the enzyme is at 4 U/50 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)

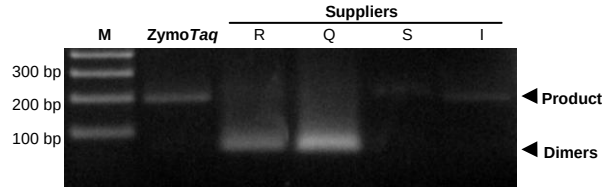
Reagent	Volume	Final concentration
Zymo*Taq*™ PreMix	25 µl	1X
Forward Primer (10 µM)	Variable	0.3 to 1 µM
Reverse Primer (10 µM)	Variable	0.3 to 1 µM
Template	Variable	< 200 ng/50 µl
ddH_20	to 50 µl	
Total volume	50 µl	

Note: The final concentration of $MgCl_2$ in the reaction (above) is 1.75 mM. If required, adjust volumes accordingly to optimize the $MgCl_2$, primer, and/or template concentrations.

Suggested Conditions For PCR:

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

Note: Add an additional 15-30 seconds to the extension time for each kb > 1 kb. Make adjustments to the temperature and/or time if necessary.



Efficient PCR amplification of bisulfite treated DNA for methylation detection. The figure shows 200 bp product formation from bisulfite-treated DNA using Zymo*Taq*™ 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.

Also Available:

	Size	Enzyme	Cat. No.
Zymo*Taq*™ DNA Polymerase (Polymerase, 2X Reaction Buffer, and dNTP Mix)	50 Rxns.	5 U/µl	E2001
	200 Rxns.	5 U/µl	E2002

Version 1.0.1

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