ZymoBIOMICS™ PCR PreMix

Cat. Nos. E2056 (50 Reactions)

E2057 (200 Reactions)

Storage: -20 °C

ZYMO RESEARCH
The Beauty of Science is to Make Things Simple

Product Information

Features:

- Add water, DNA and primers and go!
- Robust amplification for the detection of low copy DNA
- Ideal for highly sensitive applications
- Certified low-bioburden

Description:

The **ZymoBIOMICS™ PCR PreMix** is supplied as a 2X concentrated "master mix" and contains all the reagents needed to perform PCR and other molecular downstream analysis with the addition of probes or fluorescent dyes. It features a hot-start DNA polymerase and is validated low-bioburden in regards to bacterial contamination. Simple and easy to use, just add water, primers, and template DNA to the ZymoBIOMICS™ PCR PreMix and then heat at 95 ˚C for 10 minutes to initiate polymerization.

ZymoBIOMICS™ 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:

	E2056 (50 Rxns.)	**E2057** (200 Rxns.)	**Storage Temp.**
ZymoBIOMICS™ PCR PreMix	2 x 625 µl	8 x 625 µl	-20 °C
ZymoBIOMICS™ DNase/RNase Free Water	2 x 1 ml	5 x 1 ml	Room Temp.

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 ZymoBIOMICS™ DNA polymerase.

Unit Definition:

One unit (U) enzyme of ZymoBIOMICS™ DNA Polymerase 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.

Suggested Reaction Setup (50 µl):

Reagent	**Volume**	**Final conc.**
ZymoBIOMICS™ PCR PreMix	25 µl	1 X
Forward Primer (10 µM)	Variable	0.3 to 1 µM
Reverse Primer (10 µM)	Variable	0.3 to 1 µM
Template DNA	Variable	< 100 ng/20 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, scale reaction reagent volumes accordingly to optimize the $MgCl_2$, primer, and/or template concentrations.

Suggested Conditions for qPCR:

Initial denaturation	95 °C	10 min.
Denaturation	94 to 96 °C	30 sec.
Annealing	Variable	30-40 sec.
Extension	72 °C	30-60 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.

Certification

Test	**Specification**
Bacterial DNA Contamination	A 50 µl reaction of ZymoBIOMICS™ DNA Polymerase PreMix (25 µl Mix) is certified to contain less than 10 copies of bacterial genomic DNA. Quantitative real-time amplification of the16S rRNA gene was used to determine total burden.

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Version 1.0.1

Data Sheet:

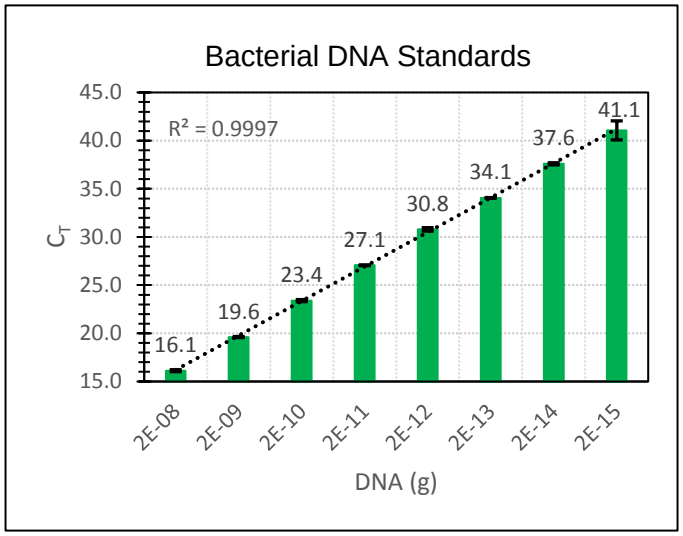

Figure 1. A tenfold serial dilution of *Lactobacillus fermentum* genomic DNA was quantified via real-time PCR, after the addition of 2.5 µM SYTO® 9 to a 50 µl reaction volume. Amplification of the 16S rRNA gene can be quantified down to 2 femtograms of bacterial genomic DNA in a 45 cycle qPCR.

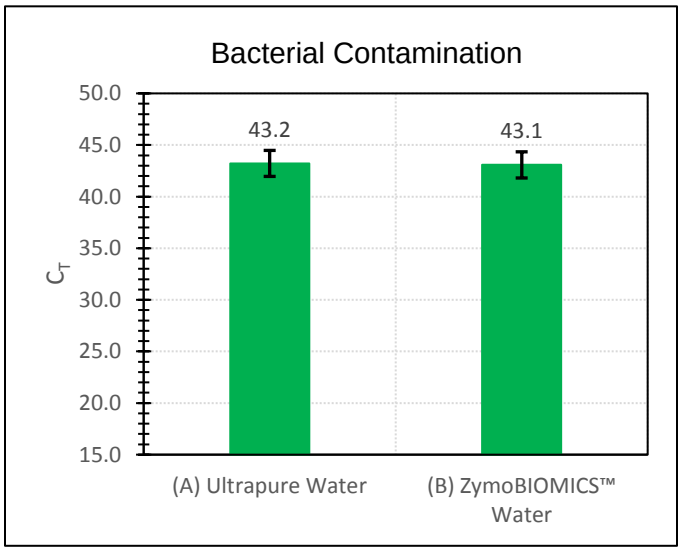

Figure 2. Quantification of no template controls (NTCs) via real-time PCR was determined by amplification of the 16S rRNA gene, after the addition of 2.5 µM SYTO® 9 to a 50 µl reaction volume. Real-time PCR was performed for 45 cycles to determine the amount of bacterial contamination. NTCs include (A) Millipore filtered water and (B) DEPC treated Millipore filtered water.

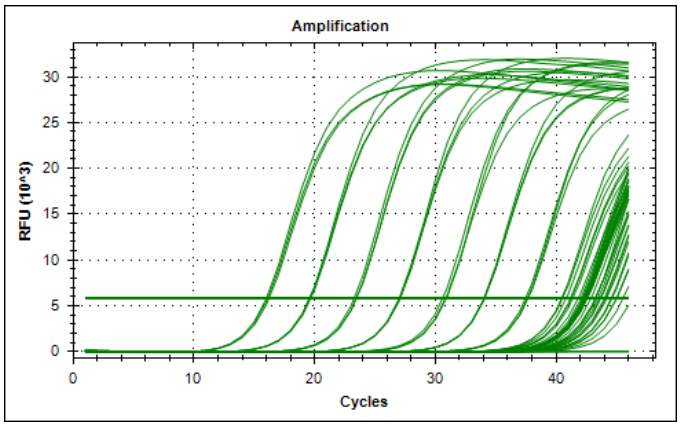

Figure 3. Amplification of the 16S rRNA gene determined by quantitative PCR.

Also Available:

Product Name	Size	Catalog number
ZymoBIOMICS™ DNA Mini Kit	50 preps	D4300
ZymoBIOMICS™ Community Microbial DNA Set	200 ng	D6305
	2000 ng	D6306
ZymoBIOMICS™ PCR PreMix	50 rxn	E2056
	200 rxn	E2057
Femto™ Fungal DNA Quantification Kit	100 rxn	E2007
Femto™ Bacterial DNA Quantification Kit	100 rxn	E2006
Femto™ Human DNA Quantification Kit	100 rxn	E2005
DNA/RNA Shield™	50 ml	R1100-50
	250 ml	R1100-250
DNA/RNA Shield™ - Lysis Tube (Microbe)	50 pack	R1100-1-B15
DNA/RNA Shield™ - Lysis Tube (Tissue)	50 pack	R1100-1-B2
DNA/RNA Shield™ - Collection Tube	50 pack	R1100-1-T
Direct-zol ™ RNA MiniPrep	50 preps	R2050
	200 preps	R2052

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