BioFlux

Bioer Technology

BioEasy Universal qPCR Master Mix (SYBR Green)

This kit utilizes nucleic acid amplification technology combined with SYBR Green I fluorescent dye for Real-Time PCR, enabling rapid and accurate detection and quantification of target genes. The kit provides a 2× Universal SYBR Green Mix, requiring only the addition of primers and template to perform Real-Time PCR reactions, making it fast and easy to operate. Through improvements in the reaction components and the application of high-quality fast enzymes, this kit offers high amplification efficiency, strong specificity and fast reaction speed. The reaction and quantification efficiency for high GC sequences has been significantly enhanced. Additionally, the kit has optimized ROX dye in the system, allowing compatibility with various ROX versions of PCR instruments while greatly improving sensitivity.

Features:

- **Easy to Use:** This product is a fully premixed qPCR reaction solution, requiring only the addition of primers and template as needed.
- **Fast and Reliable:** The kit uses recombinant, engineered fast Taq polymerase with an extension speed of up to 5s/kb, significantly faster than standard Taq polymerase, which typically extends at 1min/ kb. It is compatible with both standard and fast PCR programs.
- **High Sensitivity and Specificity:** The components of this product include optimized reaction enhancers, compatible with various types of templates, and offering excellent linearity over a wide range of template concentrations.
- **Broad Compatibility:** This kit is compatible with fluorescence quantitative PCR instruments that use different ROX versions, eliminating the need to choose different reagents based on the instrument model.

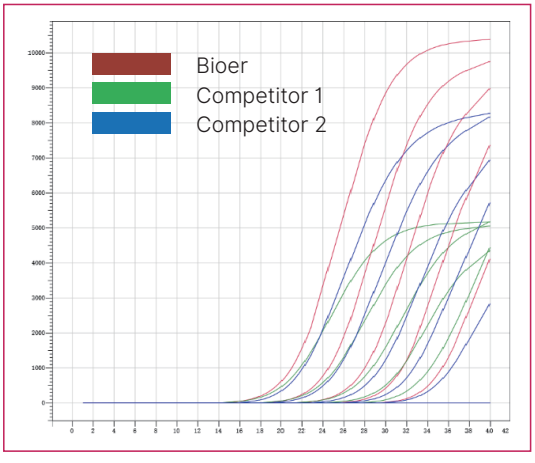
Experimental Case Studies:

Case 1: Comparative Experiment

After reverse transcribing 1 μg of total mouse RNA to synthesize the first-strand cDNA, a 10-fold concentration gradient dilution was performed. The diluted mouse cDNA was used as the template for amplification, with amplification carried out using reagents from a well-known foreign brand (Competitor 1) and a well-known domestic brand (Competitor 2), alongside this product. The results showed that our product yielded significantly earlier Ct values and higher amplification efficiency. The experimental results are as follows:

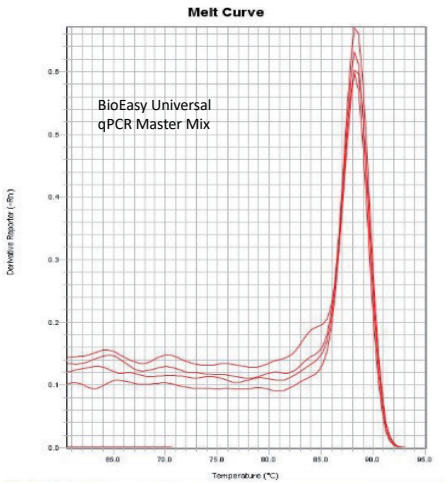
Dilution Factor	Bioer	Competitor 1	Competitor 2
50 -Fold	20.73	21.37	21.78
500 -Fold	24.30	24.85	25.16
5000 -Fold	27.75	28.28	29.16
50000 -Fold	31.38	31.14	32.42
500000 -Fold	35.15	33.87	35.90

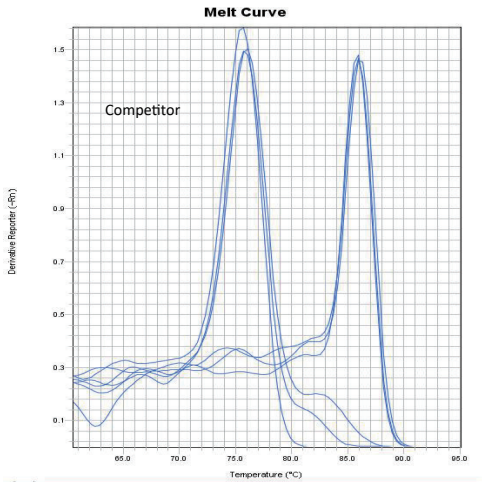
Table 1: Amplification Ct Values of BioEasy Universal qPCR Master Mix and Comparison Reagents



Case 2: Melt Curve Comparison

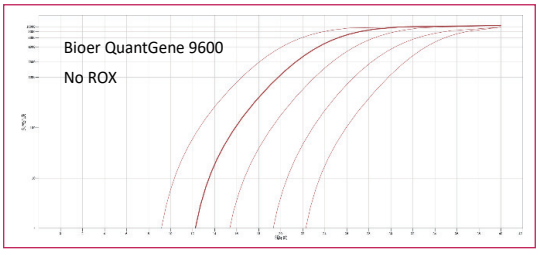
1 μg of Arabidopsis thaliana total RNA was reverse transcribed to synthesize the first-strand cDNA, which was then diluted. The diluted Arabidopsis cDNA was used as the template for amplification, and the melt curves were analyzed and compared with a well-known brand. When the substrate concentration was at a 50,000-fold dilution of cDNA, the reagent from the well-known brand primarily amplified primer dimers, while our product successfully amplified the target fragment. This demonstrates superior specificity of our product. The experimental results are as follows:

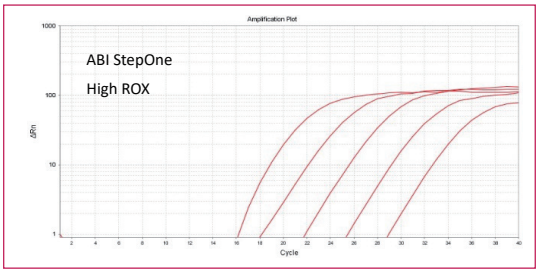


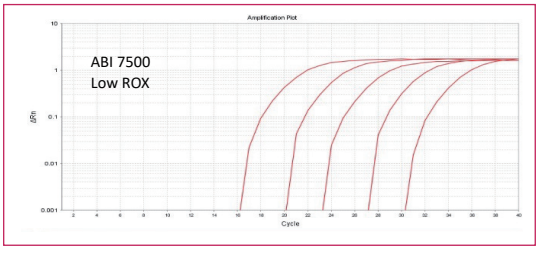


Case 3: Instrument Compatibility Comparison

1 μg of human total RNA was reverse transcribed to synthesize the first-strand cDNA, which was then diluted. The diluted human cDNA was used as the template for amplification on different ROX version instruments. Amplification was performed on the Bioer QuantGene 9600 (No ROX), ABI StepOne (High ROX), and ABI 7500 (Low ROX). Our product successfully amplified the target on all three instruments, with only minimal differences in the Ct values across different machines. The experimental results are as follows:







Dilution Factor	No ROX	High ROX	Low ROX
50 -Fold	16.36	16.77	17.49
500 -Fold	19.67	20.42	21.08
5000 -Fold	22.96	23.82	24.45
50000 -Fold	26.56	27.19	28.1
500000 -Fold	29.71	30.61	31.59
NC	NoCt	NoCt	NoCt

Ordering Information:

Cat. No.	Product Name	Package	Storage Condition
BSB113S1	BioEasy Universal qPCR Master Mix (SYBR Green)	200T	-25°C~-15°C
BSB113L1		500T	-25°C~-15°C

HANGZHOU BIOER TECHNOLOGY CO., LTD.

Address: 1192 Bin'an Road, Hi-tech (Binjiang) District, Hangzhou, 31005, P.R.China
Direct Phone: +86-0571-87774575 (Overseas Department) **Fax:** +86-0571-87774553
Website: http://www.bioer.com **Email:** overseas@bioer.com **E-Date:** 2024.11