

# USB® VeriQuest® Probe qPCR Master Mix

## Applications:

- Amplification from genomic DNA or cDNA
- Gene expression validation
- Genotyping assays
- Duplex PCR detection

## Features:

- One-tube master mix with ROX™ reference dye included
- Same protocols, same probes, and same primers for standard mode amplification
- Consistency over a broad dynamic range: 9 orders of magnitude linear detection range with a correlation coefficient = 0.999 (Fig. 1)
- Exceptional performance with challenging AT-rich and GC-rich regions
- Detect 2 copies of target from genomic DNA and differentiate less than 2-fold differences
- Contains dUTP and uracil-DNA glycosylase for optional carry-over contamination prevention
- Hot start PCR for room temperature reaction setup
- Stable at room temperature for 72 hours in a preassembled reaction
- Validated for use with a variety of 5' reporter fluorophores and 3' quenchers as well as TaqMan® MGB containing probes

USB VeriQuest Probe qPCR Master Mix is a ready-to-use mix for real-time quantitative PCR (qPCR) on all PCR instruments that use ROX as a Passive Reference Dye (Fig. 2), allowing an easy transition from your current qPCR supplier. It is formulated for use with fluorescent probes, such as TaqMan probes. The master mix contains a chemically modified Taq DNA polymerase, MgCl<sub>2</sub>, ultrapure nucleotides with an optimized dUTP:dTTP ratio, uracil-DNA glycosylase (UDG), and ROX Passive Reference Dye in a proprietary reaction buffer. The proprietary reaction buffer with optimum MgCl<sub>2</sub> concentration is specially designed for robust probe hybridization and efficient cleavage of TaqMan probes. Simply add DNA template, probe, primers, and water, and the reactions are ready for cycling.

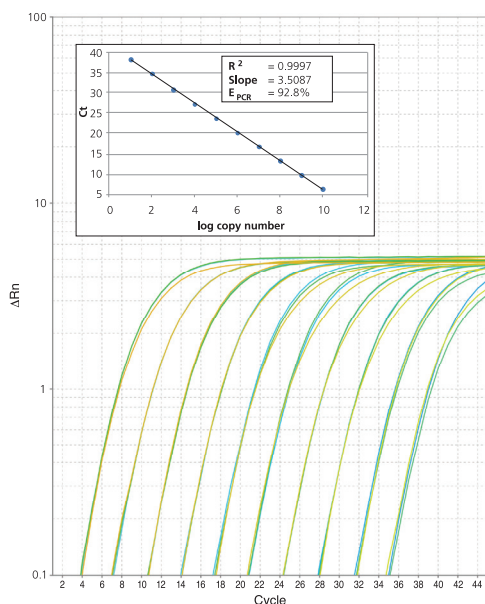
Even in high AT-rich or GC-rich regions, VeriQuest Probe qPCR Master Mix offers exceptional performance and high specificity with challenging templates so you have the confidence to verify your gene expression results (Fig. 3).

VeriQuest Probe qPCR Master Mix offers reproducible, consistent results while maintaining precision and efficiency. The master mix provides consistency over a broad dynamic template concentration range allowing 9 orders of magnitude linear detection (Fig. 1).

High precision in target quantification and discrimination of a 1.33 to 10-fold dilution series with VeriQuest Probe qPCR Master Mix ensure accurate results (Fig. 4).

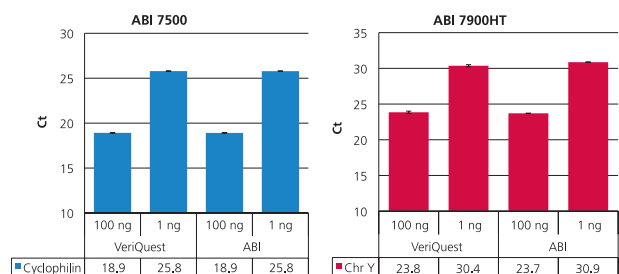
VeriQuest Probe qPCR Master Mix is highly stable and easy to work with. It remains stable at room temperature for 72 hours in a pre-assembled reaction and can be stored at 4°C for convenient handling and room temperature reaction set up with no lost time waiting for your master mix to thaw. Testing of 10 freeze-thaw cycles showed no loss in master mix performance. It is ideal for high-throughput handling (Fig. 5).

Fig. 1. Linear detection range



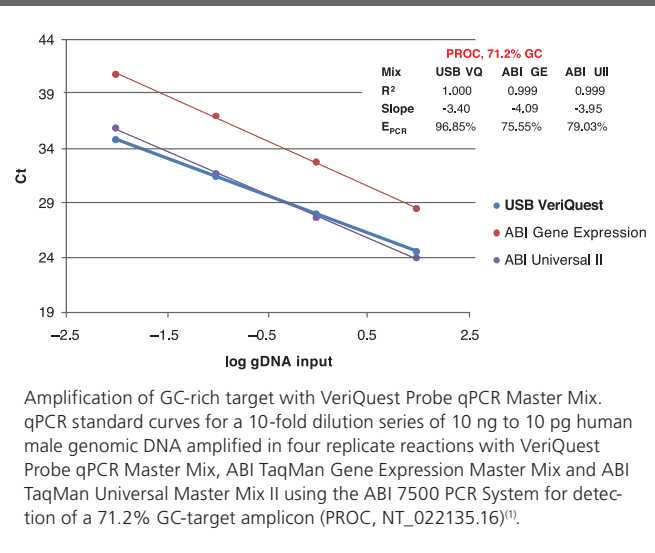
Linear detection range of VeriQuest Probe qPCR Master Mix. Real-time amplification plot from a 10-fold dilution series of a GAPDH synthetic target with starting amounts of 10<sup>10</sup> copies amplified in four replicate reactions using the ABI 7500 PCR System and GAPDH primer-probe set (FAM-BHQ-1).

Fig. 2. Performance comparison

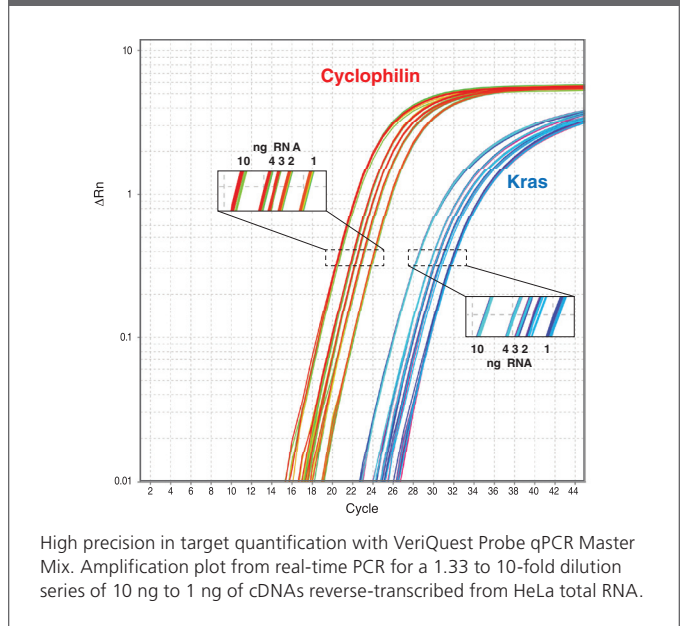


Comparison of mean Ct values from real-time PCR of 100 ng and 1 ng of human genomic DNA amplified in three replicate reactions with VeriQuest Probe qPCR Master Mix and ABI TaqMan Gene Expression Master Mix. Both ABI 7500 and 7900HT systems were used under standard mode amplification.

**Fig. 3. Amplification of GC-rich target**



**Fig. 4. High precision in target quantification**



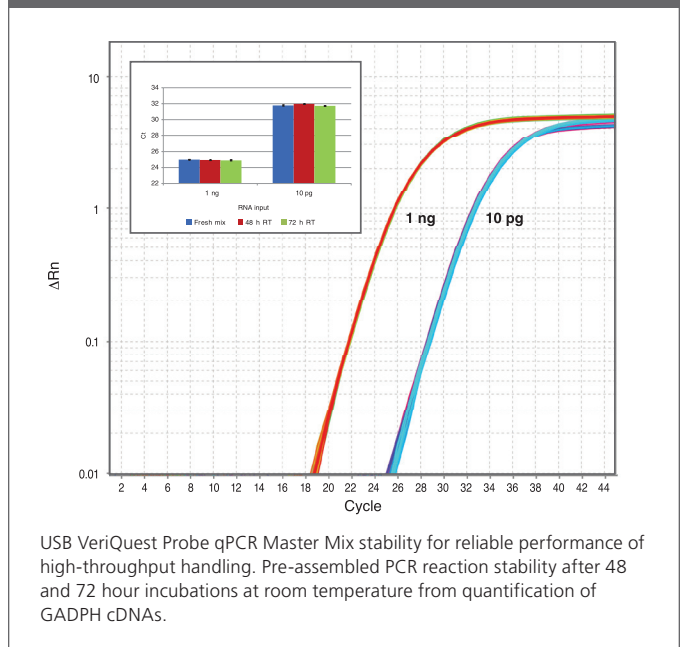
**VeriQuest Probe qPCR Master Mix**

Product code	Pack size
75650	1 ml for 40 reactions (50 µl)
	5 ml for 200 reactions (50 µl)
	2 x 5 ml for 400 reactions (50 µl)
	5 x 5 ml for 1,000 reactions (50 µl)
	10 x 5 ml for 2,000 reactions (50 µl)

**References:**

1. Tewhey, R. et al. (2009) *Nature Biotechnology* 27, 1025–1031.

**Fig. 5. VeriQuest qPCR Master Mix stability**



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