

# R3Charge Real-time PCR Master Mix

R3Charge Your Research – Speed, Accuracy, and Performance in Every Drop



Lightning-Fast Cycling



Unmatched Specificity & Sensitivity



Superior Reproducibility



Robust Performance Across Platforms



Recharge Your Workflow

Take your qPCR experiments to the next level with R3Charge qPCR Master Mix – engineered for ultra-fast cycling, high specificity, and reproducible results. Designed for researchers who demand both speed and accuracy, this master mix optimizes reaction efficiency while maintaining superior sensitivity across a wide dynamic range.

Reduce run times without compromising data quality. R3Charge accelerates workflows, helping you achieve results faster than ever.

Designed to minimize non-specific amplification and primer-dimer formation, ensuring precise target detection even in complex samples.

Every batch of R3Charge is rigorously tested for lot-to-lot consistency, so you get reliable results every time.

Compatible with most qPCR instruments and optimized for various probe- and dye-based assays.

Real-time PCR Instrument	ROX requirement	Cat. No.	
		2X Green MM	2X Probe MM
Roche Lightcycler® Qiagen Rotor-Gene™ Eppendorf Mastercycler® MIC qPCR Bio-Rad® iQ™5, CFX96, CFX384, Opticon	Not required	DS1272113 (600) DS1272114 (1,200) DS1272115 (2,400)	DS1272153 (600) DS1272154 (1,200) DS1272155 (2,400)
Applied Biosystems® 7500, QuantStudio™ 3, 5 and 7 Agilent Mx™ ViiA7™	Low ROX	DS1272123 (600) DS1272124 (1,200) DS1272125 (2,400)	DS1272133 (600) DS1272134 (1,200) DS1272135 (2,400)
Applied Biosystems® 7000, 7300 7700, 7900HT, StepOne™, StepOnePlus™	High ROX	DS1272123 (600) DS1272124 (1,200) DS1272125 (2,400)	DS1272143 (600) DS1272144 (1,200) DS1272145 (2,400)



## Ultra-Fast Cycling for High-Quality Data

Speed up your qPCR workflow without compromising data integrity. R3Charge qPCR Master Mix is formulated for **rapid thermal cycling**, allowing researchers to obtain results in a fraction of the time compared to conventional master mixes. Despite its accelerated protocol, R3Charge ensures **high specificity, sensitivity, and reproducibility**, making it ideal for both **demanding research applications and routine high-throughput testing**.

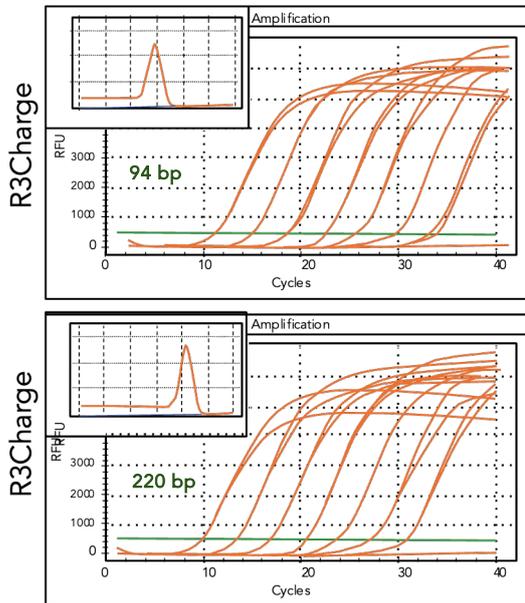


Figure 1. Reproducibility and robustness challenge on the R3Charge Green Master Mix. Amplicons size of 94 bp and 220 bp were tested on the ultra-fast thermal cycling protocol (35-min). The Master Mix were tested across 7-dynamic range from  $5 \times 10^{-10}$  per reaction

## Proven Robustness for Reliable Performance

R3Charge qPCR Master Mix is engineered for stability and reliability, ensuring top-tier performance even under extreme conditions. To validate its robustness, we subjected R3Charge to rigorous stress tests, including 7-day exposure at 50°C and 16 freeze-thaw cycles. In both scenarios, the master mix maintained consistent 99% PCR efficiency, demonstrating its resilience in demanding laboratory environments. Even after prolonged heat exposure, R3Charge exhibited only a minimal, predictable 1 Ct delay, confirming its superior formulation and stability. These results not only reinforce the master mix's durability but also provide confidence that it can be shipped at room temperature without compromising performance. Whether for routine testing or advanced research, R3Charge ensures unwavering accuracy and reproducibility, every time.

Housekeeping gene	Amplicon size	PCR Efficiency
ACTB	77	96%
B2M	94	95%
RPLP0	107	102%
GAPDH	123	99%
GUSB	101	97%
HPRT1	98	96%

Figure 2. Six different human housekeeping genes were designed and tested on R3Charge Green Master Mix across 7-dynamic range from  $5 \times 10^{-10}$  per reaction

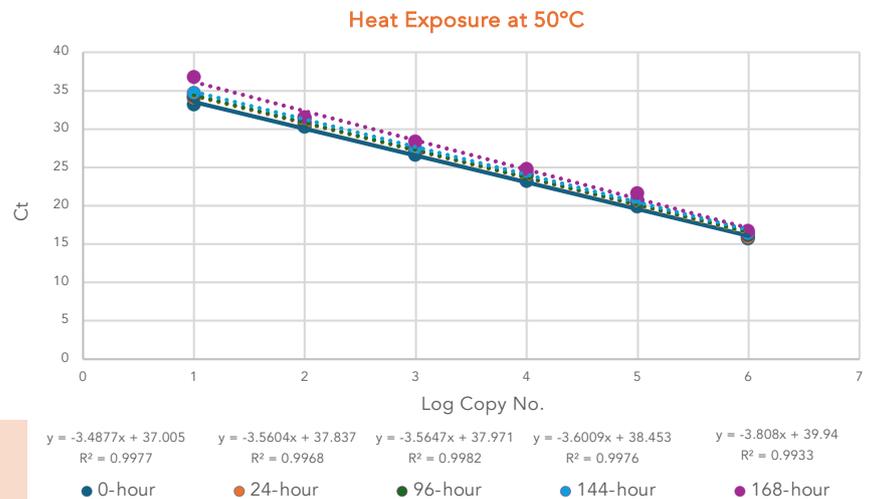


Figure 3. GAPDH Assay used performed across 7-dynamic range with Master Mixes exposed up to 7-day under 50°C heat. All conditions demonstrated consistent 99% PCR efficiencies. There is an approximate shift of 1 Ct value after 7-day. No signal were detected from NTC

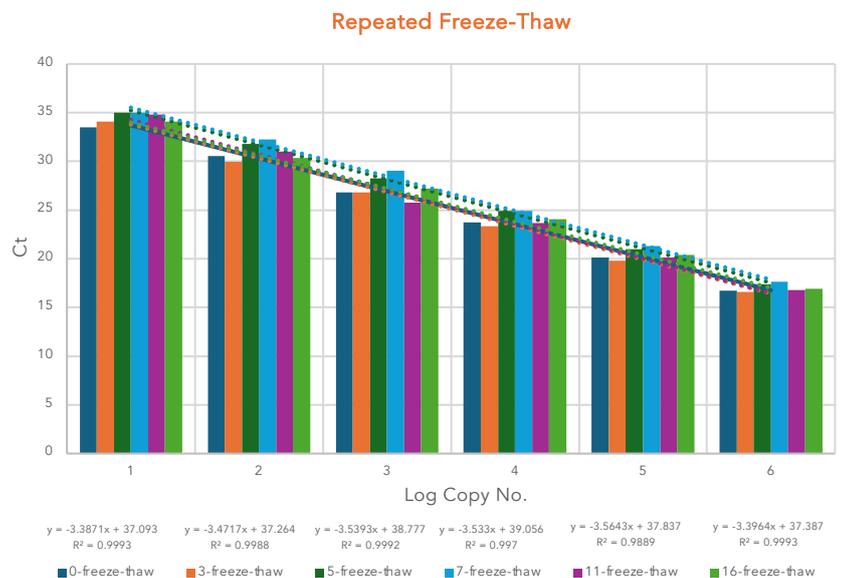


Figure 4. GAPDH Assay used performed across 7-dynamic range with Master Mixes exposed up to 16-freeze-thaw treatment. All conditions demonstrated consistent 99% PCR efficiencies.