

Brilliant III Ultra-Fast QPCR/QRT-PCR Master Mixes for Mx3000P and Mx3005P Real-Time PCR Systems

Data Sheet

The Brilliant III Ultra-Fast QPCR and QRT-PCR Master Mixes represent the next generation of universal quantitative PCR reagents suitable for fast or standard cycling conditions on virtually any real-time PCR system.

- Novel fast *Taq* mutant for qPCR results in under 50 minutes on the Mx platform
- Convenient pre-blended formulations compatible with any fluorescent detection chemistry including both sequence specific probes and SYBR® Green dyes
- Enhanced hot start capability reduces non-specific amplification products and primer-dimer formation delivering increased specificity
- Optimized fast cycling formulation ensures accurate and reproducible results with shorter run times

The Brilliant III Ultra-Fast QPCR and QRT-PCR reagents have been validated on many real-time PCR platforms including the Agilent Mx3000P and Mx3005P instruments, to create a complete system for performing qPCR without compromising target detection sensitivity, specificity, or reproducibility. The new ultra-fast reagents allow the completion of real-time experiments in less than 50 minutes on the Mx giving researchers access to their data faster without compromising data quality. These reagents feature a newly engineered *Taq* derived mutant delivering faster extension rate combined with an optimized buffer formulation and novel hot-start technology minimizing non-specific amplification products to increase overall sensitivity. Brilliant III Ultra-Fast QPCR and QRT-PCR Master Mixes provide the benefit of shorter run times while maintaining the performance of conventional real-time PCR reagents.

Highly efficient one-step QRT-PCR is performed with our Brilliant III Ultra-Fast QRT-PCR reagents using a Moloney-based RT for first strand synthesis with optimal performance at a synthesis temperature of 50°C.

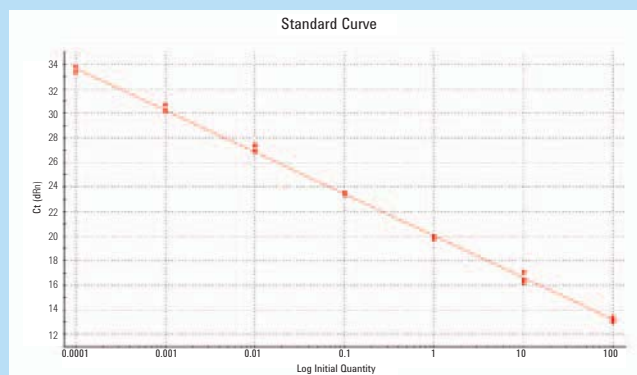
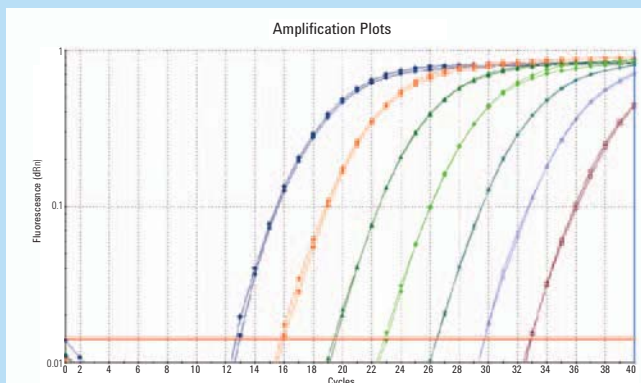


Figure 1
Improved Sensitivity of Detection at Lower Target Concentrations.
Log plot and corresponding standard curve of GAPDH primer/probe set (ABI Assays-On-Demand) using Brilliant III Ultra-Fast Master Mix. Reactions (20 μ l) contained 1x primer/probe and human universal cDNA ranging from 100 ng- 0.1 pg/Rxn in a 10 fold dilution series (in duplicate). The standard curves span six orders of magnitude resulting in an R^2 of 0.999 and amplification efficiency of 96.4%.

AffinityScript QPCR cDNA Synthesis Kit can be used for cDNA synthesis in a 2-step reaction providing flexibility across a wide range of temperatures. Novel hotstart Taq DNA polymerase combined with AffinityScript RT minimizes the potential for primer-dimer formation or other non-specific PCR products and delivers the most reproducible results.

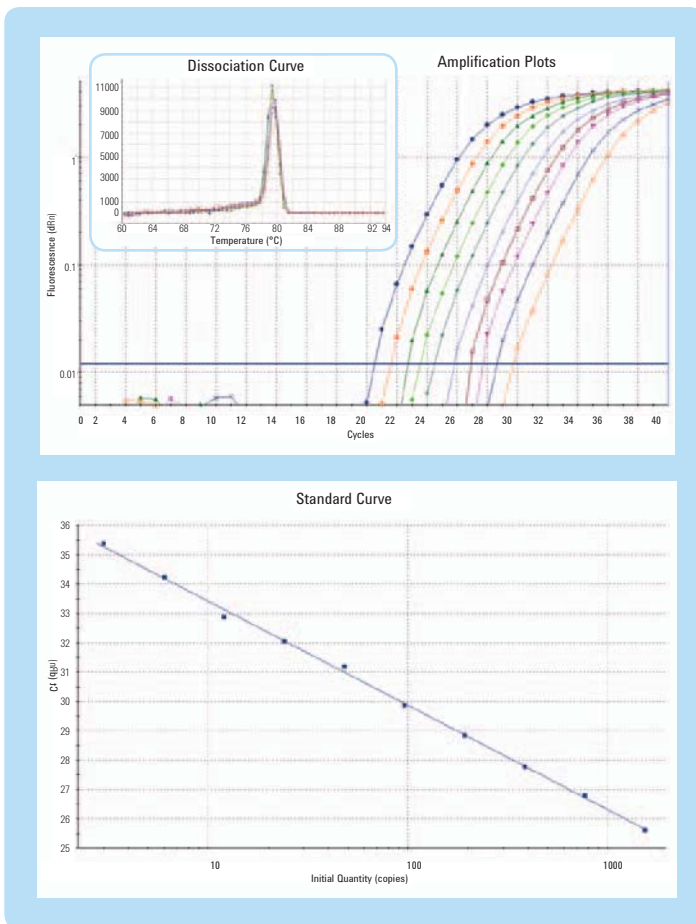


Figure 2
Low Copy Discrimination

Amplification plot and standard curve plot for 2-fold dilution of linearized plasmid run on an Mx real-time PCR system. Brilliant III Ultra-Fast SYBR® Green QPCR master mix exhibits precise detection of 2-fold differences from 1536 copies down to 3 copy equivalents. The novel hot start technology of Brilliant III Ultra-Fast QPCR reagents decreases primer-dimer formation and amplification of unwanted side reactions resulting in superior sensitivity of detection down to very low target concentrations. Efficiency = 96.7%, R² = 0.999.

Ordering Information

Description	Qty	Rxn*	Cat Nos
Brilliant III Ultra-Fast QPCR Master Mix	2 x 2 ml	400	600880
Brilliant III Ultra-Fast QPCR Master Mix (10 pack)	20 x 2 ml	4000	600881
Brilliant III Ultra-Fast QRT-PCR Master Mix	2 x 2 ml	400	600884
Brilliant III Ultra-Fast QRT-PCR Master Mix (10 pack)	20 x 2 ml	4000	600885
Brilliant III Ultra-Fast SYBR Green QPCR Master Mix	2 x 2 ml	400	600882
Brilliant III Ultra-Fast SYBR® Green QPCR Master Mix (10 pack)	20 x 2 ml	4000	600883
Brilliant III Ultra-Fast SYBR® Green QRT-PCR Master Mix	2 x 2 ml	400	600886
Brilliant III Ultra-Fast SYBR® Green QRT-PCR Master Mix (10 pack)	20 x 2 ml	4000	600887

*assumes 20 µl reaction volume

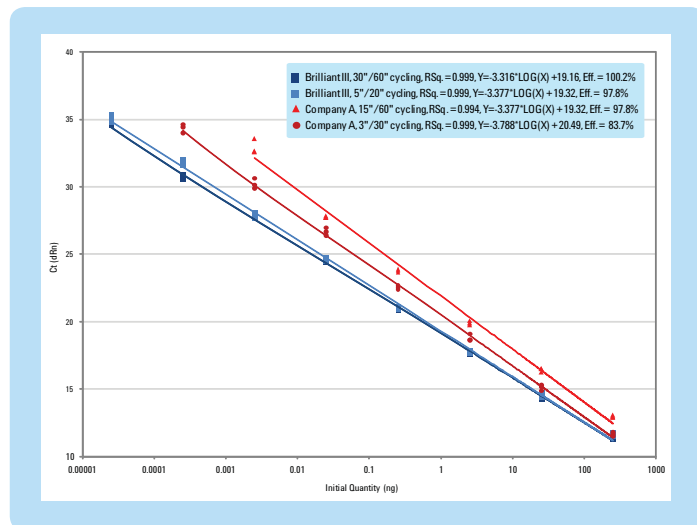


Figure 3
Brilliant III Ultra-Fast SYBR® Green QPCR master mixes shows Improved Sensitivity and PCR Efficiency compared to leading competitor master mix

Standard curve plot for 10-fold serial dilutions of 250 ng to 25 fg of cDNA of GAPDH primer/probe set (ABI Assays-On-Demand) using Brilliant III Ultra-Fast SYBR® Green QPCR Master Mix (■) under fast cycling conditions, Brilliant III SYBR® Green QPCR Master Mix (■) under standard cycling conditions, Competitor A's master mix (●) using manufacturer's recommended fast cycling conditions, and Competitor A's master mix (▲) under manufacturer's recommended standard cycling conditions. Brilliant III Ultra-Fast SYBR® Green QPCR Master Mix delivers earlier Cts, improved efficiencies, and up to 2 orders of magnitude greater dynamic range compared to Company A master mix under fast or standard cycling conditions.

For improved sensitivity and specificity in your qPCR results on fast or standard cycling real-time PCR platforms, choose our next generation Brilliant III Ultra-Fast QPCR or QRT-PCR Master Mixes.

Learn more:

www.stratagene.com/brilliant3

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