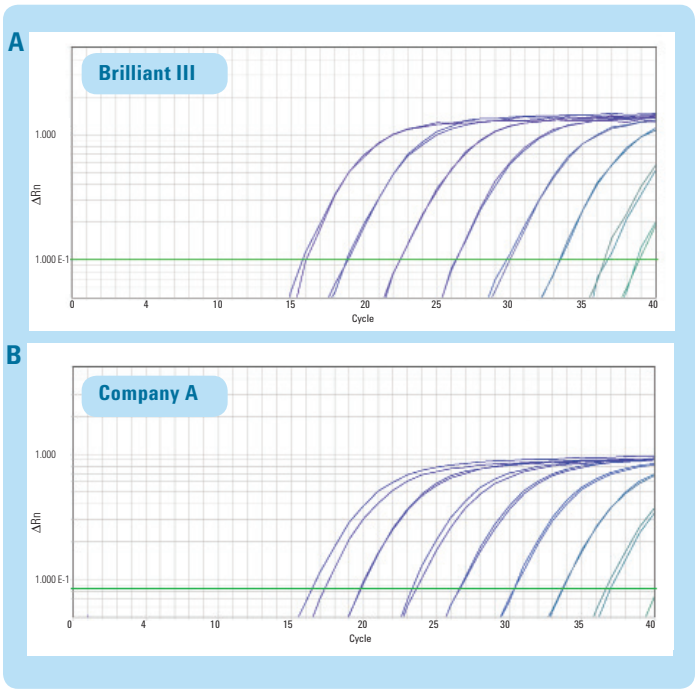
Brilliant III Ultra-Fast QPCR/QRT-PCR Master Mixes for ABI 7900 HT Real-Time PCR System

Data Sheet

For faster, improved real-time quantitative PCR (qPCR) on the ABI 7900 HT Real-Time PCR instrument – choose Agilent

- Novel fast *Taq* mutant for qPCR results in under 40 minutes
- Enhanced rapid hot start capability saves time and reduces primer-dimer formation
- Optimized fast cycling formulation ensures reliable and reproducible data with shorter run times
- Convenient pre-blended formulations compatible with any fluorescent detection chemistry including both sequence-specific probes and SYBR® Green dyes



Figures 1A & 1B.
Brilliant III Ultra-Fast QPCR Master Mix Offers Better Sensitivity over 7 orders of Magnitude on the ABI 7900 HT Real-Rime PCR System Compared to a Leading Competitor Master Mix.
10 fold dilution series of 100 ng to 10 fg of cDNA from human total RNA were used in each 20 µl reaction designed to detect GAPDH. Brilliant III (1A) gave an order of magnitude greater sensitivity compared to Company A (1B). GAPDH efficiency for Brilliant III = 96.1%, R^2 = 0.998; efficiency for Company A = 97.6%, R^2 = 0.998.

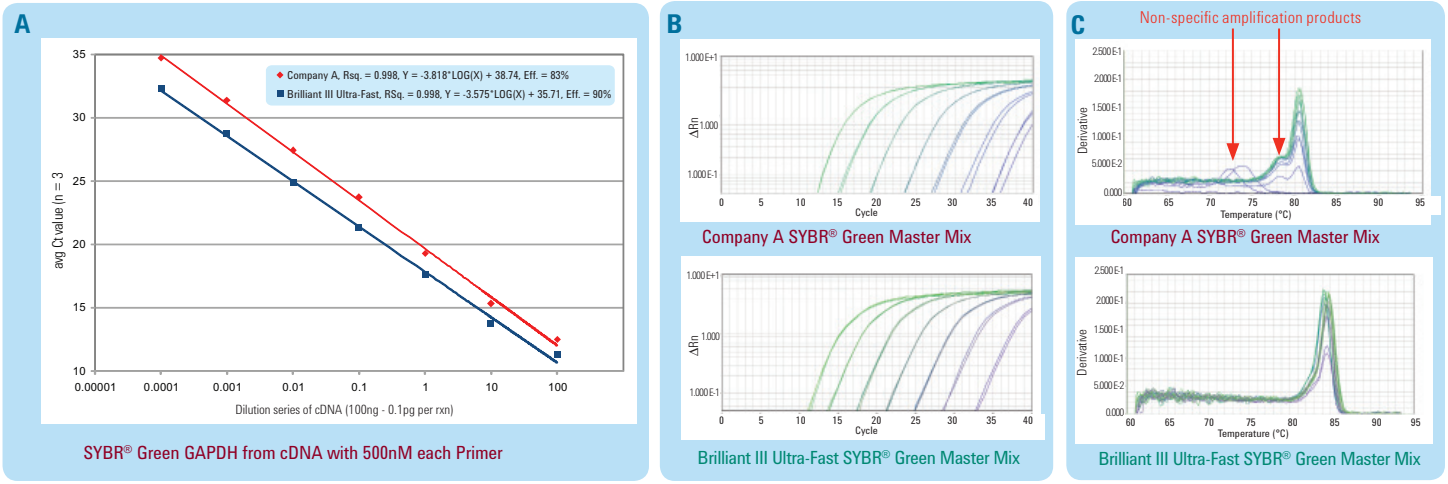
The Brilliant III QPCR and QRT-PCR master mixes are designed to provide the fastest cycling times on the ABI 7900 HT real-time PCR instrument. These ultra-fast reagents allow the completion of real-time experiments in less than 40 minutes giving researchers access to their data faster without compromising 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 ultra-fast cycling 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.

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.

The new Brilliant III Ultra-Fast QPCR Master Mixes deliver enhanced sensitivity, specificity and reproducibility within an assay and across multiple assays from high to very low copy number templates making Brilliant III Ultra-Fast QPCR and QRT-PCR Master Mixes the reliable choice for Real-Time PCR analysis.

For reduced time to results cycling on the 7900 HT Real-Time PCR platform, choose our next generation Brilliant III Ultra-Fast QPCR or QRT-PCR Master Mixes.



GAPDH cDNA target (100ng – 0.1pg per rxn in triplicate) cycled as recommended on an ABI 7900 HT real-time PCR system.

Figures 2.
Brilliant III Ultra-Fast SYBR® Green QPCR Master Mix Delivers Superior Sensitivity by Minimizing Primer Dimerization.
10 fold dilution series of 100 ng to 0.1 pg of cDNA from human total RNA were used in each 20 µl reaction designed to detect GAPDH. Standard curve data comparing Brilliant III Ultra-Fast SYBR® Green Master Mix and Company A SYBR Green master mix in duplicate. Amplification plots (B) show delayed Cts for the competitor master mix compared to Brilliant III. The Dissociation Curves (C) show primer-dimers or secondary non-specific PCR artifacts only with the Company A master mix. Brilliant III total run time: 37 min. Company A total run time: 36 min.

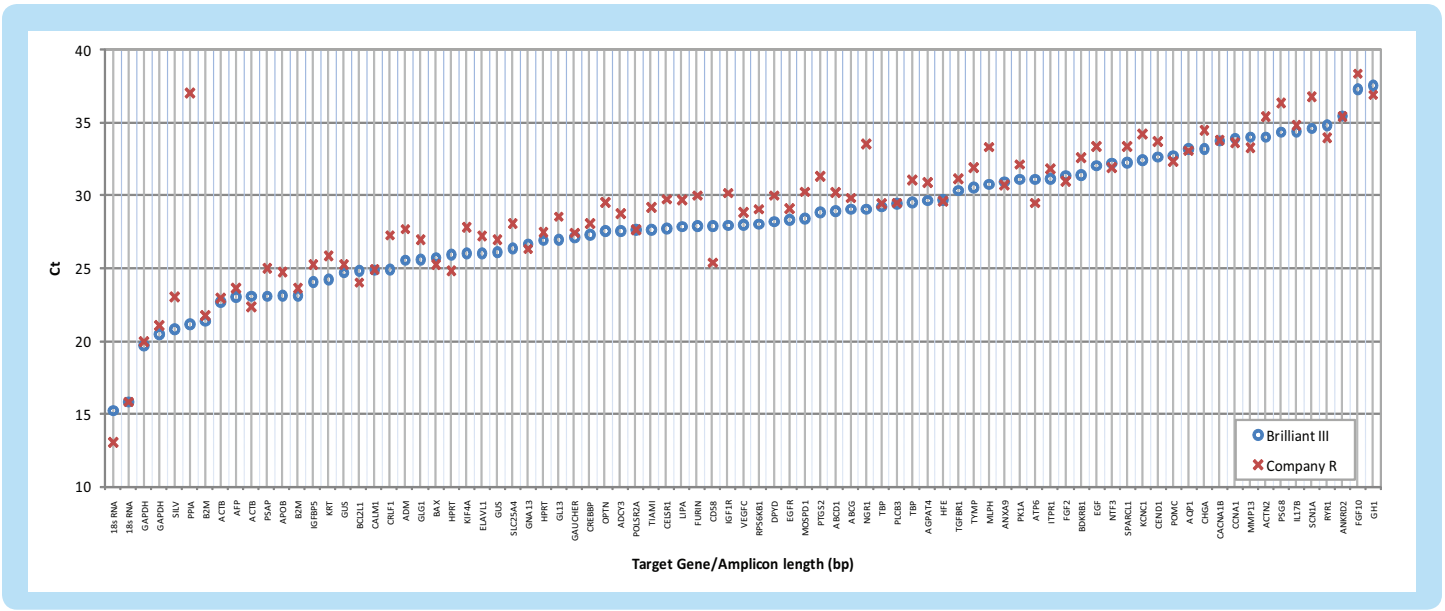


Figure 3.
Reliability Comparison of Brilliant III QPCR Master Mix versus Company R Master Mix on 83 TaqMan 'Assays-On-Demand' Gene Targets.
Master mixes were run under recommended cycling conditions using 5 ng of cDNA from human total RNA in each 20 µl reaction designed to detect the gene target using TaqMan 'Assays-on-Demand' primers/probe sets. Brilliant III total run time: 43 min. Company R total run time: 99 min. Almost 64% of the targets generated >1 Ct delay with the Company R master mix compared to Brilliant III.

Ordering Information

Description	Qty	Rxn*	Product 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

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