

# Brilliant III Ultra-Fast qPCR/QRT-PCR Master Mixes for ABI StepOnePlus Real-Time PCR System

## Data Sheet

### For faster, improved real-time quantitative PCR (qPCR) on the ABI StepOnePlus 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  
Low Copy Discrimination

Amplification plot and standard curve plot for 2-fold dilution of linearized plasmid run on a StepOnePlus real-time PCR system. Brilliant III Ultra-Fast 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 = 95.7%, RSq = 0.992.

Our next generation Brilliant III Ultra-Fast QPCR and QRT-PCR Master Mix Kits offer significantly reduced cycling time and superior sensitivity without compromising accurate quantification and reproducibility. The Brilliant III QPCR and QRT-PCR master mixes are designed to provide the fastest cycling times on the ABI StepOnePlus real-time PCR instrument (also provide rapid cycling and improved performance on ABI 7900HT and 7500 Fast). The Brilliant III Ultra-Fast kits show the same consistent performance across a wide range of template concentrations and template targets as our Brilliant II reagents. The new ultra-fast reagents allow the completion of real-time experiments in under 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.

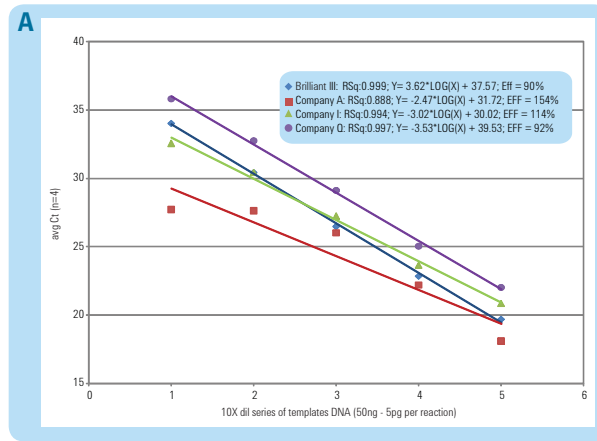
Highly efficient one-step QRT-PCR is performed with our Brilliant III Ultra-Fast QRT-PCR reagents using a Moloney-based RT for 1st strand synthesis with optimal performance at a synthesis temperature of 50°C.

AffinityScript QPCR cDNA Synthesis Kit can be used for 1st strand cDNA synthesis in a 2-step 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 can deliver QPCR results in less than 40 minutes on the StepOnePlus Real-Time PCR system. The enhanced sensitivity, specificity and reproducibility within an assay and across multiple assays from high to very low copy number templates makes Brilliant III Ultra-Fast QPCR and QRT-PCR Master Mixes your preferred choice for Real-Time PCR analysis.



Agilent Technologies

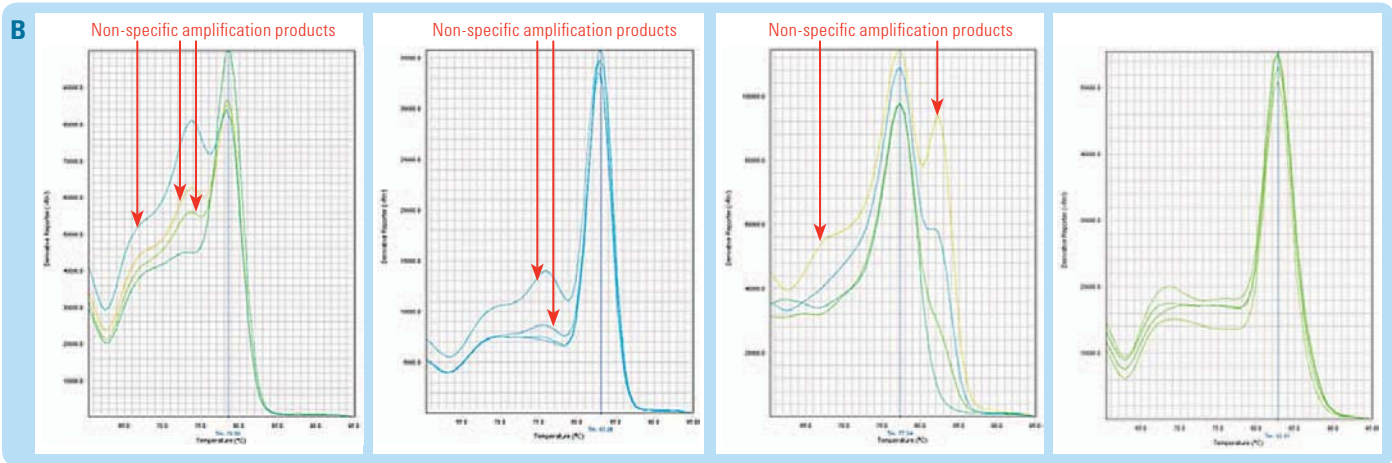


**Company A**  
Tm full prod: 78.6

**Company Q**  
Tm full prod: 83.1

**Company I**  
Tm full prod: 82.6

**Agilent Brilliant III**  
Tm full prod: 78.6



**Figures 2A & 2B**  
**Minimizing Primer Dimerization Delivers Superior Sensitivity**

Brilliant III Ultra-Fast qPCR Master Mixes prevent generation of non-specific secondary products, to provide a greater degree of confidence in your qPCR results. Standard curve (A) showing 5-fold dilution series of 50 ng to 5 pg of human genomic DNA to detect Numb-1. The Dissociation Curve (B) shows primer-dimers or secondary non-specific PCR artifacts for all competitor master mixes. Although Company A and Company I generate earlier Ct's, the efficiency of the reaction is compromised by formation of these artifacts competing with the specific product amplification, reducing the assay limit of detection and dynamic range. The novel *Taq* mutant and new hot start technology of Brilliant III Ultra-Fast qPCR Master Mixes reduces the need for more extensive assay validation and provides more reliable and consistent data across a wider range of different assays.

### Ordering Information

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

\*assumes 20 µl reaction volume

### Learn more:

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