



Brilliant III Ultra-Fast SYBR[®] Green QPCR Master Mix

Quick Reference Guide for the ABI StepOnePlus Real-Time PCR System

This quick reference guide provides an optimized protocol for using Agilent's Brilliant III Ultra-Fast SYBR[®] Green QPCR Master Mix with the StepOnePlus Real-Time PCR System from Applied Biosystems. For detailed instructions, refer to the full product manual.

Prepare the Reactions

- 1 Dilute the reference dye 1:50 using nuclease-free PCR-grade water.
- 2 Prepare the experimental reactions by combining the components of the reagent mixture in the order listed in the table below. Prepare a single reagent mixture for replicate reactions (plus at least one reaction volume excess) using multiples of each component.

Reagent Mixture
Nuclease-free PCR-grade water to bring final volume to 20 μ l (including DNA)
10 μ l of 2 \times SYBR Green QPCR Master Mix
x μ l of upstream primer at optimized concentration (200–500 nM)
x μ l of downstream primer at optimized concentration (200–500 nM)
0.3 μ l of diluted reference dye

- 3 Gently mix the reagent mixture without creating bubbles, then distribute the mixture to the experimental reaction tubes.
- 4 Add x μ l of experimental DNA to each reaction to bring the final reaction volume to 20 μ l. The table below lists a suggested quantity range for different DNA templates.

DNA	Quantity per reaction
Genomic DNA	5 pg – 50 ng
cDNA	0.5 pg – 100 ng*

*Refers to RNA input amount during cDNA synthesis

- 5 Mix the reactions without creating bubbles, then centrifuge briefly.

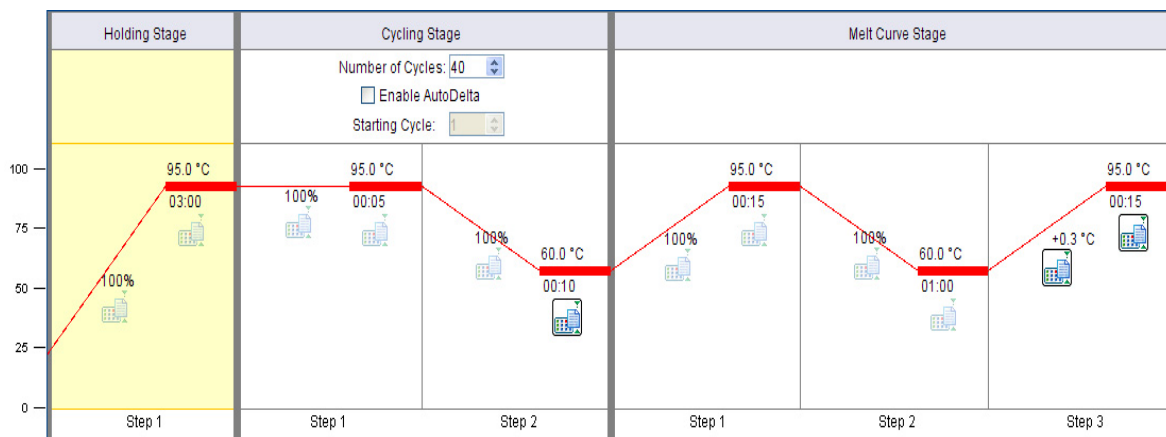


Set Up the QPCR Plate and Thermal Profile

- 1 From the Home screen of the StepOnePlus software, click **Advanced Setup**.
- 2 Complete the Setup screens for a new experiment as needed.

On the Experiment Properties screen, select **SYBR Green Reagents** (including a melt curve) and the **Fast** ramp speed.

On the Run Method screen, set the reaction volume to 20 μ l and adjust the thermal profile according to the image below.



Note: If you do not require a high-resolution melt curve, you can increase the ramp rate during the melt segment to 0.5°C per second to shorten the protocol time.

Run the PCR Program

- 1 Place the reactions in the StepOnePlus instrument.
- 2 On the Run screen, click **START RUN**.

Analyze Data

- 1 Analyze the results of the run as needed for your experiment.

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Product Information

Catalog #600882, 400 reactions
Catalog #600883, 4000 reactions

Ordering Information

By phone (US and Canada*): 800-227-9770
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