Brilliant III Ultra-Fast QRT-PCR Master Mix

Quick Reference Guide for the ABI 7500 Fast Real-Time PCR System

This quick reference guide provides an optimized protocol for using Agilent's Brilliant III Ultra-Fast QRT-PCR Master Mix with the 7500 Fast Real-Time PCR System from Applied Biosystems. For detailed instructions, refer to the full product manual.

Prepare the Reactions

1 Dilute the reference dye 1:500 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. *Keep reagent mixture on ice.*

Reagent Mixture
Nuclease-free PCR-grade water to bring final volume to 20 µl (including RNA)
10 µl of 2× QRT-PCR Master Mix
x µl of experimental probe at optimized concentration (100–600 nM)
x µl of upstream primer at optimized concentration (200–600 nM)
x µl of downstream primer at optimized concentration (200–600 nM)
0.3 µl of diluted reference dye
0.2 µl of 100 mM DTT
1 µl of RT/RNase Block

3 Gently mix the reagent mixture without creating bubbles, then distribute the mixture to the experimental reaction tubes. *Keep the reactions on ice.*

4 Add x µl of experimental RNA to each reaction to bring the final reaction volume to 20 µl. The table below lists a suggested quantity range for different RNA templates.

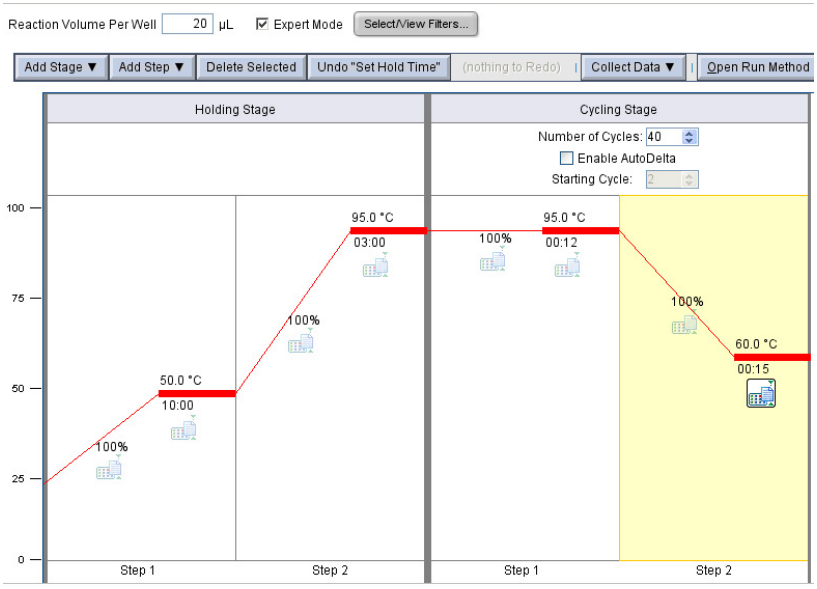
RNA	Quantity per reaction
Total RNA	0.1 pg – 100 ng
mRNA	0.1 pg – 1 ng

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 7500 software, click **Advanced Setup**.
2. Complete the Setup screens for a new experiment as needed.

   On the Experiment Properties *screen, select* ***TaqMan Reagents*** *and the* ***Fast*** *ramp speed.*
3. On the **Run Method** screen, set the reaction volume to 20 µl and mark the **Expert Mode** check box. Click **Select/View Filters** and deselect any filters not in use in the experiment.
4. Adjust the thermal profile according to the image below. *Note that a new step needs to be added to the beginning of the profile for the 50°C incubation.*



Run the PCR Program

1. Place the reactions in the 7500 instrument.
2. Click **START RUN**.

Analyze Data

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

Product Information

Catalog #600884, 400 reactions
Catalog #600885, 4000 reactions

Ordering Information

By phone (US and Canada*): 800-227-9770
On the web: www.agilent.com/genomics

Technical Services

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