TaqMan® Array Plates

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This quick reference describes procedures for performing experiments using TaqMan® Array 96-Well Plates or TaqMan® Array Gene Signature Sets 96-Well Plates.

Note: For safety and biohazard guidelines, refer to the "Safety" section in the *TaqMan® Array Plates User Guide: 96-Well Fast Plates, 96-Well Plates, and TaqMan® Gene Signature Sets* (Part no. 4391016). For every chemical, read the SDS and follow the handling instructions. Wear appropriate protective eyewear, clothing, and gloves.

1 Prepare the cDNA template

a. Evaluate the total RNA from your sample.

b. Perform reverse transcription on your total RNA sample.

2 Set up the plate document/experiment

a. Start the SDS software, 7500 software, or StepOne™ software.

b. Download the appropriate text (.txt) file from the Information CD to the real-time PCR system computer.

System	Download
7300	*ProdNum*_7300_7500_SDS.txt
7500	• SDS Software – *ProdNum*_7300_7500_SDS.txt • 7500 Software – *ProdNum*_7500_2.0.txt
7900HT	*ProdNum*_7900_SDS.txt

c. Refer to the appropriate instrument user guide for information on how to set up the plate document/experiment or create a template from the setup file.

3 Combine the cDNA and master mix

a. For each cDNA sample, label a tube of sufficient size to accommodate the total volume of reaction mix for the number of reactions (see the table below).

b. To each labeled cDNA tube, add the components at the indicated volumes:

Component	Volume per well (µL)					
	1	**8†**	**16†**	**32†**	**48†**	**96†**
cDNA + DNase-free water‡	10	90	180	360	540	1080
TaqMan® master mix§	10	90	180	360	540	1080
Total Volume	20	180	360	720	1080	2160

† Number of 20-µL reactions. Volumes include 12.5% excess volume.

‡ The recommended range of input cDNA is 1 to 100 ng per 20-µL reaction.

§ TaqMan® Gene Expression Master Mix and TaqMan® Universal PCR Master Mix are compatible for use with TaqMan® Array 96-Well Plates and TaqMan® Array Gene Signature Sets 96-Well Plates.

c. Cap the tubes, then gently vortex each tube to thoroughly mix the solution.

d. Centrifuge the tubes briefly to bring the liquid to the bottoms of the tubes.

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4 Prepare the plate

a. Before removing the plate cover, briefly centrifuge the plate (1000 rpm for 1 min).

b. Remove the cover from the plate, then dispense the 20 µL of the cDNA and master mix solution to the appropriate wells of the plate.

c. Cover the plate using MicroAmp® Optical Adhesive Film.

d. Briefly centrifuge the plate to bring the solution to the bottom of the wells (1000 rpm for 1 min).

5 Run the plate

a. Set the thermal-cycling conditions as specified in the following table:

Hold†	Hold	PCR (40 cycles)	
		Melt	Anneal/Extend
50 °C	95 °C	95 °C	60 °C
2:00 min	10:00 min	0:15 min	1:00 min

† Omit the hold (50 °C/2 min) if you are using TaqMan® Universal PCR Master Mix that does not contain AmpErase® UNG.

b. In the plate document or experiment, select **Standard** mode, then enter **20 µL** for the sample volume.

c. (7900HT System users only) Place a MicroAmp® Snap-On Optical Film Compression Pad (Part no. 4333292) on top of the adhesive film that seals the plate.

d. Load the plate in the instrument and start the run.

6 Analyze your results

The details of analysis depend on the real-time PCR system that you use. Refer to the appropriate instrument user guide for instructions on how to analyze your data.

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