

# Power SYBR® Green PCR Master Mix: Performing Real-Time PCR Assays

## Quick Reference Card

For safety and biohazard guidelines, refer to the “Safety” section in the *Power SYBR® Green PCR Master Mix and RT-PCR Protocol* (PN 4367218). For all chemicals in **bold red** type below, read the MSDS and follow the handling instructions. Wear appropriate protective eyewear, clothing, and gloves.

This quick reference card provides simplified procedures for using the Power SYBR® Green PCR Master Mix for real-time PCR assays. The *Power SYBR® Green PCR Master Mix and RT-PCR Protocol* (PN 4367218) provides detailed real-time PCR and RT-PCR procedures and ordering information for the Power SYBR Green products.

STEP	ACTION																																								
1	Prepare the PCR master mix	a. Allow the Power SYBR® Green PCR Master Mix to thaw completely. b. In a polypropylene tube, prepare the PCR master mix by scaling the volumes listed below to the desired number of PCR reactions.  <b>Note:</b> Include extra volume to account for pipetting losses.																																							
		<table border="1"> <thead> <tr> <th rowspan="2">Reaction Component</th> <th colspan="3">Volume (µL) / Reaction</th> <th rowspan="2">Final Concentration</th> </tr> <tr> <th>384-Well Plate</th> <th>96-Well Fast Plate†</th> <th>96-Well Standard Plate</th> </tr> </thead> <tbody> <tr> <td><b>Power SYBR Green PCR Master Mix (2X)</b></td> <td>5</td> <td>10</td> <td>25</td> <td>1X</td> </tr> <tr> <td>Reverse primer</td> <td>Variable</td> <td>Variable</td> <td>Variable</td> <td>50 to 900 nM</td> </tr> <tr> <td>Forward primer</td> <td>Variable</td> <td>Variable</td> <td>Variable</td> <td>50 to 900 nM</td> </tr> <tr> <td>Template</td> <td>Variable</td> <td>Variable</td> <td>Variable</td> <td>1 to 100 ng</td> </tr> <tr> <td>Nuclease-free water</td> <td>Variable</td> <td>Variable</td> <td>Variable</td> <td>—</td> </tr> <tr> <td><b>Total Volume</b></td> <td><b>10</b></td> <td><b>20</b></td> <td><b>50</b></td> <td><b>—</b></td> </tr> </tbody> </table>			Reaction Component	Volume (µL) / Reaction			Final Concentration	384-Well Plate	96-Well Fast Plate†	96-Well Standard Plate	<b>Power SYBR Green PCR Master Mix (2X)</b>	5	10	25	1X	Reverse primer	Variable	Variable	Variable	50 to 900 nM	Forward primer	Variable	Variable	Variable	50 to 900 nM	Template	Variable	Variable	Variable	1 to 100 ng	Nuclease-free water	Variable	Variable	Variable	—	<b>Total Volume</b>	<b>10</b>	<b>20</b>	<b>50</b>
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		† Assays performed using the Power SYBR® Green PCR Master Mix are not supported using Fast mode; therefore Optical 96-Well Fast Thermal Cycling Plates must be run under standard conditions.																																							
		c. Mix gently. <i>Do not vortex</i> . Centrifuge briefly, then prepare the PCR reaction plate.																																							

(continued on reverse)

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<b>2</b>	<b>Set up the plate document</b>	See your instrument user's manual for detailed instructions on how to configure plate documents. When creating plate documents use the following parameters:																											
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<b>3</b>	<b>Run the PCR reaction plate</b>	In the SDS software, open the plate document that corresponds to the reaction plate. Load the reaction plate into the instrument, then start the run. See your instrument user's manual for detailed instructions on how to load and run the plate.																											
<b>4</b>	<b>Analyze the results</b>	Data analysis varies depending on the instrument. See the <i>Power SYBR<sup>®</sup> Green PCR Master Mix and RT-PCR Protocol</i> (PN 4367218) and your instrument user's manual for detailed instructions on how to analyze your data.																											

† For optimal results, Applied Biosystems recommends using the 9600 Emulation mode. However, using the Standard run mode with the Power SYBR<sup>®</sup> Green PCR Master Mix provides comparable results. See the troubleshooting section of your instrument user's manual if you encounter poor performance.  
‡ When Standard mode is selected, the Sequence Detection System Software (SDS Software) matches the ramp rate of the 9700 thermal cycler for standard PCR reactions.  
§ When 9600 Emulation mode is selected, the SDS Software matches the ramp rate of the 9600 thermal cycler.

## Power SYBR<sup>®</sup> Green PCR Master Mix Products

Item	Part Number	Contents
Power SYBR <sup>®</sup> Green PCR Master Mix:		
• Mini-Pack	• 4368577	• One 1 mL tube (40 × 50 µL reactions)
• 1-Pack	• 4367659	• One 5 mL tube (200 × 50 µL reactions)
• Bulk Pack	• 4367660	• One 50 mL tube (2000 × 50 µL reactions)
• 2-Pack	• 4368706	• 2 × 5 mL tubes (400 × 50 µL reactions)
• 5-Pack	• 4368702	• 5 × 5 mL tubes (1000 × 50 µL reactions)
• 10-Pack	• 4368708	• 10 × 5 mL tubes (2000 × 50 µL reactions)
Power SYBR <sup>®</sup> Green RT-PCR Reagents Kit	4368711	• Power SYBR <sup>®</sup> Green PCR Master Mix (200 × 50 µL reactions) • TaqMan <sup>®</sup> Reverse Transcription Reagents (200 × 10 µL reactions)
Related Documentation:		
• Protocol	• 4367218	• —
• Quick Reference Card	• 4367219	• —

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Notice to Purchaser: Please refer to the *Power SYBR<sup>®</sup> Green PCR Master Mix and RT-PCR Protocol* (PN 4367218) for limited label license or disclaimer information.

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