PCR SuperMix

Package Contents

Catalog Number	Size
10572-014	100 rxns
10572-063	5,000 rxns

Kit Contents

Storage Conditions

- Store all contents at -20°C.

Required Materials

- Template: cDNA, gDNA, λDNA
- Forward and reverse gene-specific primers
- Autoclaved, distilled water
- E-Gel® Gels, 1.2% (Cat. no. G5018-01)
- TrackIt™ 1 Kb Plus DNA Ladder (Cat. no. 10488-085)
- 0.2 or 0.5-mL nuclease-free microcentrifuge tubes

Timing

Varies depending on amplicon length

Selection Guide

PCR Enzymes and Master Mixes
Go online to view related products.

Product Description

- PCR SuperMix contains Mg^{++}, dNTPs, and recombinant *Taq* DNA polymerase.
- PCR SuperMix is supplied at 1.1X concentration to allow approximately 10% of the final reaction volume to be used for primer and template solutions.
- A standard 50-µL reaction uses 45 µL of PCR SuperMix and 5 µL of primer and template solution.

Important Guidelines

- Select the correct polymerase, PCR instrument, and cycling conditions for your application.
- Take precautions to avoid cross-contamination by using aerosol-resistant barrier tips and analyzing PCR products in a separate area from PCR assembly.
- If PCR efficiency is sub-optimal, repeat the reaction with different primer concentrations from 0.1–0.5 µM (final).
- If the final Mg^{++} concentration is adjusted to 1.5 mM, the volume of primer and template solution that can be added to 45 µL of PCR SuperMix can exceed 50 µL.

Online Resources

Visit our product page for additional information and protocols. For support, visit www.lifetechnologies.com/support.

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Print Options

Enzyme Characteristics

Hot-start: None
Length: Up to 5 kb
Fidelity vs. *Taq*: 1X
Format: Master mix

PCR Reaction Setup

Use the measurements below to prepare your PCR experiment, or enter your own parameters in the column provided.

Component	25-µL rxn	50-µL rxn	Custom	Final Conc.
Autoclaved, distilled water	to 25 µL	to 50 µL	to µL	–
PCR SuperMix	22.5 µL	45 µL	µL	1X
10 µM forward primer	0.5 µL	1 µL	µL	0.2 µM
10 µM reverse primer	0.5 µL	1 µL	µL	0.2 µM
Template DNA	varies	varies		< 500 ng

PCR Protocol

See page 2 to view a procedure for preparing and running your PCR experiment.

Optimization Strategies

Refer to the pop-up for guidelines to optimize your PCR reactions.

Limited Warranty, Disclaimer, and Licensing Information

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PCR SuperMix Protocol

The example PCR procedure below shows appropriate volumes for a single **50-µL** reaction.

For multiple reactions, prepare a master mix of components common to all reactions to minimize pipetting error, and then dispense appropriate volumes into each 0.2–0.5 mL PCR reaction tube prior to adding template DNA and primers.

Timeline	Steps	Procedure Details
1 	**Thaw reagents**	Thaw, mix, and briefly centrifuge each component before use.
2 	**Add template DNA and primers to mix**	Set up the reaction tubes/plates on ice. Add the following components to each PCR reaction tube. Adjust the reaction volumes as needed for your application.
3 	**Incubate reactions in a thermal cycler**	Cap each tube, mix, and then briefly centrifuge the contents.
4 	**Analyze with gel electrophoresis**	Analyze 10 µL using agarose gel electrophoresis. Use your PCR reaction immediately for down-stream applications, or store it at -20°C.

Component	50-µL rxn	Final Concentration
Autoclaved, distilled water	to 50 µL	
PCR SuperMix	45 µL	1X
10 uM forward primer	1 µL*	0.2 µM
10 uM reverse primer	1 µL*	0.2 µM
Template DNA	varies*	< 500 ng

* The total volume of primer and template solution should be 0.5–20 µL. If the final Mg concentration is adjusted to 1.5 mM, the volume of primer and template solution that can be added to 45 µL of PCR SuperMix can exceed 50 µL.

Step		Temperature (°C)	Time
Initial Denaturation		94	2 minutes
25–35 PCR Cycles	Denature	94	15 seconds
	Anneal	~55 (depending on primer T_m)	30 seconds
	Extend	72	1 minute/kb
Hold		4	indefinitely