AmpliTaq Gold® Fast PCR Master Mix

applied biosystems by life technologies™

Print Options

Package Contents

Catalog Number	Size
4390937	25 rxns
4390939	250 rxns
4390941	2,500 rxns

Kit Contents

Storage Conditions

- Store all contents at 4°C.

Required Materials

- Template: gDNA, cDNA
- Forward and reverse gene-specific primers
- MicroAmp® Adhesive Seal Applicator (Cat. no. 4333183)
- MicroAmp® Clear Adhesive Film (Cat. no. 4306311)
- MicroAmp® Optical 96-Well Reaction Plate with Barcode (Cat. no. 4306737)
- ProFlex™ 96-well PCR System (Cat. no. 4484075)
- Centrifuge with plate holders
- Autoclaved, distilled water

Timing

Varies depending on amplicon length

Selection Guide

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

Product Description

- The AmpliTaq Gold® Fast PCR Master Mix contains a hot-start polymerase chain reaction, optimized to increase the overall PCR amplification speed.
- Each 2X Master Mix contains AmpliTaq Gold® DNA Polymerase, UP; PCR Buffer; dNTP; $MgCl_2$; and stabilizers.
- Optimized for use in sequencing applications, this kit provides specific, high-yield, and high-quality amplicons that can be easily and robustly sequenced.
- The mix can be used to amplify either complementary DNA (cDNA) or genomic DNA (gDNA) samples.
- Assembled reactions are stable up to 18 hours at room temperature.

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 an area separate from PCR assembly.

Online Resources

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

For Research Use Only. Not for use in diagnostic procedures.

Enzyme Characteristics

Hot-start:	Chemical
Length:	Up to 1.5 kb
Fidelity vs. *Taq*:	1X
Format:	Master mix

PCR Reaction Setup

Use the measurements below to prepare your PCR experiment. The recommended reaction volume is 20 µL for the MicroAmp® Optical 96-well Reaction Plate with Barcode, when using the ProFlex™ 96-well PCR System.

Component	20-µL rxn	Final Conc.
Autoclaved, distilled water	to 20 µL	–
AmpliTaq Gold® Fast Master Mix	10 µL	1X
10 µM forward primer	0.4–1.0 µL	0.2–0.5 µM
10 µM reverse primer	0.4–1.0 µL	0.2–0.5 µM
Template DNA	varies*	< 200 ng/20-µL rxn*

* > 100 copies of template but < 0.2 µg gDNA per reaction. Adjust reaction volumes for your experimental design, keeping the concentrations constant.

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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AmpliTaq Gold® Fast PCR Master Mix Protocol

The example PCR procedure below shows appropriate volumes for a single **20-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 well of an Optical 96-well reaction plate prior to adding template DNA and primers.

Timeline	Steps	Procedure Details
1 	**Thaw reagents**	Thaw the reagents on ice. Mix and briefly centrifuge each component before use.
2 	**Prepare PCR master mix**	Add the following components into your desired number of wells in an Optical 96-Well Reaction Plate. Adjust the reaction volumes as needed for different sizes or master mixes, keeping concentrations constant. **Note:** Consider the volumes for all components listed in steps 2 and 3 to determine the correct amount of water required to reach your final reaction volume.
3 	**Add template DNA and primers**	Mix the contents by swirling gently. Do not introduce bubbles into the master mix solution. a. Add your template DNA and primers to each tube for a final reaction volume of 20 µL. b. Seal the plate with MicroAmp® Clear Adhesive Film, and briefly centrifuge the contents. Assembled reactions can be stable at room temperature for up to 18 hours.
4 	**Incubate reactions in a thermal cycler**	
5 	**Analyze with gel electrophoresis**	Analyze 5 µL using agarose gel electrophoresis. Use your PCR reaction immediately for down-stream applications, or store it at –20°C.

Component	20-µL rxn	Final Concentration
Autoclaved, distilled water	to 20 µL	–
AmpliTaq Gold® Fast Master Mix	10 µL	1X

Component	20-µL rxn	Final Concentration
10 µM forward primers	0.4 µL	0.2 µM
10 µM reverse primers	0.4 µL	0.2 µM
Template DNA	varies	< 200 ng/ 20-µL rxn

Step		Temperature (°C)	Time
Initial Denaturation		95°C	10 minutes
35 PCR Cycles	Denature	96°C	3 seconds
	Anneal	primer T_m	3 seconds
	Extend	68°C	≤ 5 kb—5 seconds 0.5–1.0 kb—15 seconds 1–1.5 kb—30 seconds
Final Extension		72°C	10 seconds
Hold		4°C	indefinitely

* For cloning applications, increase the final extension time to 5 minutes.