

# PR1MA™ Taq Plus Master Mix

## Description

Ideally suited for problematic templates, Taq Plus Master Mix combines the superior performance of our standard Taq with a proofreading polymerase. The resulting complex provides greater yields and better sensitivity for low copy number PCR and longer DNA templates. Products have a 3'-dA overhang, suitable for TA cloning. The chemistry of this 2X mix includes enhancers for maximum speed, efficiency and PCR sensitivity. The mix is supplied as a ready to use 2X hot start formulation.

-Ready to use mix reduces pipetting steps and errors

-Performs across a wide range of difficult DNA templates and low copy assays

-Improved yields for longer templates with standard or fast cycling

## Storage

Upon receipt, immediately store at -20°C. Avoid excessive freeze/thaw cycles. When stored as directed, this product will retain its activity for 12 months from date of receipt. The product may also be stored at 4°C for up to one month.

## Limitations of Use

For research purposes only. Not intended for therapeutic or diagnostic use.

## Quality Control

PR1MA enzymes and reagents are tested under general assay conditions for activity, reproducibility, efficiency, heat activation, sensitivity, and absence of nuclease contamination and nuclease activity. This product is manufactured under a comprehensive quality management system, following ISO 9001:2008 standards.

## General Guidelines

### 1. 2X Taq Plus Master Mix

The Master Mix contains Hot Start Taq DNA polymerase, a proofreading polymerase, 2mM dNTPs, 6mM MgCl<sub>2</sub> and proprietary PCR enhancers. Formulated for maximum efficiency, sensitivity and successful PCR with a variety of difficult templates, adding additional PCR enhancers may have a negative effect on the reaction.

### 2. Template

For PCR of complex genomic DNA, 5ng - 500ng of template DNA may be added per reaction. Do not add more than 100ng of cDNA or plasmid DNA.

### 3. Primers

Primers should have a predicted melting temperature of approximately 60°C, using default Primer 3 settings (<http://frodo.wi.mit.edu/primer3>). The final primer concentration should be 0.2µM to 0.6µM.

### 4. Annealing Temperature

An initial annealing temperature of 55°C is recommended. If nonspecific products appear, increase the temperature in 2°C increments. Alternately, a temperature gradient may be performed.

### 5. Extension

The polymerase performs optimally at 72°C. Extension time is dependent upon amplicon complexity and length. Generally, 15-30 seconds per kb is recommended for eukaryotic genomic DNA and cDNA less than 5kb. Allow 40-60 seconds per kb for longer amplicons.

## Technical Support

For trouble-shooting and tech support, contact us at [tech@midsci.com](mailto:tech@midsci.com) or call 800 227-9997.

MidSci is not responsible for consequential or incidental damages, whether direct or indirect, resulting from use of this product. MidSci guarantees the performance of this product as described when used in accordance with these instructions.

## Reaction setup

Prepare the reaction as follows:

Component	25 µl reaction	50 µl reaction	Final concentration
PR1MA 2X Taq Plus Master Mix	12.5 µl	25 µl	1X
Forward Primer (10µM)	1.0 µl	2.0 µl	400 nM
Reverse Primer (10µM)	1.0 µl	2.0 µl	400 nM
Template DNA	<100ng cDNA, <500ng genomic		variable
PCR-grade water	to final reaction volume		

For other volumes, adjust the amount of each component accordingly.

Gently mix the solution. If needed, spin briefly in a microcentrifuge to bring reaction mixture to the bottom of the tube. Transfer samples to a thermal cycler and begin cycling. Be sure to include an initial activation/denaturation step of 1-2 minutes.

## Routine PCR Cycling

Step	Temperature	Time
Enzyme activation	95°C	1-2 minutes
	95°C	15 seconds
25-40 cycles	55°C to 67°C**	15 seconds
	72°C	15-30 seconds per Kb*

\*See "General Guidelines" for amplification of longer templates

\*\*Annealing temperature determined by user

## Package contents and reordering

PR1MA Taq Master Mix is supplied in 200 and 1000 reaction (50 µl) packages and is available with or without red loading dye.

### PR1MA Hot Start Taq Master Mix, Sample Pack

Catalog number PR1001-TP-S  
Includes 500 µl of 2X Master Mix (20 rxns).

### PR1MA Hot Start Taq Master Mix, 200 Rxns

Catalog number PR1001-TP-200  
Includes 5ml of 2X Master Mix in 1.25ml aliquots.

### PR1MA Hot Start Taq Master Mix, 1000 Rxns

Catalog number PR1001-TP-1000  
Includes 25ml of 2X Master Mix in 1.25ml aliquots.

MidSci offers a full line of PCR enzymes and master mixes. Visit [www.midsci.com](http://www.midsci.com) for details.

Taq Plus  
PR1000-TP

5 units/µl, supplied with 5X Buffer

Package contains:

■ 250 units Taq Plus Polymerase (1x50µl)  
2ml 5X Taq Plus Buffer (2x1ml)

■ 500 units Taq Plus Polymerase (2x50µl)  
4ml 5X Taq Plus Buffer (4x1ml)

Store at -20°C upon receipt

888-227-9997 [custserv@midsci.com](mailto:custserv@midsci.com)