PR1MA™ Hot Start Taq Master Mix and Hot Start Master Mix Red

Description

PR1MA Hot Start Taq Master Mix and Hot Start Master Mix Red are single tube formulations containing antibody mediated PR1MA Hot Start Taq in a buffer engineered for fast cycling with higher reproducibility and better efficiency. After PCR, samples amplified with Master Mix Red can be loaded directly onto an agarose gel without the addition of a loading buffer - the included dye is sufficiently dense to sink to the bottom of the wells. The red dye migrates with 800-1000bp DNA fragments and the yellow dye migrates with 20-30bp DNA fragments in a 1% agarose gel.

- -Ready to use mix reduces pipetting steps and errors
- -Performs across a wide range of DNA templates including genomic DNA and GC-rich and AT-rich sequences
- -Proprietary buffer system includes enhancers for maximizing enzyme activity and reaction speed
- -Improved solubility and template affinity

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. May 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 Master Mix/Master Mix Red*

The Master Mix contains PR1MA Taq DNA polymerase, 2mM dNTPs, 6mM $MgCl_2$, and proprietary PCR enhancers. Master Mix Red also contains an inert loading dye Formulated for maximum efficiency, sensitivity and successful PCR with a variety of difficult templates, adding additional PCR enhancers may have a negative effect.

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*

Perform gradient PCR or start at 55°C and increase in 2°C increments to find the optimal annealing temp. Proprietary enhancers in the master mix may reduce the optimal annealing temperature compared to traditional PCR buffers and mater mixes.

5. *Extension*

The polymerase performs optimally at 72°C. Extension time is dependent upon amplicon complexity and length. Generally, 15 seconds per kb is recommended for eukaryotic genomic DNA and cDNA. A one second extension is sufficient for shorter amplicons.

Technical Support

For trouble-shooting and tech support, contact us at tech@midsci.com or call 800 227-9997.

MidSci is not responsible for consequential or incidental damages, 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

Allow the Master Mix to thaw. Thoroughly mix contents by gently pipetting up and down. Prepare the reaction as follows:

Component	*25 µl reaction*	*50 µl reaction*	*Final concentration*
PR1MA 2X Hot Start Taq Master Mix Red	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
55-40 cycles	95°C	15 seconds
	55°C to 67°C*	15 seconds
	72°C	15-30 seconds per Kb

*Annealing temperature determined by the user. See "General Guidelines".

MidSci offers a full line of PCR enzymes and master mixes. Visit www.midsci.com for details.

Package contents and reordering

PR1MA Hot Start Taq Master Mix and Master Mix Red are supplied in 200 and 1000 reaction (50 µl) packages.

PR1MA Hot Start Taq Master Mix, Sample

Catalog nos: PR1001-HS-S
PR1001-HSR-S (w/red dye)
Includes 125 µl of 2X Master Mix (Master Mix Red contains red loading dye) (5 reactions).

PR1MA Hot Start Taq Master Mix, 200 Rxns

Catalog nos: PR1001-HS-200
PR1001-HSR-200 (w/red dye)
Includes 5ml of 2X Master Mix (Master Mix Red contains red loading dye) in 1.25ml aliquots.

PR1MA Hot Start Taq Master Mix, 1000 Rxns

Catalog nos: PR1001-HS-1000
PR1001-HSR-1000 (w/red dye)
Includes 25ml of 2X Master Mix (Master Mix Red contains red loading dye) in 1.25ml aliquots.

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MIDSCI™

PR1MA™

Hot Start Taq Master Mix
☐ PR1001-HS

Hot Start Taq Master Mix Red
☐ PR1001-HSR

One Tube Formulation, 2X Concentration
Package contains:
5ml of 2X Hot Start Taq Master Mix (4x1.25ml)
200 reactions, Based on 50µl total reaction volume
Store at -20°C upon receipt

888-227-9997 custserv@midsci.com