BlasTaq™ HotStart 2X PCR MasterMix

Cat. No. G598
Store at -20 °C.

Product Description
BlasTaq™ HotStart 2X PCR MasterMix is a ready-to-use MasterMix containing **abm**'s BlasTaq™ HotStart DNA Polymerase in a uniquely-formulated buffer with gel loading dye. This polymerase is a strategically-engineered, next generation Taq Polymerase that has rapid extension rates, robust performance, and contains a proprietary antibody that blocks polymerase activity at low temperatures. HotStart allows for a convenient reaction set-up at room temperature without non-specific amplification and primer dimer formation. With specialized reaction conditions, this polymerase provides increased processivity, yields, and sensitivity, while shortening reaction times by up to 70%, compared to wild-type Taq DNA polymerase.

During the initial denaturation step, the antibody dissociates from the DNA polymerase and restores enzyme activity. This feature significantly reduces non-specific product formation that would otherwise compete for reagent availability **offering higher specificity and improved yield of PCR products**. BlasTaq™ has 5'-3' polymerase and 5'-3' exonuclease activities, lacks 3'-5' exonuclease activity, and produces 3'-dA-tailed amplicons. PCR products made with BlasTaq™ can be used with TA cloning vectors.

Product Component	Quantity	Part No.
BlasTaq™ HotStart 2X PCR MasterMix[1]	800 rxn (10.0 ml)	G598

[1] Buffer contains 1.5 mM Mg^{2+}.

Protocol
1. Mix individual components before use and assemble reaction on ice.

Product Component	Volume
BlasTaq™ Hotstart 2X PCR MasterMix	12.5 µl
Forward Primer (10 µM)	1 µl
Reverse Primer (10 µM)	1 µl
Template DNA	Variable (100 ng genomic DNA)
Nuclease-free H_2O	Up to 25 µl

2. Gently mix the reaction components, and briefly centrifuge. Run thermocycling conditions for standard PCR:

Step	Temperature	Time
Initial Denaturation	95 °C	10 min
25 – 35 Cycles	95 °C 60 °C[2] 72 °C	15 sec 15 sec 15 sec/kb
Final Extension	72 °C	1 min

[2] The BlasTaq™ HotStart buffer allows for primer annealing at 60°C for most primers and adjust only if needed.

3. After PCR, maintain the reaction at 4 °C or store at -20 °C until use.
4. Analyze the amplification products by agarose gel electrophoresis.
5. Visualize by ethidium bromide or SafeView™ (Cat No. **G108**) staining.

General Notes
- Optimized buffer for enhanced yields, sensitivity, and specificity, surpassing wild-type Taq polymerase.
- Reduce reaction times by up to 70% with a specialized protocol.
- For low yields, increase the reaction volume to 50 µl.
- For low yields or smearing, verify the quality of the template.

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