BlasTaq™ HotStart DNA Polymerase

Cat. No. G595

Store at -20°C.

Product Description

BlasTaq™ HotStart DNA 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 BlasTaqTM can be used with TA cloning vectors.

Product Component	Quantity	Part No.
BlasTaq™ HotStart DNA Polymerase	400 rxn (200 µl)	P595-1
5X BlasTaq™ Buffer [1]	2 x 1.0 ml	P894-2

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

Protocol

1. Mix individual components before use.

Component	Volume
5X BlasTaq™ Buffer	5 µl
dNTP Mix (10 mM)	0.5 µl
Forward Primer (10 µM)	1 µl
Reverse Primer (10 µM)	1 µl
Template DNA	Variable (100 ng genomic DNA)
BlasTaq™ HotStart DNA Polymerase	0.5 µl [2]
Nuclease-free H_2O	up to 25 µl

[2] Reaction volumes of 25 µl are recommended with 0.5 µl BlasTaq™ HotStart DNA Polymerase. For difficult targets or crude samples, increase to 1 µl.

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

Step	Temperature	Duration
Initial Denaturation	95°C	10 min
25 – 35 Cycles	95°C 60°C [3] 72°C	15 sec 15 sec 15 sec/kb
Final Extension	72°C	1 min

[3] BlasTaq™ HotStart's 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.

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