Taq DNA Polymerase

Cat. No. G009
Store at -20°C.

Product Description
Taq DNA Polymerase is a highly thermostable DNA Polymerase that catalyzes the 5'-3' synthesis of DNA. This polymerase has 5'-3' exonuclease activities, lacks 3'-5' exonuclease activity, and produces 3'-dA-tailed amplicons. PCR products made with Taq can be used with TA cloning vectors.

Product Component	Quantity	Part No.
Taq DNA Polymerase	200 rxn (200 µl)	G009-1
5X Taq Buffer [1]	2 x 1.0 ml	P009-2

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

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

Component	Volume
5X Taq Buffer	10 µl
dNTP Mix (10 mM)	1 µl
Forward Primer (10 µM)	1-2 µl
Reverse Primer (10 µM)	1-2 µl
Template DNA	Variable (200 ng genomic DNA)
Taq DNA Polymerase	1 µl
Nuclease-free H_2O	up to 50 µl

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

Step	Temperature	Duration
Initial Denaturation [2]	94°C	3 min
25 – 35 Cycles	94°C 50-65°C [3] 72°C	30 sec 30 sec 1 min/kb
Final Extension	72°C	5 min

[2] For most applications, an initial 3 minute denaturation step at 94°C is sufficient. Increase to 5 minutes for high-GC or difficult templates.

[3] Adjust annealing temperature based on the primer melting temperature.

General Notes
- For difficult or high-GC templates, use a standard touchdown program.
- If working with low template and/or low sample amount, reduce total reaction volume to 25 µl and lower other component volumes accordingly.

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