

AmpFi HiFi 2X MasterMix

DM-AmpHF800

Store at -20°C.

Description

The **AmpFi HiFi 2x MasterMix** sets new benchmarks in PCR for specificity, sensitivity, robustness, and high-fidelity. This advanced polymerase, combined with a monoclonal antibody, blocks both 5' → 3' polymerase and 3' → 5' exonuclease activities at ambient temperatures, facilitating highly precise Hot Start reactions. Its remarkable sensitivity enables the amplification of even the most challenging templates, surpassing leading competitors. Additionally, the AmpFi HiFi stands out for its ultra-high fidelity, exhibiting over 1,000 times fewer errors than Taq polymerase, which is the lowest error rate available in the market (refer to the application note for detailed information). This exceptional accuracy makes it highly valuable for various high-fidelity PCR applications, such as Next Generation Sequencing and molecular cloning.

Product Component	Quantity
AmpFi HiFi 2X MasterMix *	800 rxn (10ml)

* Buffer contains final concentration of 2 mM Mg²⁺.

Protocol

1. Ensure that all individual components are fully thawed and thoroughly mixed prior to use, and set up the reaction while keeping everything on ice.

Component	Volume
AmpFi HiFi 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 ₂ O	Up to 25 µl

2. Carefully mix the reaction components, then briefly centrifuge them. Transfer the tube to a thermal cycler. Use thermocycling conditions for standard PCR (1 kb template)

Step	Temperature	Time
Initial Denaturation	95°C	5 min
25 – 35 Cycles	95°C 50-70°C 72°C	15 sec 15 sec 20-30 sec/kb**
Final Extension	72°C	5 min

** 20-30 seconds/kb, increase as necessary.

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 applicable staining.

Notes

- The AmpFi HiFi DNA Polymerase is expertly designed to facilitate rapid, versatile, and high-fidelity PCR.
- It includes a monoclonal antibody that ensures highly specific Hot Start PCR.
- This polymerase can perform long-range PCR, effectively amplifying up to 18 kb from less complex targets or up to 15 kb from genomic DNA.
- For enhanced PCR success, it is recommended to begin with high-quality, purified DNA templates.