



MegaFi™ Fidelity DNA Polymerase

Cat. No. G896

Store at -20°C.

Product Description

MegaFi™ Fidelity DNA Polymerase sets new standards for sensitive, robust, and high-fidelity PCR performance. This strategically-engineered polymerase has exceptional sensitivity and can amplify even the most difficult templates (compared to the leading competitors). In addition, MegaFi™ has **high fidelity and ultra-low error rates** (over 1,000X less than Taq polymerase, representing the lowest error rate on the market, see website for more information), making it incredibly useful for a variety of PCR applications demanding high fidelity, including Next Generation Sequencing, molecular cloning, or diagnostics.

Product Component	Quantity	Part No.
MegaFi™ Fidelity DNA Polymerase	400 rxn (200 µl)	G896-1
5X MegaFi™ Buffer ¹	2.5 ml (2 x 1.25 ml)	P896-2

¹ Buffer contains 1.5 mM Mg²⁺.

Protocol

1. Thoroughly thaw and mix individual components before use, and assemble reaction on ice.

Component	Volume
5X MegaFi™ 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)
MegaFi™ DNA Polymerase	0.5 µl
Nuclease-free H ₂ O	up to 25 µl

2. Gently mix the reaction components and briefly centrifuge, then transfer tube to a thermalcycler. Use thermocycling conditions for standard PCR (1 kb template):

Step	Temperature	Time
Initial Denaturation	98°C	30 sec
25 - 35 Cycles	98°C 50-72°C 72°C	5-10 sec 10-30 sec 20-30 sec/kb ²
Final Extension	72°C	2 min

² 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 SafeView™ (Cat No. **G108**) staining.

General Notes

- MegaFi™ Fidelity DNA Polymerase is strategically-engineered for fast versatile high-fidelity PCR.
- Suitable for long range PCR up to 18 kb from less difficult targets or up to 15 kb from genomic DNA.
- Start with high quality, purified DNA templates to achieve even greater PCR success.