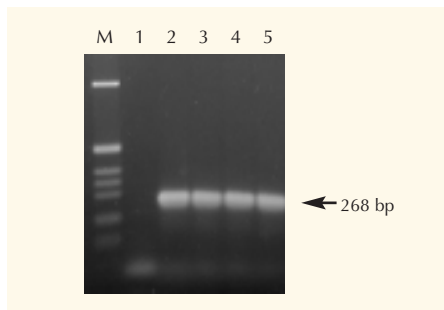


shown in Figure 5, Lane 5. The six different amplifications were also successfully repeated three times.

Figure 5 summarizes the direct PCR amplification results obtained with the *apoE* primer pair using all three dried blood preparation methods.



**Figure 5. Amplification of the *apoE* gene by direct PCR of dried blood samples prepared by three different methods.** M, DNA size standards; Lane 1, Negative control; Lane 2, Positive control using 1 ng of purified human genomic DNA; Lane 3, Method 1; Lane 4, Method 2; Lane 5, Method 3.

**Conclusion**

The FailSafe PCR System permits consistent and reproducible direct amplification of genomic DNA targets in samples of dried whole blood on Guthrie cards or glass slides without any prior DNA extraction. Thus, the FailSafe PCR System provides a simple, economical and sensitive method for analysis of DNA templates in blood samples, both for small numbers of samples or for high throughput applications.

**References**

1. Briggar, R. J., et al. (1997) *J. Acqui. Immune Defic. Syndr. Hum. Retrovirol.* **14**, 368.
2. Makowski, G. S., et al. (1996) *Ann. Clin. Lab Sci.* **26**, 458.
3. Polski, J. M., et al. (1998) *Mol. Pathol.* **51**, 215.
4. Iovannisci, D. M., et al. (2000) *EPICENTRE Forum* **7**(1), 6.
5. Grunenwald, H. (2000) *EPICENTRE Forum* **7**(4), 10

**FailSafe™ PCR PreMix Selection Kit**  
FS99060 60 Units

**Contents:**

60 units FailSafe™ PCR Enzyme Mix and 12 FailSafe™ PCR 2X PreMixes.

See the center insert for additional information on the FailSafe PCR System.

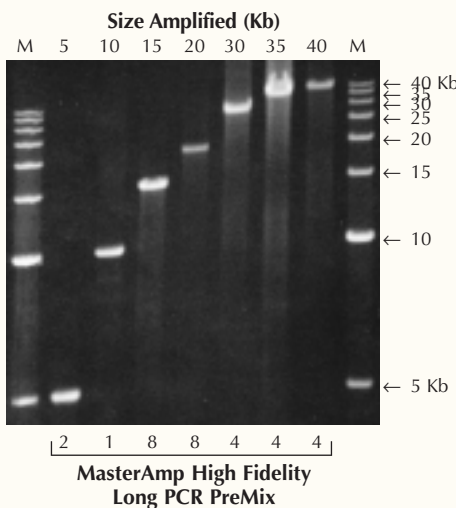
## High Fidelity PCR Amplification of DNA from 20 Kb to >40 Kb Using the MasterAmp™ Extra-Long PCR Kit

The FailSafe™ PCR System is ideal for consistent and accurate amplification of any template up to about 20 Kb, whatever its sequence and without need for “hot start” techniques. However, for sequences up to >40 Kb, the MasterAmp™ Extra-Long PCR Kit enables consistent and accurate amplification (see Figure below for lambda DNA regions). “Hot start” techniques are typically not required when using the MasterAmp Extra-Long Kit.

The MasterPure™ Extra-Long DNA Polymerase contained in the kit combines MasterAmp™ Taq DNA Polymerase with a proprietary 3' → 5' proofreading enzyme to achieve PCR fidelity at least three times better than Taq DNA Polymerase alone. The kit

includes MasterAmp Extra-Long DNA Polymerase and nine different Extra-Long PCR 2X PreMixes for convenient and fast PCR set-up. The nine Extra-Long PCR PreMixes each contain buffer, dNTPS and differing amounts of both Mg<sup>2+</sup> and MasterAmp™ PCR Enhancer (with betaine\*). Once the optimal PreMix is identified for a particular template/primer combination, consistent amplification of the template will be achieved using the same PreMix.

\* Patents issued and pending.



**Figure 1. Amplification of 5, 10, 15, 20, 30, 35, and 40 Kb sequences from lambda DNA.** One nanogram of lambda DNA was used to amplify 5, 10, 15, 20, 30, 35, and 40 Kb sequences. Lane M, 5 Kb DNA ladder. Results were analyzed on a 0.5% agarose gel run at 30 V for 20 hours.

**MasterAmp™ Extra-Long PCR Kit**

MHF9220 50 Reactions

**Contents:**

- MasterAmp™ Extra-Long PCR PreMixes 1-9
- MasterAmp™ Extra-Long DNA Polymerase Mix
- Control Lambda DNA/Primers

**Individual Extra-Long PCR 2X PreMixes**

- MasterAmp™ Extra-Long PCR 2X PreMix 1**  
MHF925A 5 ml
- MasterAmp™ Extra-Long PCR 2X PreMix 2**  
MHF925B 5 ml
- MasterAmp™ Extra-Long PCR 2X PreMix 3**  
MHF925C 5 ml
- MasterAmp™ Extra-Long PCR 2X PreMix 4**  
MHF925D 5 ml
- MasterAmp™ Extra-Long PCR 2X PreMix 5**  
MHF925E 5 ml
- MasterAmp™ Extra-Long PCR 2X PreMix 6**  
MHF925F 5 ml
- MasterAmp™ Extra-Long PCR 2X PreMix 7**  
MHF925G 5 ml
- MasterAmp™ Extra-Long PCR 2X PreMix 8**  
MHF925H 5 ml
- MasterAmp™ Extra-Long PCR 2X PreMix 9**  
MHF925I 5 ml

**MasterAmp™ Extra-Long DNA Polymerase Mix**

- QU92125 125 U
- QU92500 500 U
- QU9201K 1,000 U